Research Review: Educational Technologies and Their Impact on Student Success for Racial and Ethnic Groups of Interest

The National Research Center for Distance Education and Technological Advancements (DETA)

WCET – the WICHE Cooperative for Educational Technologies
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Introduction

WCET is a national, member-driven organization that brings together colleges, universities, higher education organizations, and companies to collectively improve the quality and reach of digital learning. WCET members have long sought to overcome the barriers of geography and time in pursuing postsecondary education.

WCET members believe that it is now time to turn our attention to racism and other systemic barriers that limit educational access and success. Institutional changes that address racism and inequity should be based upon research and evidence. This belief sparked WCET to partner with DETA to review what recent analyses can teach us about what has worked or failed in lifting students to maximize their educational opportunities.

DETA is an organization that supports and conducts research to identify key factors that influence student access and success in education that is technology-enhanced, blended, and fully online. Working with WCET, DETA devised an effort to support the WCET community’s efforts to advance equitable learning within postsecondary education.

The purpose of the review is to identify institutional, instructional, and learning practices mediated by educational technology that positively influence the success of certain racial and ethnic groups of American students, including students who identify as Black, African American, Hispanic, Latinx, Latino or Latina, American Indian, Alaskan Native, Indigenous American, Native Hawaiian, or Pacific Islander. The rationale for the review is to better understand what recent and relevant research-based practices in the educational technology field can be replicated and scaled across postsecondary education in the United States (U.S.) to create equitable and inclusive learning experiences.

The objective of this research is the identification of practices and/or interventions that are positively influencing student outcomes (e.g., access, learning, grades, course completion, satisfaction, persistence, and others) for the population of interest to encourage implementation across the WCET community.
Executive Summary

Community organizations in education are launching new initiatives to advance efforts of equity and inclusion for students who identify with certain groups that are traditionally considered racial and ethnic minorities. Generally, postsecondary institutions in the U.S. that are enrolling these students have relied on historic instructional and student support models that do not meet the needs of minoritized student populations. Organizations and institutions are examining support services, course design, instruction and pedagogy, programming, and curriculum to transform the education experience to be more equitable and inclusive.

Traditional systems are limiting for some learners and can even be considered elitist - systems created for the privileged majority in higher education. These systems tend to place a burden primarily on the shoulders of students to overcome the inequitable structures they may face daily. However, the responsibility for rectifying inequities in higher education systems lies with the institution rather than the student who has been disenfranchised or marginalized by the system. By focusing on the actions of institutions – administration, faculty, and staff – the organizational system and the culture can be altered and can, instead, become empowering for these students.

Research Questions

While every higher education institution must commit to ongoing institution-wide conversations and strategic efforts in this area, there are immediate actions that different stakeholder groups within institutions can take to alter the structures, rules, and resources within which students learn and achieve. These actions focus on how institutions of higher education, including administrators, faculty and instructors, and instructional and student support staff, can reduce barriers, create new opportunities, and empower student success.

Thus, this research is guided by these four questions:

1.) What can administrators do to better serve students who identify as Black, African American, Hispanic, Latinx, Latino or Latina, Native or Indigenous American, including American Indian, Alaskan Native, Native Hawaiian, or Pacific Islander through learning and instructional effectiveness?

a.) What instructional-level practices, such as student and instructional supports, can be implemented that are proven to improve student access and success?

b.) How can offering student services through supporting improvements in instruction and/or through education technology help improve equity in education?

2.) What can instructors and instructional support staff do to better serve students who identify as Black, African American, Hispanic, Latinx, Latino or Latina, Native or Indigenous American, including American Indian, Alaskan Native, Native Hawaiian, or Pacific Islander through learning and instructional effectiveness?

a.) What course-level and instructional practices and interventions create inclusive opportunities for learning and are proven to better serve students?

3.) What can student support staff do to better serve students who identify as Black, African American, Hispanic, Latinx, Latino or Latina, Native or Indigenous American, including American Indian, Alaskan Native, Native Hawaiian, or Pacific Islander through learning effectiveness?
Executive Summary

Research Questions continued.

4.) What can all stakeholders do to better serve students who identify as Black, African American, Hispanic, Latinx, Latino or Latina, Native or Indigenous American, including American Indian, Alaskan Native, Native Hawaiian, or Pacific Islander at the course-, program-, and institutional-level?

By implementing and scaling research-based strategies, policies, processes, practices, and technologies that positively influence student outcomes, institutions of higher education will begin to change the traditional structural characteristics that are oppressive and limit success of students who identify with these racial and ethnic groups to advance student progress.

