

Developing a Social Determinants of Learning™ Framework: A Case Study

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Abstract

AIM The aim of the study was to propose a framework, social determinants of learning™ (SDOL™), an actionable model to address learning disparities and expand learning opportunities to support nursing student diversity, equity, and inclusion.

BACKGROUND There is significant growth in the racial and ethnic diversity across students at all levels of higher education, mirroring the growing diversity of the US population. Yet, lower rates of persistence and higher attrition rates among these student groups continue.

METHOD The authors established six socially imposed forces, causative domains, as foundational to the SDOL framework. Key attributes of each domain were identified through a literature search. A case study illustrates an initial study of interventions targeting specific domains of the framework aimed toward student success.

CONCLUSION Equitable education for all has far-reaching implications across nursing education and higher education in general. Further development and testing of the SDOL framework will support the goal of equitable education for all.

KEY WORDS Educational Justice – Learning Disparities – Social Determinants – Equitable Education

It is a matter of moral obligation and societal responsibility to uphold our nation’s long-held principles of justice and respect for the equal dignity and worth of all people, with responsibility to those less fortunate. Basic notions of individual and social justice are viewed in terms of fairness and what is deserved, being given what is due or owed. Any denial of something to which a person has a right is a grievous act of injustice, regardless of the person’s circumstances (Kohlberg, 1971).

Work aimed to correct injustices in the public educational system in the United States begins with an understanding of root causes, such as underresourced schools in poverty-stricken communities, often

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black/African American communities (Semega et al., 2020). According to the US Bureau of Labor Statistics (2020), the pre-2020 pandemic unemployment rate of black/African Americans was twice as high as whites, with household income a little less than 60 percent than that of whites (Semega et al., 2020). Semega et al. (2020) also reported that black/African American communities facing poverty because of systemic inequalities experience insufficient school funding, often the result of lower local property taxes, and may therefore experience unequal learning opportunities. Underresourced schools represent one of our nation’s most significant examples of structural racism.

Belief in a basic right to education is based largely on the doctrine of justice, which presumes that like cases should be treated alike, and equals are to be treated equally. Where there is injustice in education, educators must work to address the systemic factors in order to establish just education. Educational justice will be achieved when all students have “the opportunities to find, figure out, and develop their skills and abilities based on their values and their communities’ values” (Levitan, 2016).

BACKGROUND

Ensuring educational justice means all students, regardless of ethnicity, race, culture, financial status, or other factors, have access to quality college education that leads to equitable careers. In comparison to other similar nations, the United States is ranked first in terms of academic quality (US News and World Report, 2020). On the other hand, a recent study of multiple data sets reported that US students from low-income communities score near the bottom of international rankings in relation to academic performance outcomes, with educational inequalities increasing at an alarming growth rate (Jackson & Holzman, 2020).

In its 2019 comprehensive report, *Race and Ethnicity in Higher Education*, the American Council on Education reported significant growth in racial and ethnic diversity across higher education mirroring the growing diversity of the US population (American Council on

Education, 2019). Yet, the report noted that disparities across racial and ethnic groups continue. For example, Latino/Hispanic students have low educational attainment (63.4 percent of Latino/Hispanic men have a high school diploma or less) compared to Asian students (55.4 percent hold a bachelor's or advanced degree). Black/African American students in bachelor's programs have lower rates of persistence during the first year compared to all other groups, are more likely to receive federal loans and grants, and graduate with the highest student loan debt compared to other groups. An encouraging finding of the report is that racially or ethnically diverse students who earned a bachelor's degree are more likely to pursue graduate education within the following four years compared to their white peers.

