Underrepresented Adult Learners and the Enduring Pursuit of Workplace Readiness: Achieving Postponed Career Aspirations & Dreams Through Enhanced Self-Efficacy

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Abstract

Hands-on learning experiences support workplace readiness. This paper presents preliminary results of a study that examines impacts of a technology-based experiential learning activity on career aspirations of underrepresented adult learners.
Keywords: Underrepresented Adult Learners, Experiential Learning, Self-Efficacy, Career Aspirations, Workplace Readiness

Knowledge and skills with data analytics-oriented applications such as MS-Excel and Google spreadsheet are now a requirement of the modern workplace. Given that, many adult learners (ALs), including those from other underrepresented backgrounds, are currently returning back to school to further their education and gain the set of skills needed to be competitive in the current global digital economy (Aoun, 2017). As a result, colleges and universities across the USA face the important challenge of finding ways in which to include work-oriented and career-centered outcomes into their curricula (Meij & Merx, 2018). At the same time, recent studies show that many underrepresented adult learners (UALs) who have returned back to school after a hiatus often lack the technical background and self-confidence to obtain the requisite skill sets needed to achieve their personal and professional goals (Smith, 2016).

As the profile of post-secondary students across the country continues to become older and more diverse, many higher education institutions (HEIs) are seeking to adjust their program offerings and academic support regime to better serve that population, and most specifically their UALs. Yet, the approach that is quite often used, typically, consists of the addition of one or two staff members often located in various student support offices (e.g., Admissions, Registration, or Student Affairs) to provide advice on matters such as: program of study, credits transfer, academic support, financial aid, GI benefits, parking, and off-hours access to the University.

Yet, research and field practices show that adult learners bring very different educational interests, needs, backgrounds, and experiences to academia than their counterparts who come to college straight out of high school. Moreover, many adult learners, and specifically those from underrepresented backgrounds have different and distinct academic needs. Many of these learners often work low-paying jobs involving shift work or rotation schedules. Other learners from that group are also juggling day-to-day child rearing responsibilities as a single parent, taking on a second job to make ends meet, and at times caring for a sick parent and other loved ones. As a result, there is a need for HEIs to develop and roll-out tailored and innovative pedagogical and academic support approaches to reach the goal of offering a transformative education experience that will help their UALs reach their career and professional goals.

Domain and Industry Knowledge

Domain knowledge is defined as expertise in a particular problem area or field that requires both a significant amount of time of study and solid hands-on experience on a given topic (Fadde & Klein, 2012). This means that newcomers into a job or professional career need more than a grasp of the domain language in the field (Nasir et al, 2008). Further, task performance is heavily dependent on both domain knowledge and cognitive ability in many fields, e.g., healthcare, engineering, computer science, and data analysis (Cattell, 1987). For example, engineers need to know and calculate the properties of steel to build a safe bridge, production managers must be familiar with safety guidelines and manipulate safety constraints for successful plant operations, and brewers need to know the conditions and time necessary for yeast to convert sugar into alcohol (Pusca & Northwood, 2017).

Moreover, successful task completion also requires the ability to deal with unstructured and ill-defined problems that very often occur in work situations (Lave & Wenger, 1991). Recent studies on the subject also offer that achieving career success depends significantly on workers' interpersonal or soft skills (Davidson, 2016; Strauss, 2017). Likewise, Hildreth and Kimble (2004) emphasize that domain knowledge is tied to increased speed and accuracy of tasks in a given field. The researchers also note that experts know more, make fewer errors, and work faster than novices. Thus, as experts achieve quantitative changes in cognitive development (i.e., gaining more knowledge), they are able to use quicker and even unorthodox methods to accomplish assigned tasks successfully. Lave and Wenger (1991), on the other hand, offer that novices or newcomers to a given field need to be well-informed and comfortable with its methods, principles, tenets, skills, and core beliefs.

As offered by Cattell (1987) and other researchers, attaining expert-level performance in practically any domain clearly does not occur overnight. Nevertheless, novices or students who have had the opportunity to engage in deliberate learning and practice can develop sufficient detailed knowledge to address practical business problems in the workplace (Barrows, 1994; Ericsson, 2006). Moreover, interventions, efforts, and activities that are part of an experiential learning task will stand to facilitate sufficient gains in performance or knowledge acquisition for novices to work comfortably in many fields and industries (Llewellyn & Clarke, 2013). Therefore, UALs will be in a better position to enter the digital workplace and maintain solid career progressions if they are offered the opportunity to acquire domain knowledge and develop their cognitive skills while in college.

