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**Re-Aligning Higher Education and Employability:
Stackable Skills are the New Currency
as Online Modalities Pave the Way**

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Abstract

With the complex and ever-changing business and employment environments, learners are being prepared for jobs that may no longer exist, while others are not acquiring the skills needed for the in-demand jobs to which they aspire. Given the future of workplace demands, there are strong indications that non-degree certifications and *just-in-time* education are likely to increase in status and value, with the concept of stackable skills rapidly gaining acceptance so that graduates can enter the workforce with robust and relevant foundational skills. Upskilling and reskilling opportunities have a significant potential to supplement traditional degrees and will empower learners to pursue multiple career paths because these learned skills—both soft skills and hard skills—are transferable. Online and hybrid learning experiences—with the vast increases in access as well as complexity—present higher education with immense forward-thinking opportunities by offering customized and individualized upskilling and reskilling programs in partnership with employers. The indications are that employers are relying not only on college education but are exploring alternate educational pathways to employment. Collaboration between higher ed and employees can serve to capitalize on skills and experience that the current labor market is demanding. This could include emerging technologies such as AI, as well as culturally-driven competencies such as diversity and inclusion. In light of the rapidly evolving workplace, this article addresses ways in which higher education can adapt to the changing needs of the labor market in order to meet employer expectations. Through understanding what it means to transform the culture of higher education into a *learning-rich* environment, we will intentionally and thoughtfully offer continuous learning opportunities, cultivate clearly defined educational pathways, and reinvent career trajectories that will keep pace with the jobs of tomorrow, thereby shaping and supporting access, equity, success, and innovation for the road ahead.

**Re-Aligning Higher Education and Employability:
Stackable Skills are the New Currency as Online Modalities Pave the Way**

Today's business and employment environments are complex and ever-changing. Virtually every industry has been transformed by technology. Key skills have transformed to reflect this new age of hybrid workplaces, where functions are increasingly dependent on digital tools to collaborate and perform day-to-day tasks. To ensure that graduates are ahead of the curve, they will need to enter the workforce with a heightened awareness, strong professional work ethic, and *robust and relevant* transferable foundational skills. As pointed out by Sigelman et al. (2022), a comprehensive review of job listings from 2016 through 2021 revealed significant changes in requested skills, with new skills appearing, some existing skills disappearing, and other existing skills transitioning in significance. According to a report by McKinsey (2022), 87% of companies say they have a skills gap or expect to have one within a few years. The World Economic Forum's report (2023) highlights the range of job roles and skills that will increasingly be in demand. As explained in the report, 69 million jobs will be created in the next five years, driven by new technologies and the green transition, yet these gains will likely be offset by 83 million jobs being put at risk by economic pressures and automation; meaning that one-quarter of today's jobs will be disrupted.

Learning models and career trajectories were initially developed within the context of a relatively stable, predictable, and somewhat compartmentalized world. However, we find ourselves in an age of complexity that has changed the workplace learning playing field in far reaching ways (Marsick et al., 2021; Watkins & Marsick, 2023). Since the widespread closures and reorganization brought about since the COVID-19 pandemic, there has been a significant and continuing need for reskilling and upskilling as a result of disruptive changes in the job market (Bloomberg, 2021). Given the future of workplace demands, many anticipate a reset

between the value placed on degrees—once highly prized for indicating a level of skill and knowledge, and other forms of credentialing. There are strong indications that non-degree certifications and *just-in-time* education are likely to increase in status and value, with the concept of *stackable skill-sets* rapidly gaining new acceptance (Brown & Mhichil, 2021; Hull, 2023; McGreal & Don, 2022; Tan, 2023; Watkins & Marsick, 2023; Wheelahan & Moodie, 2022).