According to the American Association of Colleges of Nursing (AACN, 2020a), racial and ethnic diversity among nursing students continues to grow. AACN reported 24.6 percent of baccalaureate nursing graduates were from racial and ethnic minority backgrounds in 2010 compared to 33.1 percent in 2019. Diversity among postlicensure nursing graduates has increased significantly for both master's and doctoral-level programs. In 2010, 24.1 percent of master's nursing graduates were non-white racial and ethnic minorities compared to 34 percent in 2019. In 2010, 17.3 percent of doctor of nursing practice graduates were racial and ethnic minorities compared to 32.8 percent in 2020. As 19.2 percent of the entire registered nurse population represents racial and ethnic minorities, the need to enhance diversity of the nursing workforce continues as a key goal (Sullivan Commission, 2014). An ideal would be for the racial and ethnic minority RN population to mirror the US population, which is 23.7 percent minority (US Census, 2019).

The work of educational justice begins with denouncing racism; embracing just principles; identifying and addressing the underlying, unjust, and avoidable social causes disadvantaging learners; and creating the necessary conditions for student success. A conceptual framework rooted in the context of systemic racism may promote a shared understanding and language for advancing educational justice. Commitment to a robust strategic plan for change is critical — involving key stakeholders, listening sessions, data analysis, design thinking, resource development, and a caring culture. Bold leadership is critical for the long-term structural transformation required to advance educational justice for all.

The focus of this article is to present a framework, social determinants of learning™ (SDOL™), to address learning disparities and expand learning opportunities for nursing students from under resourced backgrounds. The SDOL framework provides a structure to coalesce discussions, teachings, and research about the influence and impact of social determinants supporting diversity, equity, and inclusion. Key results from past studies are summarized to lend support to SDOL domains presented in the framework. Finally, a case study illustrates interventions and research implemented by Chamberlain University to evaluate the impact of programs supporting success among the growing numbers of students from diverse groups. Implications for educators and researchers are discussed.

DEVELOPING THE SDOL FRAMEWORK

Social Determinants of Health as Basis

During the past few decades, the public health sector has focused efforts to address disparities in health outcomes among various populations through the application of a social determinants of health model. Within this model, several social and environmental factors

have been found to have greater impact on health outcomes compared to personal health choices or health care received; these include economics, community safety, access to transportation and adequate housing, social networks and support, and discrimination (Marmot et al., 2008).

Several theories, supported by decades of research, have confirmed social determinants of health are key drivers of health inequity (Solar & Irwin, 2010), but as research evolved, it became evident that a more complex theoretical framework was needed. Thus, a focus on a systems theory approach was put forth to further explain complex interrelationships among social determinants and differences in health outcomes impacting the human condition (Jayasinghe, 2015). In turn, health equity initiatives have informed federal and state health care systems and payor models, influencing the way care is provided (Kaiser Family Foundation, 2018). From an academic perspective, developing and testing an SDOL framework may also inform and influence educators in the provision of support, remediation, and resources to students.

The social determinants of health model serves as a foundation from which to build an SDOL framework. The relationship between health and education are clear. Healthy People 2020 (Office of Disease Prevention and Health Promotion, 2020) addresses social determinants of health and identifies access to educational opportunities and quality of education as key social determinants, in addition to access to health care services.

Linkages Between Health and Education

Education is a key social determinant that is linked to health across the life span in several ways. Higher educational attainment leads to better health decisions and greater access to employment opportunities and financial resources, and has a positive impact on psychosocial factors (Shankar et al., 2013). The quality and length of one's education crosses over other social determinants of health, impacting an individual's future well-being related to employment and economic factors (McGill, 2016). A large-scale, national study by the Centers for Disease Control and Prevention (Rasberry et al., 2017) found high school students with greater academic performance had significantly higher prevalence of protective health-related behaviors and significantly lower prevalence of health-related risk behaviors compared to students who were not passing their courses.

Theoretical Foundation for SDOL Framework

Bourdieu's (1986) theory of cultural capital has been applied widely in many remediation and support programs for underresourced students to explain differences in academic outcomes (Bennett et al., 2015; Tinto, 1975). According to Bourdieu's theory, one's capital refers to all its forms — economic, social, and cultural — which vary in amount and type among individuals from varying backgrounds. The challenge with Bourdieu's theory stems from its application to support vertical inequalities (i.e., devaluing baccalaureate education to support a rationale for credentialing or graduate education), thus furthering class inequalities (Marginson, 2016). As a result, students are expected to assimilate, in contrast to the system's taking actions to change. Students from a less "dominant" class may be less able to benefit academically because of lack of adequate preparation, financial issues, or unfamiliar social or cultural norms. In this regard, a university will most likely not succeed in attempts to implement a social inclusion policy, as fundamental structural inequalities present within

the institution may promote barriers and thus foster poor performance or self-exclusion by students.