Educational Technology Impact on Student Access and Success

Educational technology has the potential to improve processes and practices, such as instructional and learning effectiveness, that can positively impact student outcomes, such as access and success. Yet, it is important that institutions of higher education, especially researchers and practitioners in the education field, recognize that educational technology is not the solution. Rather, it is an element of a solution that should be carefully and intentionally considered as well as implemented as it is possible that educational technology could exacerbate the existing inequities or create new inequities. Research-based interventions and practices need to be identified, verified, and scaled across programs, institutions, and the nation and supported with evidence that they specifically serve these groups of students.
Background

Historical and contemporary context

The succession of killings of Ahmaud Arbery (February 23, 2020), Breonna Taylor (March 13, 2020), and George Floyd, Jr. (May 25, 2020), triggered new waves of protests against police violence and racism around the world, bringing these issues to the forefront as America faces how deeply ingrained racism is within its citizens and within society as a whole. Black Lives Matter (BLM) protests were witnessed in cities throughout the world, such as London, Paris, Auckland, Nairobi, and Tokyo (see Porterfield, June 2, 2020). Some of these protests continue; for example, in Milwaukee, Wisconsin and the surrounding area, “protestors have marched for over 200 consecutive days demanding an end to systemic racism and calling for racial equity” (Torres, December 19, 2020, para 4). It is urgent that America and the world end institutional racism, including racism inherent in educational systems such as higher education institutions. To empower racial and ethnic groups who experience systematic racism, efforts need to be undertaken to transform education systems to provide equity and inclusion.

Efforts to address access and equity in higher education are not new. Through decades of social movements and activism, judicial rulings, and legislative acts, America has worked to address the inequalities in education, yet they still exist today. Bensimon and Malcom (2012) ask, “How could it be, one might ask, that fifty years after the passage of the Civil Rights Act, our institutions of higher education have not found ways of reducing the higher education gaps for racial and ethnic groups?” (p. 1). Disappointingly, education systems remain inherently racist after decades of efforts to create more diverse institutions to better serve students, including students who identify with racial and ethnic groups that are underrepresented, while Longanecker (2012) remarks that “…we find little evidence of intentional inequality and few examples of deliberate efforts to prevent equality of opportunity within our system…most educators, be they faculty, administrators, or policy folks, believe passionately in bridging equity gaps—a goal that should be achievable but has proved to be remarkably challenging” (p. xi). Decades of initiatives to promote access and equity are not enough, and education institutions must consider and make new efforts.

Early efforts focused on creating diverse institutions and supporting underrepresented students. The goal was to increase access and diversity in racial and ethnic composition of predominately White institutions while providing services to support these students to ensure equitable experiences (see Benitez, 2010). However, while these efforts were successful and created higher enrollments of students belonging to racial and ethnic groups that were underrepresented, a gap existed between the outcomes of underrepresented and represented students (Bensimon, 2005). Unacceptably, there is a long history of blame being placed on the student for this lower level of achievement or viewing underrepresented students in a manner that has influenced the achievement gap (Bensimon, 2005; Ogbu, 1990). Efforts were and continue to be made to identify barriers and challenges for students from underrepresented racial and ethnic groups while also providing support to help students overcome these barriers and challenges. Admittedly, some of the support is more akin to a patch while recognizing that larger systemic structures of racism need dismantling for equitable education to be the norm.

To move beyond diversifying the student body and supporting students through cultural centers and services, institutions need to identify the institutional structures and actions of individuals at institutions that are influencing the success of students who are racially and ethnically underrepresented in order to change the systems to create greater access and equity. Specifically, there is a need for efforts that identify the structures and actions, especially those inside and outside of the classroom, that have the potential to positively influence student success.
Background

Change to end racism in education systems requires an acknowledgement that racism exists. Actions are then needed that will alter the structures and practices of racist systems through critical and postmodern paradigms. Bensimon, Dowd, and Witham (2016) recommend enacting equity by design through language, measures and goals, equitable practices, and equity-mindedness. They note that “inequalities might be created or exacerbated by taken-for-granted practices” (para 14).

By identifying what practices work for these students and scaling them across programs and institutions, practice can become transformed and more equitable, leaving behind old practices that can exacerbate inequity.

**Role of language**

“The notion of minority is very complex” (Deleuze & Guattari, 1980/1987, p. 105). As we examine the use of language for our research and this report, it became clear that there is no consistency, but it did become clear that “[i]nequality in higher education is a structural problem that is hidden or revealed through the use of language imbued with political and social meaning” (Bensimon, Dowd, & Witham, 2016, para 5). Language reveals an organization’s espoused values and should be carefully considered. From a critical and postmodern lens, minority has become more than a term of a statistical presentation to a larger whole, but as a group of people that do not meet a standard (Deleuze & Guattari, 1980/1987). Language and use of the term minority to explain a racial and ethnic grouping of people needs to be reconsidered.