For organizations, a *skills-first mindset* means helping employees upskill and reskill, with opportunities to learn and grow as the key driver of a positive and productive work culture. Creating learning opportunities for employees through upskilling and reskilling will contribute to a stronger, better-prepared workforce, boosting employee engagement by offering valuable career development pathways. Learning and work are deeply intertwined, and colleges and universities will need to align their programs to the needs of the rapidly evolving labor market (Hull, 2023; Weise, 2021). With the rapid growth of online and hybrid enrollment, institutions of higher education are expanding online offerings in an effort to attract and retain students who are seeking greater flexibility in course delivery (Bloomberg, 2021; Quality Matters, 2023; Varadarajan et al., 2023). Toward this end, institutions are aligning their strategic priorities to meet online and hybrid student demand, with strategic plans and resource allocations supporting an increasing emphasis on online and multi-modal learning (Quality Matters, 2023). Moreover, online and hybrid learning experiences—with the vast increases in access as well as complexity—present higher education with immense forward-thinking opportunities by offering customized and individualized upskilling and reskilling programs in partnership with employers.

Meeting Future Work-Place Demands: Threading the Needle Between Skills and Success

Anyone who has ever studied in a secondary or post-secondary program is likely familiar with the question: “What job will this degree get you?” And for good reason. With industry trends constantly changing, the needs of the job market are always evolving, and higher education institutions have not always kept pace. Several factors have contributed to the tumbling college numbers; one of significant concern is the growing skepticism about the value of college (Merisotis, 2023). Often students are being prepared for jobs that may no longer exist, while others are not acquiring the skills needed for the in-demand jobs to which they aspire (Bloomberg, 2022a, 2022b, 2022c, 2023; Weise, 2021). The concept of *skill disruption* can be attributed in part to the pandemic, which forced business and industry to rethink operations and people in all types of occupations to embrace new ways of working and the application of new skills. A report by Korn Ferry (2022) indicated that by 2030, more than 85 million jobs could go unfilled because there are not enough skilled people to take them, and the skills gap is predicted to keep climbing throughout the coming years. The challenge for employers and employees therefore is to keep up, or even plan to get ahead of the trends. Leaders and decision makers essentially need to understand *what skills their organization needs and how to access these skills*.

In 1990, the Secretary’s Commission on Achieving Necessary Skills (SCANS), and its staff and members—distinguished representatives from education, business, labor, and government—expressed in a Report titled *Learning a Living: A Blueprint for High Performance* (U.S. Department of Labor, 2000), to encourage a high-performance economy characterized by high skills and high-wage employment. The concept of *portable skill-sets* was already being discussed in the context of K–12 education as well as at the community college level in the 1990s in recognizing the need to match education and employability by incorporating the

identified SCANS competencies into curricula and instruction which afforded students an opportunity to be more readily absorbed as workers in the job market following graduation (U.S. Department of Labor, 1993). Those same SCANS competencies are closely aligned with both the hard and soft skills that are being addressed today to ensure productive work in the 21st century. The need for career preparedness—through developing transferable foundational skills—within the context of increasingly diverse and ever-evolving work environments as we are experiencing today, has intensified and therefore become even more critical than in times past (Hull, 2023; Weise, 2021). *Hard skills* relate to technical skills, which can be classified as technology-based or *discipline-based knowledge* and abilities within a specialized area such as computer use, programming, languages, database management, and optimization or the major areas of managerial accounting, finance and operations management. *Soft skills*, in contrast, are not specific to a particular job, but rather transferable across different job types. As pointed out by Weise (2021), soft skills are essentially *human skills*, including social-emotional skills and interpersonal skills such as communication, critical thinking, and the ability to work collaboratively or lead teams. Overwhelmingly, prospective employers now seek candidates who possess what Weise (2021) refers to as hybrid skills.. The most valuable workers—both now and in the future—will therefore undoubtedly be those who can combine human and technical skills, and who are able to adapt in an agile manner to the ever-changing needs of the workplace.