Sorenson (1996) put forth a theory to identify the structural basis of social inequality based on socioeconomic factors. More recently, Naylor and Mifsud (2019) tested the structural inequality theoretical framework to identify different aspects of university culture and activities that may promote perceived inequalities or exclusivity among different groups of students. They hypothesized that students from various backgrounds interact with aspects of a university differently, resulting in different experiences. Faculty, students, curricula, the environment, campus activities, and the administration are all potential sources of structural inequality. The Naylor and Mifsud study examined current practices to support student inclusivity and equality across a wide diversity of higher education institutions based on either a cultural capital or social inequality theoretical framework. The selection of either framework was not related to the type or size of the institution, but rather the culture of the organization and leadership preferences. Naylor and Mifsud did not study the long-term impact of either framework and noted the dearth of research examining the impact of institutional structures and cultures on student outcomes. There is, however, some initial support demonstrating that institutional factors, compared to student factors, may be stronger predictors of retention (Institute for Social Science Research, 2017).

Framework to Address Learning Disparities/Expand Learning Opportunities

The achievement gap, disparities in educational outcomes based on race and socioeconomic status, has been the focus of research for several decades. The gap continues to widen for some groups, including students with disabilities and students struggling with poverty (National Assessment of Educational Progress, 2017). Although out-of-school factors are drivers of the gap, most initiatives to address this gap turn responsibilities and expectations toward in-school interventions (Rothstein, 2013). Despite best-intended supportive programs, attrition rates among students from underresourced backgrounds continue to rise (Metcalfe & Neubrandner, 2016). Specific to supportive programs in nursing, Carthon et al. (2014) conducted a national study of 33 such programs and found enrollment and graduation results were mixed, depending on race and ethnicity.

In terms of the nursing literature, research examining the association between social determinants and nursing student outcomes is limited to primarily descriptive or qualitative studies addressing students' financial issues, lack of social supports, inadequate student skills, and incidents of perceived discrimination (Barbe et al., 2018; Graham et al., 2016). Studies of social determinant attributes in nonnursing student populations were also examined to develop a more comprehensive understanding of an SDOL framework. As a growing number of students choose nursing as a second career (Rainbow & Steege, 2019), an SDOL framework that would elicit more robust research on interventions to support the success of diverse student populations is critical.

For purposes of this discussion, *social determinants* are defined as socially imposed forces that are causative factors that have implications for or influence one's life. Those barriers would need to be assessed and addressed for students to move forward and progress. SDOL attributes may also be identified in positive terms and, in those cases, would be protective in nature. For example, being resilient in stressful situations is a determinant that drives learning and successful academic outcomes.

Figure 1 serves as an initial framework for an actionable model of SDOL amenable to further nursing studies. The six main domains of social determinants include physical health, psychosocial health, physical environment, social environment, economic stability, and self-motivation (see Supplemental Content, <http://links.lww.com/NEP/A264> for attributes described in previous studies within each SDOL domain). Impacting the SDOL are the important factors of diversity, equity, and inclusion, which contribute to and influence each determinant of learning (Green, 2020). Diversity targets differences in student characteristics, including race, ethnicity, age, gender, socioeconomic status, culture, language, religious beliefs, and socioeconomic status. Equity relates to access, opportunity, fair treatment, and advancement for all while eliminating barriers to full participation. Finally, inclusion ensures an invitation to all to participate in opportunities and share resources. All three factors are necessary to turn a social determinant barrier into an opportunity. The outer circle identifies different structural aspects of the university environment in which students interact. Potential sources of structural inequalities or equalities within institutional cultures may include faculty, students, curriculum, environment, campus activities, or administration (Naylor & Mifsud, 2019).