Self-Efficacy and Adult Learners

According to Bandura (2006), self-efficacy is generalizable and thus it helps with facilitating the transfer of knowledge and skills from one domain to others. Such transfer occurs when similar skills or sub-skills are required in multiple activities that involve or require the same higher-order skills. From an instruction perspective, it is worthwhile to allow many skills to be developed concurrently as this provides learners the benefit of linking self-efficacy beliefs to their abilities. Finally, enabling student success, especially with difficult tasks, provide "powerful mastery experiences that provide striking testimony to one's capacity to effect personal changes can produce a transformational restructuring of efficacy beliefs that is manifested across diverse realms of functioning" (Bandura, 2006, p. 308).

However, learners who have obtained technical or hard skills, such as data analysis, decision making, and problem-solving competence, may not be in position to apply them correctly because they may lack the confidence or self-efficacy to use them properly. This is due to the fact that learners' motivation, attitudes, and dispositions also affect how newly acquired

skills are applied in practical or work-related settings (Miri et al, 2007). Thus, the use of appropriate pedagogy or andragogical principles (in the case of UALs) is critical when designing and deploying instructional approaches to influence the development or strengthening of intellectual, career, and personal skills.

Learning Through Experience

From a pedagogical or andragogical standpoint, Experiential Learning (EL) has actually been a part of formal education for quite some time (Dewey, 1938). Yet, increased popularity in using EL in formal or informal education and training in modern times can be traced to the works of Kolb (1984). The model developed by Kolb involves four stages, which are termed: 1) concrete experience, 2) reflective observation, 3) abstract conceptualization, and 4) active experimentation. These indicate the key interactions that often take place when a learner strives to gain advanced knowledge and expertise on a particular topic.

According to Kolb (1984) "Learning is the process whereby knowledge is created through the transformation of experience" (p. 38). Moreover, as offered by Ord and Leather (2011), learning is most effective when people have the chance to engage in a meaningful way with related course or training content, which may be through investigations, social interaction, problem-solving, and other active or experiential learning tasks. Thus, learners, particularly those with very little knowledge and background in a professional field must be offered the opportunity to be actively engaged in a task to ensure greater knowledge retention. This means that UALs will need to have specific hands-on experiences, activities, and interactions to build their knowledge base as well as gain practical skills to properly function in the workplace and therefore advance their careers.

The Digital Workplace, UALs, and Career Aspirations

Technology tools that are currently available such as data analytics applications require the use of several skill-sets and abilities. Professionals are provided access to those tools in the workplace to solve problems and make business-related decisions. As noted, the integration of TBEL (technology-based experiential learning) activities in education affords opportunities for open-ended and non-linear activities. Thus, it is clear that targeted and applied use of workplace tools and applications in the classroom can serve as "learning vehicles" to help enhance skills of UALs (Hart Research Associates, 2015; Pusca et al, 2016). Further, given the opportunity to develop expertise with workplace technology, such activities will stand to offer a clear means for UALs to strengthen their self-efficacy as well as their career aspirations.

Research Context Data Collection

This study examined the impacts and implications of integrating a TBEL activity on the self-efficacy and career aspirations of UALs. The TBEL assignment required learners in a business course of an adult degree completion program to analyze data using the Pivot Table and VLOOKUP functions of MS-Excel. The learners also had to work individually and in groups to make recommendations about a business decision. The study had a total of 75 participants with 65 UALs.

Survey Instrument

A quantitative pre-post design was followed for the study. The researchers developed and used a 25 questions survey for the study. This was done for two reasons. First, the researchers did not find an existing survey instrument that addressed the constructs being examined through the study. Second, the researchers wanted to be sure that the survey questions were relatively free of any unintended biases such as too much focus on a specific academic program of study.

The instrument that was ultimately used for the study was made-up of four parts. These are: 1) demographics, 2) self-efficacy domains 3) career-clusters of interest, and 4) open-ended questions (Torpey, 2015). Both the self-efficacy domains and career interest questions used Likert-scale ranging from 1: Strongly Agree to 5: Strongly Disagree. Content validity of the data collection instruments used in the study was achieved via three rounds of expert review and feedback of a pilot questionnaire for the study and examination of observed scores and prior exam scores from the instructor's record (Drost 2011).