Learning new skills to remain competitive is one essential way workers can future-proof themselves against workforce disruptions, including automation. The practice of reskilling and upskilling also provides learning opportunities for employees to enhance their existing skills, develop complementary skills, and learn completely new skills to both elevate performance in their current role and prepare them for further in-demand roles. In this regard, Watkins and

Marsick write about the potential for learners to “reinvent career trajectories” (2023, p. 6). In the coming decades, as the pace of technological change continues to increase, millions of workers may need to be not just upskilled but *reskilled*—a profoundly complex societal challenge that will sometimes require workers to both acquire new skills and change occupations entirely (Tamayo et al., 2023). Tamayo and their colleagues—members of a collaboration between the *Digital Data Design Institute* at Harvard’s Digital Reskilling Lab and the Boston Consulting Group’s Henderson Institute—interviewed leaders at over 40 organizations around the world that are investing in large-scale reskilling programs. In synthesizing what they learned, the authors explained that reskilling is a strategic imperative, and that employees *want* to reskill, thereby making the claim that companies will need to understand and embrace these shifts if they hope to succeed in adapting dynamically to the rapidly evolving new era of automation and AI.

By way of skills-based hiring, employers can work to expand and enhance talent pools and in so doing make the hiring process both more accessible and equitable (Fuller & Ramen, 2023; Watkins & Marsick, 2023; Weise, 2021). In doing so, higher education institutions can potentially grow their student market through strategic partnerships with employers in talent management prior to, during, or after recruitment. Collaboration between higher education and employees can serve to capitalize on skills and experience that the current labor market is demanding. This could include emerging technologies such as AI, as well as culturally driven competencies such as diversity and inclusion. Creating employee opportunities through upskilling and reskilling contributes to a better-prepared and more adaptable and agile workforce. How we meet the future of work, so that working learners can keep pace with the jobs of tomorrow, is indeed critical.

Skills-First Learning: Embracing an Employability-Driven Higher Education

The disconnect between higher education and employability is growing, along with the soaring costs of tuition fees and student debt. The indications are that employers are relying not only on college education, but also exploring alternate educational pathways to employment. While higher education is typically organized by academic disciplines, today's jobs are organized by skills. Virtually every industry has been transformed by technology, and skills have evolved to reflect this new age of hybrid workplaces, where all functions are increasingly dependent on digital tools to collaborate and perform day-to-day tasks. At the same time that local and global labor markets are in constant and rapid flux, higher education is attempting to reinvent itself in order to keep pace with ongoing and rapid change (Coursera Report, 2022; Henderson et al., 2022).

Since the onset of the pandemic, there has been increasing pressure on colleges to educate and retrain workers thereby matching higher education to the workplace, including graduate skills development. If anything, the pandemic has shown that flexibility and agility are key to implementing lifelong learning. The conundrum is, though that in the field of higher education, lifelong learning, usually described as *continuing education*, has seldom been a core activity, as their focus has been on full-time undergraduate and taught postgraduate courses (Weise, 2021). The pandemic, and the switch to online and hybrid models has increased the demand for shorter, work-specific courses with clear benefits to learners, including those seeking to change their careers, and more and more universities are indeed recognizing the need for flexible and continuing education and are seeking the most appropriate strategies.

With work being inextricably tied to education, Weise (2021, p.3) called for a “new learning ecosystem” that is navigable, supportive, targeted, integrated, and transparent. This means reimagining what career readiness means for students and acting swiftly to authentically address the current challenges to achieving career readiness. Higher education has long faced pressure to enhance graduate competencies for a fast-changing world of work, and this has accelerated significantly since the onset of the pandemic. Reskilling and upskilling are one of the most urgent challenges facing the current workforce (Fuller et al., 2022; Hull, 2023; Lufkin, 2022; Schueller & Figueiredo, 2021; Watkins & Marsick, 2023; Weise, 2021). Upskilling opportunities have a significant potential to supplement traditional degrees, and the great value is that these are affordable and will fit the dynamic skills gaps identified by today’s employers (Tan, 2023). The implication is not that college degrees will become irrelevant amidst the increase in skills-based hiring. Rather, the economic advantage of college degrees is still prevalent, with a large proportion of the growth of skills-based credentials coming from those who already have degrees and who seek to supplement these with additional skills (Tan, 2023; Wildavsky, 2023). Amid the back-and-forth about traditional versus short-term credentials, we often fall into the trap of *either/or* thinking. Degrees do make a difference, but there is no reason the journey to one can’t offer incremental steps with real-time workforce relevance. Whatever path a learner takes, it should have avenues of acceleration through credit for prior learning and constitute a clear route to career development opportunities.