Aragon et al. (2020) cited an example of how elements of the SDOL framework may be put into action for further study. They noted the challenges nursing programs have in applying admissions criteria equitably given that some applicants are less advantaged because of lack of resources or factors within SDOL domains they may have experienced throughout their lives. In addition, there may be barriers to admission for these applicants, whether perceived or actual, within the university's policies, personnel, or environment. To that end, adoption and evaluation of a holistic admission process may help faculty consider a broader scope of factors beyond the traditional academic metrics. These would be applied to all applicants based on their individual life experiences and potential for success (AACN, 2019).

Domains, Attributes, and Key Learnings

The authors sought to identify key attributes of each SDOL domain through a literature search of past studies of nursing and nonnursing students supporting each of the SDOL domains presented in the framework. Attributes listed under each SDOL domain (see Digital Content for Table 1, available at <http://links.lww.com/NEP/A250>) were included based on the following eligibility criteria: a) published between 2005 and 2020; b) published in the English language; c) focus on nursing or college students; and (d) findings tied to key student outcomes including academic performance, academic achievement, or student progression. The literature cited included key learnings from primary research, literature or scoping reviews, and descriptive or exploratory studies but is not meant to be a comprehensive review.

CHAMBERLAIN CASE STUDY STUDENT SUCCESS MODEL

Chamberlain University conceptualizes care as a noun rather than a verb, "The provision of what is necessary for the health, welfare, maintenance and protection of someone or something" (Groenwald, 2018, p. 2). A conceptual model of care as applied to educational justice means providing the necessary resources and support for underresourced students to become effective learners. Our description of the Chamberlain Care Student Success Model (CCSSM) illustrates some of the university's interventions to target specific domains of the

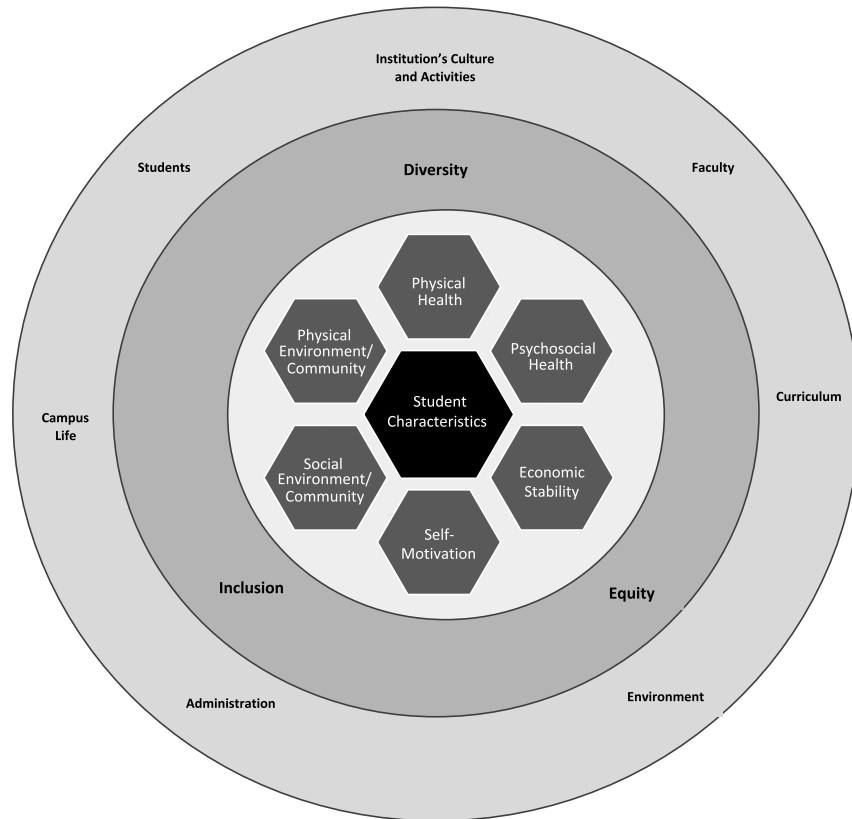


Figure 1. A framework of social determinants of learning.