Traditionally, many may believe that these groups of students are referred to as minority or underrepresented students since their demographic characteristic of racial and ethnic group was statistically smaller in percentage than the majority racial group, usually referred to as White, Caucasian, or European American, in comparison to the overall composition of racial and ethnic identities and demographics. For instance, according to The Condition of Education, a congressionally mandated annual report from the National Center for Education Statistics, “[o]f the 16.6 million undergraduate students enrolled in fall 2018, some 8.7 million were White, 3.4 million were Hispanic, 2.1 million were Black, 1.1 million were Asian, 647,000 were of Two or more races, 120,000 were American Indian/Alaska Native, and 45,000 were Pacific Islander” (Hussar, Zhang, Hein, Wang, Roberts, Cui, Smith, Bullock Mann, Barmer, & Dilig, 2018, p. 128). However, in some education systems, Whites are no longer the majority. In the California State University System, according to the fall 2019 enrollment data, Hispanic and Latinx students (43%) make up the majority of the student population in comparison to other racial and ethnic groups, and White students (22%) are a statistical minority compared to Hispanic and Latinx. Although nationally racial and ethnic groups that are non-White are statistically the minority, the term minority needs to be reconsidered not only for the change in demographic composition of minority groups (Benitez, 2010), but also because of the cognitive constructs and social implications that have developed regarding the term minority.

Language for identifying and referring to racial and ethnic groups has been often revisited by the government, researchers, academics, journalists, and activists. We considered the following:

How should we refer to each different racial and ethnic group?

What terminology should be used to describe students as an aggregate, if at all, who are historically referred to as minority students?

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1 The notions of “equity” vs. “equality” are central to this discussion could be discussed at length. For the purposes of this research, the authors are taken by the simple definitions used by The George Washington University Milken Institute School of Public Health: “Equality means each individual or group of people is given the same resources or opportunities. Equity recognizes that each person has different circumstances and allocates the exact resources and opportunities needed to reach an equal outcome.”

(MPH@GW, the George Washington University online Master of Public Health program, 2020)
Background

It, again, has become a topic in postsecondary education as educators seek to use more inclusive and equity-minded language in institutions of higher education. For instance, some scholars have advocated for the use of racially minoritized students rather than minority students to recognize systemic oppression (see Benitez, 2010; Bensimon & Malcom, 2012). Through the decades, the language used has not always garnered consensus. The language the privileged have decided to use (e.g., government, academics) and the language of a common American identifying as a non-White racial or ethnic group have not always aligned (see Cummings, 2019; Gillborn, 2005). While there was a push in the 1980s for Americans whose ancestors were of African heritage to be identified as African Americans rather than Black Americans, there was resistance by these individuals in America as they referred to themselves as Black Americans. Now, government agencies and journalists have reverted to the term Black Americans (Byers, 2013; U.S. Census Bureau, 2020). Recently, there is similar momentum for Americans who identify as Hispanic, Latino, or Latina to be referred to as Latinx, yet the majority of Hispanic and Latino Americans have not heard the term (Meraji, 2020). The best advice may be to ask individuals to which group they self-designate (Vincenty, 2020).

There are structures that limit our language and data measures of different racial and ethnic groups of students. Early in this report, we have referred to groups of students as underrepresented students, and we have discussed the implication of referring to these students as minority students. These students are considered by the government in legislation as underrepresented or minorities, since they are demographically less prevalent in postsecondary education than their counterparts. Because of the implications of minority, we have chosen to not use that term as a descriptor. However, this term is often used in the research of students in postsecondary education and must be considered in any research project. Moreover, we have chosen to describe students of the racial and ethnic groups of interest as identifying as Black, African American, Hispanic, Latinx, Latino or Latina, Native or Indigenous American, including American Indian, Alaskan Native, Native Hawaiian, or Pacific Islander. This decision was made based on a review of research and data collected that examines racial and ethnic groups and other relevant arguments made in popular media and academic research as well as on first-hand discussions that we had with our students as to how they describe their own racial and ethnic identity while avoiding a claim to be all inclusive.

Expanding the research

In research practice, we cannot ignore or disregard the systems that do identify racial and ethnic measures, categorization, or terminology for these groups, such as the government. Data are grouped by common characteristics that help researchers statistically identify relationships between those characteristics, the behaviors, actions, and process of actors within education and student achievement. Yet, as we evolve as a country, defining these common characteristics, such as race and ethnicity, is becoming more complex and nuanced, and new systems have not been developed to capture these idiosyncrasies that would lead to richer data and findings. Researchers also need to build more complex statistical models examining characteristics of students that consider more than a student’s race or ethnicity and instead build profiles of students that include race and ethnicity, income or Pell grant eligibility, first generation status, and other important variables and measures (see Joosten, 2020). Race and ethnicity alone are not yielding robust findings of the relationships of influence on student achievement. Moreover, research needs to move beyond the black box phenomenon and examine more process variables rather than purely examining input variables of race and ethnicity and outcome variables of achievement in order to identify behaviors and activities that lead to equitable outcomes (Joosten, 2020).

Most often the data that can be collected through student information systems regarding students racial and ethnic identity does not capture the distinctions that we describe here nor are they evident in the research conducted as part of this report.


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