The workforce will need updated skill-sets and competencies that are better aligned with current industry needs, most likely through more regular upskilling and reskilling. Providing more just-in-time education could potentially change the education landscape into one that requires what might be termed *institutes of continuous learning* (Tan, 2023; Weise, 2021). This

new educational model takes an alternate approach that combines academic and practical experience, making it functional and increasingly sustainable. It is imperative that higher education continue to focus on meeting the demands of the emerging workforce. And, as the future of work rapidly transitions and transforms it is critical to engage with the complexity that faces us by expanding our academic curriculums to include life skills and social-emotional learning for the 21st century (Weise, 2021). By providing transparency about in-demand skills and integrating courses that teach these skills, higher education institutions can effectively align their curricula with both local and global labor market needs. Guided by their institutions, students can craft versatile and individualized portfolios of skills that enable them to follow their disciplinary interests while gaining job-ready skills. We can no longer accept that students are being prepared for jobs that may no longer exist or that they are not acquiring the skills needed for the in-demand jobs to which they aspire. The key focus, therefore, is squarely on strengthening the connection between the educational experience and career preparedness within the context of increasingly diverse and rapidly evolving work environments.

Stackable Qualifications: Credentialing and Certification Create Learning Pathways

By conceiving curricula in terms of the specific skills that they impart, higher education stakeholders can connect the language of academic disciplines to that of the job market. In doing so, they can begin to identify curricular strengths and weaknesses, proactively fill curricular gaps, and develop course offerings that are integrated and multidisciplinary to meet emerging economic and societal needs. Multi-disciplinary skills will empower learners to pursue multiple career paths because these skills are transferable. Developing these skills thereby creates a foundation for continuous learning that enables students to both become and remain continuously employable throughout their lives (Bloomberg, 2022a, 2022b, 2022c, 2023). As emphasized by

Weise (2021), sustainable employability preparation must be lifelong. The idea is not to think linearly but rather to consider how skills can transfer across domains, which implies an integrated and interdisciplinary approach. An employability-driven higher education system need not be solely vocationally oriented. Instead, higher education can be more responsive by preparing students for ongoing change—by developing skills such as creativity, critical thinking, and the ability to navigate through the competing demands required by new, and often complex, forms of work.

Learners are increasingly seeking more direct connection to future work, and they also want to ensure that whatever path they select, those new skills will be meaningful to a future employer. As such, there is an emergent reset between the value placed on time-bound degrees—once highly prized for indicating a level of skill and knowledge to be ready for the future—and *just-in-time* education, which is present-oriented and more immediate (Levine & Van Pelt, 2021). As Cage and Kaleba (2022) underscored, job seekers with no degrees—but useful skills—need and deserve more by increasingly opening up more jobs to qualified applicants. Shifting the exclusive focus from degrees to skills—and with learners’ experience gaining prominence—will hopefully lead to a workforce that is more diverse and representative. Removing barriers that allow more aspiring workers to qualify for good-paying jobs without investing 4 years in a degree is an essential step in reducing inequity and lack of access in our current labor markets.