SDOL framework to ensure academic success. Assessment and evaluation of interventions have been primarily focused on prelicensure baccalaureate nursing students.

Chamberlain University is a private degree-granting institution dedicated to quality health care education in preparing nursing and other health care professional graduates to transform health care worldwide. During the 2018 to 2019 academic year, Chamberlain had an enrollment of more than 9,600 prelicensure nursing students, 59 percent from racially or ethnically diverse backgrounds. In comparison, the annual survey of the AACN (2020a) reported an average of 36 percent diversity among their 793 participating schools.

Designing a Model to Support Student Success

The CCSSM was developed as an integrated approach to academic and nonacademic student support. The focus is holistic, spanning the student's journey from acceptance into the program through graduation and informing academic advising and the development of a personalized learning pathway supported through a caring relationship between faculty and student. To ensure equity in admission review processes, the admission committees have tools to help determine academic eligibility through a holistic lens as they review preadmission information about each candidate, both quantitative (e.g., prior academic performance, preadmission test performance) and qualitative (e.g., admission essays, patterns, or trends in academic record).

Using student life cycle risk assessments, the CCSSM provides indicators of current and predicted academic success through the nursing curriculum to NCLEX[®]-RN performance. Indicators include preadmission factors, key performance indicators, and nationally normed

assessments throughout the program. As part of Chamberlain's program evaluation, the Institutional Effectiveness and Research Team utilizes an advanced form of multiple regression analysis, propensity modeling, to predict each student's "propensity to succeed" along the way. As students progress, the modeling continues to ingest data and provide updated outcome results so that students and faculty may evaluate the impact of student success interventions.

CCSSM interventions focus on increased individualized support and resources to students targeting their financial, psychosocial, and environmental needs. For example, to better provide social support to its growing diverse student population, Chamberlain has made great efforts to recruit a diverse faculty and leadership team. AACN (2020b) reported in their most recent national survey that 20.3 percent of full-time faculty and 17.1 of faculty leaders are racial and ethnic minorities.

Specific to NCLEX support, previous studies consistently report a small percent of the variance driving NCLEX-RN results may be explained by academic factors alone (16 to 28 percent; Simon et al., 2013). Chamberlain's team found similar results; 26 percent of the variance in NCLEX-RN results was explained by academic factors. Nonacademic factors impacting students' success are many and may be categorized as financial, social, psychological, or personal (Hanover Research, 2011).

Chamberlain developed and implemented an early assessment survey from an extensive literature review to better understand non-academic indicators of risk to student success, such as critical thinking, motivation for learning, learning strategies, ability to cope with

stress, social supports, use of the English language, family and work responsibilities, and emotional and financial stress. Nursing students complete the survey during their first nursing course and receive a report of their results to discuss with faculty advisors. Feedback to students is expressed in positive terms, encouraging the importance and application of each indicator to nursing program success.

Implementing and Evaluating CCSSM Interventions

To develop an approach to just, equitable education for all students, an interventional approach is being tested. Understanding out-of-school SDOL attributes that either pose a risk to student success or bolster success can guide the identification of in-school interventions to mitigate those risks (Rothstein, 2013), thus supporting each individual student and fostering an equitable educational environment for all students. Early assessment survey results are being used to design program interventions to ameliorate student risk. These interventions have been termed *Care Connections*, as they focus on ways to connect students to faculty, support staff, peers, and administrators in order to promote student engagement within the institution's culture of care.

The first *Care Connections* program piloted mindfulness techniques for students. Mindfulness has been examined primarily in small-scale studies of nurses and nursing students, but results demonstrating benefits to reducing stress and anxiety are promising (van der Riet et al., 2018). Chamberlain implemented a mindfulness program in the first nursing course to heighten students' awareness of the importance of being present in the moment, increase self-care and self-awareness to support their success, and inspire their becoming effective professional nurses. Mindfulness techniques have potential to impact factors such as stress, resilience, ability to focus, self-confidence, and engagement, all important to support students' psychosocial health within the SDOL framework. More than one third of 750 new students enrolled in the January 2020 class reported reduced stress levels, improved attention span, and heightened focus on their studies. Participation in the program was also associated with a 3.5 percentage point increase in persistence as compared to two prior new student cohorts.

