

## **Distance Education and Cumulative Advantage: A Literature Review**

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Nearly 5.8 million U.S. college students enrolled in an online class in 2014, while over 2.8 million took exclusively online classes according to the National Center for Education Statistics (NCES) (NCES, 2016). This figure, which has been increasing by the millions over the last decade, demonstrates how online distance learning—once a fixture of for-profit institutions—is becoming an important method of instruction delivery in all sectors of American post-secondary education. Compounding the data on the increase in online enrollments, overall higher education enrollment fell by 2% between 2012 and 2014. In the same two-year period, the number of students enrolled in at least one online class increased by 7%, while the numbers of those taking exclusively online classes increased by 9% (Poulin & Straut, 2016). Today, for-profit institutions make up only about 30% of online enrollments while public and private non-profit schools account for over two-thirds of enrollments (Poulin & Straut, 2016).

The rise of online distance learning correlates with another demographic shift in post-secondary education: the rise of the nontraditional adult student. Pelletier (2010) explains that the 18 to 22-year-old student who can make study his or her sole priority, is a dwindling portion of the college population. Adult students now comprise more than 47 percent of enrollments in colleges and universities. It seems likely a link exists between the increase in online distance enrollments and the increase in adult students undertaking post-secondary study. Colorado and Eberle (2010) report that most online enrollments are adults ages 25-50 and suggest that understanding adult learning provides an avenue for understanding distance learning. Recognizing the connection between adult and distance learning allows for a new lens of examination when researching distance courses. First, trends and theories that exist in adult

learning can be examined for their relationship with distance learning, particularly the theory of andragogy and the concept of cumulative advantage. Second, demographics such as socioeconomic status, gender, and ethnicity can be examined within the context they related to wider ideas of adult education. Lastly, research can focus on areas in which there are a higher concentration of nontraditional or adult learners, such as in community colleges.

### **Adult Learning and Distance Learning**

The idea that adult learning and distance learning share characteristics draws into a discussion Knowles' (1984) assumptions about adult learners. Knowles' fifth assumption, that adult learners are intrinsically motivated, is particularly relevant. Intrinsic motivation becomes especially vital in distance learning. In fact, Allen and Seaman (2013) report that in the ten years they have been studying post-secondary distance education, academic leaders have more frequently cited that the strong self-discipline required for success in distance learning has become a barrier for some students. In 2007, only 80% of academic leaders referenced self-discipline as a barrier, in 2012 that went up to 88.8%. However, the suggestion that adult learning and distance learning could be subject to similar theories and trends begs looking beyond characteristics to issues of equity and access in both adult learning and distance learning.

One emergent trend in adult education research is the concept of cumulative advantage. Kilpi-Jakonen, De Vilhena, and Blossfeld (2015) write: "Participation in [adult] learning often displays a pattern of cumulative advantage, whereby those who are already better endowed also receive more" (p. 532). This advantage is especially perpetuated in adult education as the cost of formal education programs can be prohibitive and that employers tend to invest more in their employees that already demonstrate a promising future within the company than low-skilled workers (Hugonnier, 2017). Distance learning is on pace to absorb a larger portion of post-

secondary course enrollments. Is this medium of instruction delivery another method of perpetuating cumulative advantage among adult college students or does distance learning provide a means of creating greater access among disadvantaged adult learners?

While barriers such as lack of academic preparation factor into an adult learners' decision to engage in post-secondary studies, the high price of formal education in the United States can further hinder participation (Kuczera & Field, 2013). The average cost of a year's tuition at a U.S. university is above \$6000 a year (Jerrim & Macmillan, 2015, p. 527). Unfortunately, opting to pursue a degree online does not greatly mitigate this expense. Poulin and Straut (2017) compiled a report on the price and cost of distance learning and found that 75.1% of colleges charge distance students the same tuition as on-campus students, while only 5.9% charged less. Further, online courses do not save colleges money in their production. 57.1% percent of colleges reported that there was no difference in the cost of offering face-to-face versus online instruction, while 42.9% of colleges reported that online classes cost more to offer (p. 4-5). Ultimately, it becomes important to examine the mission of distance education, which has heretofore simply been to "overcome the barriers of place or time" (Poulin & Straut, 2017, p. 6). This mission provides greater access to busy or geographically isolated adult learners, but the price associated can prevent it from being accessible to all.

Additionally, a recent study authored by Hoxby (2017) analyzed longitudinal data on students who participated in postsecondary education that was wholly or substantially (greater than 50%) online between 1999-2013 to account for the returns to online education. Her data appears skewed towards for-profit colleges that offer degree programs exclusively online; nonetheless, she concludes that most students' earnings do not increase significantly enough after completing a degree to cover the cost of the program. Compounded by the reality that

online degrees are no less expensive than face-to-face instruction, she argues that optimism in distance learning being the great hope for American education and workforce renewal is misplaced.