Micro-credentials and certificate programs as emergent *learning pathways* are increasingly becoming the means to recruiting, retraining, and upskilling workers for the future of work (Perna, 2021). While the concept of micro-credentials is not altogether newfound, interest has been rekindled and intensified since the aftermath of the pandemic. The potential of micro-credentials gained the interests of increasingly diverse stakeholders, including government

officials, employers, learners, faculties, and most importantly higher education leaders. The recent attraction of micro-credentials can be directly linked to declining student enrollment, especially after the pandemic, has made universities expand their reach to non-traditional student markets and international, geographically distant learners by tapping into online delivery modalities through credentialing (McGreal & Don, 2022; Wheelahan & Moodie, 2021). Online education, specifically in the form of massive open online courses (MOOCs) from various platforms, has been a major driver of this type of course offering (Henderson et al., 2022).

As an emerging solution to the need for *just-in-time* education, micro-credentials are typically focused on a particular discipline or skill and aligned towards industry needs or competencies, an idea that is based on the concept of *modularization*, *modularized learning*, or *modularized competencies*. Modularity breaks up learning into distinct units or *skill pieces* that can ensure skill mastery through continuous learning opportunities (Tan, 2023; Weise, 2021). Credentialing can also benefit non-degreed workers, helping more people without a college diploma onto higher-earning career paths. The concept is finding new acceptance among people who need new jobs, fast, and even if they chose not to obtain a degree, they would still have achieved these necessary *skill pieces*. In addition to the push for micro-credentials, there is growing pressure on colleges and universities to speed up the process of embedding certifications and certificates into undergraduate degrees (Henderson et al., 2022; McGreal & Don, 2022). This approach can lead to stackable credentials and the potential opportunity for upskilling and reskilling which may blend important preparatory competencies with credentialing and measurability. As with credentials, certifications can also illustrate to prospective employers precisely which practical skills students have learned, which is increasingly important at a time when more and more students are seeking to reskill and upskill.

As outlined by Donadel (2023) *The Higher Learning Commission (HLC)*--the largest institutional accreditor--is launching a new initiative to tackle the proliferation of alternative credential programs as higher education embraces new business models. Given the expectation of the rigor required to gain a university degree, if the credentials in question are to be stackable toward a degree, they should be substantial in volume and depth. Within each credential, the content will need to be carefully curated to ensure fundamental concepts and theories are scaffolded together with industry competencies (Tan, 2023). Brown et al. (2021) suggested that higher education administrators seeking to embark on credentialing and certification need to be aware of the critical stakeholders and their position within a larger ecosystem. Similarly, the review of Varadarajan et al. (2023) was aimed at developing a need-driven micro-credentials framework that demonstrates the value of micro-credentials to stakeholders. Key findings revealed that while implementing micro-credentials can be disruptive in the higher education sector, these challenges are likely to be mitigated by increased collaboration among stakeholders, and several recommendations are offered in terms of the success of micro-credentials as significant pathways to effectively supplement traditional degree programs. .

Career Readiness and Employability: Where to From Here?

As colleges and universities emerge from the pandemic crisis, and with skepticism mounting toward the idea that a traditional college education degree should always be a prerequisite for employability in well-paying jobs, the time has come to reconsider the value of higher education in its many variations, including both degrees and skills-based credentialing. This re-think implies the need to consider more broadly and critically our current learning models and focus on designing meaningful and holistic learning experiences for an increasingly diverse student population in order to address the current gap in the workforce. Given current

and still-growing student demand for online modalities, many institutions are taking steps to expand online offerings in an effort to attract and retain students seeking greater applicability in course content and delivery (Quality Matters, 2023). More and more universities are indeed recognizing the need for flexible and continuing education and are seeking the most appropriate strategies to achieve these goals. If colleges and universities can indeed certify competencies in terms of stackable skills by way of credentialing, they will establish themselves as essential partners in the national search for talent; in essence, becoming *vehicles* for continuous learning.