Career Clusters

A list of 12 career clusters was developed for the study based upon the Occupational Outlook Handbook and other career resources from the U.S. Bureau of Labor Statistics (Torpey, 2015). The participants were given a survey before and after their involvement in the study. This allowed the researchers to gauge the change in perception (if any) of the participants' self-efficacy and career aspirations after they completed the TBEL activity.

Findings

Self-Efficacy

To identify changes in levels of confidence or self-efficacy expressed by the UALs participants, the researchers categorized the answers provided by the defined domains of Magnitude and Generality of the construct (Bandura, 2006). The researchers then categorized the answers from the participants as "Enhancing" (ratings of 1 through 3) and "Non-Enhancing" (ratings 4 & 5). The self-efficacy domains yield a score of at least 67% for Enhancing. Further, the score for the Overall self-efficacy stands at 86% "Enhancing". Moreover, below are a sample of comments provided by the participants pertaining to the construct of self-efficacy:

> *"I am glad to learn how to use Pivot Table and VLOOKUP functions of MS-Excel….I plan to use what I learned in the class at work and in the future." (Participant #7).*
> *"The Pivot Table and VLOOKUP functions of MS-Excel are great. Now I can use that knowledge in real world applications and to advance my career." (Participant #35)*
> *"I did not know too much about Excel and data analytics. Have learned these new skills, I am ready to use them at work and teach others about them as well". (Participant #57)*

Career Aspirations

To answer the question whether participation in the TBEL activity affects the career decision making of the UALs (n=65) the researchers looked at participants' career cluster selection both before and after the intervention. There was an average number of 26 career clusters selected before the intervention. That number dropped to 10 or a 59% post-test decline after the intervention. Originally, the number of career cluster selections made by the UALs ranged from 2 (3%) to 10 (3%). After participating in the study, the number of career clusters selection made ranged from 1 (29%) to 4 (9%).

These results reveal the participants narrowed their career focus after the intervention. Thus we can conclude that the intervention helped UALs be more confident about their career aspirations. Nevertheless, it is suspected that the narrowing of career focus could also be due to external factors such as prior knowledge and the use of a reduced list of careers for participants to choose from.

Discussions and Teaching Applications

As Bandura (2006) offered, self-efficacy can facilitate knowledge or skills transfer to other domains in several ways. Such transfer occurs when similar skills or sub-skills are required in multiple activities that involve or require the same higher-order skills. Therefore, it is very important for HEIs to help UALs develop or strengthen their self-efficacy and applied skills concurrently. This is to provide UALs adequate opportunity to start linking self-efficacy beliefs to professional or work-related abilities. Moreover, a focus on promoting the knowledge and capability of UALs through targeted instructional activities, as noted by Bandura (2006) can "produce a transformational restructuring of efficacy beliefs that is manifested across diverse realms of functioning" (p. 308).

While faculty members across the country strive to use the technology software and tools in classroom activities, many courses lack "hands-on" and "minds-on" activities designed specifically to promote or reinforce self-efficacy and applied skills (Pusca & Northwood 2016). Given the acknowledged list of skills that are required for a successful and fulfilling career in the 21st century, learning and instruction must be organized both to meet the educational needs and be in accord with future employment opportunities (Bialik & Fadel, 2015).

As Data Analysis skills will continue to be in high demand by employers, HEIs must continue to reorient their teaching and learning practices to ensure that graduating UALs can succeed in the modern digital workplace (Schneider & Columbus, 2017). This also means that HEIs must allocate resources to professional development of faculty and staff so they may be able to properly support and scaffold UALs during all aspects of their academic study at their schools (Janson et al, 2019). As argued, such interventions will stand a great chance to help closing gaps in employment, pay, and job opportunity that currently exist in the technology and knowledge-centered US Economy.

Conclusion

The study shows that carefully designed classroom activities and hands-on experiences can serve as "learning vehicles" helping to enhance both classroom knowledge and soft skills of all learners (Miri et al, 2007). Therefore, colleges, academic departments, and faculty must continue to look for creative and innovative ways to include professionally oriented learning experiences and activities into the curricula. In this way, use of targeted TBEL activities will stand to enhance the self-efficacy as well as the career readiness of UALs for the 21st century digital workplace.

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