### **Demographic Studies of Adult Distance Learners**

From the research conducted over the last ten years, it is apparent that students over the age of 25 generally comprise the majority of enrollments in distance education classes. However, there are other demographic categories to consider, specifically gender and race. These factors become especially important as there exists a correlation between socioeconomic status and race. Further, women of every race and age make less than their male counterparts in the same demographic categories (Cawthorne, 2008), and more often find themselves burdened with the dual responsibilities of caring for family and children and working a job (LeVine, 2007). However, many research studies have studied how ethnic and gender differences can impact the distance learning experience.

Wladis, Hachey, and Conway (2015) conducted research using data from roughly 27,800 undergraduate STEM (science, technology, engineering, and mathematics) majors to examine the relationship between ethnicity, gender, nontraditional status, and online course enrollment. Their analysis of the data revealed interesting demographic trends. For example, women were overrepresented as a population in STEM distance courses, and the researchers suggested that online learning could provide an opportunity to level the playing field for female STEM majors. However, black and Hispanic students were underrepresented--black and Hispanic males drastically so. Additionally, women's participation in online courses outpaces men even in the participation samples for studies about distance education. In Kuo and Belland's (2016) study

about minority students' perception of online learning, 80% of the study participants were female.

The conclusions from the research of Wladis et al. (2015) confirm the results of a study conducted by Flowers, White, Raynor, and Bhattacharya (2012) about African American students' participation in distance education. Flowers et al. relied on data from the NCES and the Historically Black Colleges and Universities (HCBU) Distance Learning 2010 report. They found that African American students made up only 17% of distance enrollments, that 18% of HBCUs offered online degrees in 2010, and that enrollment STEM courses accounted for only 10.8% of African American participation in distance learning. Reasons for disproportionate ethnic makeup in distance learning have not been study extensively; however, Ke and Kwak (2013) studied online learning satisfaction and discovered that

students of different ethnic groups of demonstrated forbearance and uneasiness toward cross-cultural online interactions. This qualitative finding confirms the claim of Wong and Trinidad (2004) that a critical issue of an online learning environment lies in the potential miscommunication among participates during online discussions, arising from cultural difference and exacerbated by the distance. (Ke & Kwak, 2013, p. 50)

Perhaps the lack of black and Hispanic students in online classes is sustained by the predominance of white students' enrollments, creating a homogenous online community.

### **Distance Learning in Community Colleges**

Community colleges have served as an incubator for studies related to the performance of the nontraditional students. Because of community colleges' open admission policies, they are exceptionally well poised to serve students who have life and time conflicts or do not fit the

mold of traditional student. Researchers seeking to understand how different segments of society fare in distance learning have found relevant data through studying community college students.

However, at times the conclusions of this research is inconsistent. Shea and Bidjerano (2016) conducted a study examining the difference in associate's degree completion, transfer, and dropout rates among face-to-face and distance community college students nationally. The research showed that there was no significant difference between any of the three options tested over the six-year span of the data. The researchers further discovered that taking online courses led to a faster completion of the associate's degree. However, Shea and Bidjerano's conclusions directly refute the data of a study by Xu and Smith Jagers (2011) that tested similar information for Washington State Community Colleges. Their study concluded that distance students were more likely to fail or withdraw from an online class than those enrolled in face-to-face classes. Xu and Smith Jagers also qualify their information by stating that students better prepared for their education were the students most likely to choose to take an online course, but even with their better preparation they were still less likely to satisfactorily complete the course than their on-campus counterparts. Perhaps this discrepancy in results was caused by different data sets, national data versus Washington State data; nonetheless, it illustrates that there are many variables to consider in researching distance education.

### **Gaps in the Research**

The landscape of post-secondary education is vast: community colleges, private non-profits, public, for-profit colleges and universities interact with different student demographics and have different institutional objectives. Drawing conclusions about distance education that are true for all the institutional purveyors of online post-secondary courses can be difficult. However, with the massive increase in online learners nationwide, recognizing who is being

served and who is being left out of online learning is vital for ensuring that the medium of instruction does not become another instrument in perpetuating advantage in adult and continuing education. Archer and Garrison (2010) note that distance education for adults has been strongly tied to social justice as it provided opportunities for isolated adults in rural or unconnected areas to access education though its long (pre-internet to the 21<sup>st</sup> century) history. The movement of distance learning from correspondence courses of its early days to the high-speed online learning of today has made formal learning more accessible than ever. However, are the students who need it the most equipped with the preparation and self-discipline required for successful online learning, and can they afford it?

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