Many more institutions offer online programs today, either on their own or through online program managers, and quality has steadily improved in order to stay ahead of shifting student preferences, and to address the increased availability of non-degree options. With the online higher education market expanding and maturing, and with the disruption of traditional learning models and career trajectories, the hard questions we need to continue asking, include: How do we build the future of education to truly meet the future of work, so that students, especially those from underrepresented populations, will be supported so they can thrive in the emerging workplace? How do we make sure we are not still making people force their lives into a linear system, with learning experiences that are not sufficiently flexible? In an age of increasing complexity, how do we promote a *value-rich education* to offer the deepest and most meaningful learning experience? We answer these questions by putting real action behind the common phrase “meeting learners where they are”; offering continuous learning opportunities and providing students with a clear understanding of the richness of their capacities and prior experiences and making very clear the gaps they need to fill employability requirements. Considering—and indeed really understanding—what it means to transform the culture of higher education into a “learning-rich environment” becomes a key focus. With this paradigm shift at

the forefront, we will intentionally and thoughtfully cultivate clearly defined educational pathways that can keep pace with the jobs of tomorrow, thereby shaping and supporting access, equity, success, and innovation for the road ahead.

*#access #accessibility #equity #success #studentsuccess #studentsupport #futureoflearning
#futureofwork #futureofeducation #onlinelearning #onlineeducation #onlinecourses
#studentsfirst #customizedlearning #adulthoodeducation #adultlearning #adultlearners #credentials
#credentialing #microcredentials #skills #skilldevelopment #skillstraining #certificate
#certificatecourse #future #workforce #workbasedlearning #workers #career #careergoals
#careerguidance #learnerengagement #learnerautonomy #empoweringeducation #empowerment
#learningpathway #pathwaytosuccess #path #thrive #productivespaces #complexity*

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Author Biography

Dr. Linda Dale Bloomberg is founder of Bloomberg Associates, ILIAD (Institute for Learning Innovations and Adult Development) and Advanced Learning Solutions, and a cofounder of Columbia University's Global Learning and Leadership Institute. She previously served as senior researcher for the South African Human Sciences Research Council and National Institute for Personnel Research, focusing on change management, diversity initiatives, and workplace learning. From 2013-2023 she served as Associate Director of Faculty Support and Development for National University's Sanford College of Education. In this capacity, she coached and evaluated online faculty, develops curriculum for graduate research courses. She currently carries the title of full professor of education in the Department of Global Innovation, Social and Emotional Learning, and Educational Technology, where she serves as dissertation chair and subject matter expert for doctoral candidates. She also serves in an advisory and leadership capacity for the university's community engagement platform and was a founding member of the University's diversity committee and Inclusive Excellence Council. She consults to numerous research and nonprofit advisory boards, including the *Future Talent Council*, Global Advisory Board for Faculty and Staff Development, Mentor in Residence for SAGE Publications, and educational blog contributor to Teachers College Publications. In 2021 she received a diploma in executive coaching from the Goizueta Business School, Emory University, and is qualified as Associate Certified Coach (ACC) with the International Coach Federation. Linda presents regularly at national and international professional conferences on topics related to qualitative research, online learning, and professional development for online pedagogy, and is the author of multiple publications in the fields of qualitative research, organizational evaluation, leadership development, ensuring equitable student success, adult learning, and distance education, and a contributor to The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation (2018). Her two most recent books include the 5th edition of *Completing your qualitative dissertation: A road map from beginning to end* (2023) published by Sage and *Designing and delivering effective online instruction: How to engage adult learners* (2021) published by Teachers College Press, Columbia University. This publication was nominated for the 2021 and 2022 Division of Distance Learning for the Association of Educational Communications and Technology (AECT) and for the Online Learning Consortium award for Excellence in Instructional and Teaching Practice (2024). In 2006, she received her doctorate in adult education and organizational learning from the AEGIS program Columbia University that was established by Jack Mezirow, founder of Transformative Learning theory. She holds Master's degrees in Counselling Psychology and Organizational Psychology from the University of Witwatersrand, Johannesburg, South Africa.