Plans for Further Development

To support a culture of equitable education for all students, development of a diversity and inclusion *Care Connection* is underway. The Chamberlain University Institutional Review Board approved an exploratory study of all prelicensure BSN students to gain insights about the campus cultural climate, particularly as it relates to linguistic and ethnic diversity and inclusion, that is, feelings of belonging, the quality of relationships, ways the university demonstrates or does not demonstrate diversity and inclusion, and awareness of available tools and resources. Students affirm that experiences with faculty and advisors, perceptions of racial climate, and inclusion and diversity efforts all play an important role in their perceptions of belonging as an attribute of the "social environment" SDOL domain. Plans for further *Care Connection* interventions include belonging, motivation for learning, and coaching for success.

BELONGING This intervention expands upon the diversity and inclusion initiative and will address the SDOL domain of "social environment/community." Qualitative interviews are a next step in understanding student perception of "fit" and the effectiveness of specific diversity and inclusion efforts. The goal is belonging in a truly equitable learning environment where social cohesion,

characterized by self-worth, perceived sameness, and unity and high levels of satisfaction, exists among all students, evidenced by equality in student performance in both academic and social outcomes.

MOTIVATION FOR LEARNING Addressing the SDOL domain of "self-motivation," this intervention will be faculty facing to develop an understanding of motivation for learning research from a theoretical perspective, manifested by active participation in a learning environment, growth mindset to improve motivation in learning, student support for becoming self-directed, and lifelong learning.

COACHING FOR SUCCESS This intervention will provide social work resources for students to access federal and state financial aid, housing, food and transportation assistance, learning technologies, counseling services, and job placement services while in school. The use of social workers on campuses has been a recent strategy for educational institutions. Patel and Field (2020) addressed threats to low-income students brought about by COVID-19. They described how social workers provide "wraparound support" for underrepresented students, developing mechanisms and helping students solve and cope with problems impacting their ability to learn.

IMPLICATIONS FOR EDUCATION AND RESEARCH

Equitable education for all has far-reaching implications, across nursing education and higher education in general. Although the focus of this work is on baccalaureate degree nursing programs, further research is recommended in order to test potential applicability across associate degree nursing programs.

Greater diversity is needed among leaders, strategists, admission and student advisors, and faculty in order to contribute to the design and testing of the SDOL framework, domains, and attributes. Nursing education's professional organizations and associations can likewise contribute to the framework's development. Lastly, development in teaching, advising, and resourcing students is needed for faculty and student life professionals to further develop and implement the interventional approaches to addressing educational injustices.

Examples of further research on SDOL include interventions in support of student resilience and persistence to graduation, grade point averages, academic progress, self-confidence, motivation for lifelong learning, engagement with the learning community, sense of fit, graduation rates, licensing and certification pass rates, and employer satisfaction. Given the multilevel, multidimensional nature of lifelong learning, research approaches and methods should address key stakeholders and research teams who hold multiple perspectives and use multiple data collection methods. It would be expected that these teams participate in regular, collaborative meetings to discuss and share approaches to data collection and analytics in order to engage multiple perspectives and thus foster a research culture that will be positioned to engage in theoretical modeling based on literature review, drive a research agenda, and act on the significance and relevance of findings from these proposed studies. It is anticipated that the short- and long-term impact of these interventions on student and alumni success would be established from these studies.

CONCLUSION

The right to equitable education has not yet been realized in the United States. Calling out the causative social and structural factors that impact learning is a beginning; the responsibility to intervene and eliminate root cause factors can help students achieve their dreams. In the first half of the 20th century, Dewey urged an educational model to achieve social cohesion through deep understanding

of individual student differences and identifying shared interests to expand students' horizons through education (Dill, 2007). This approach is foundational to the ideal that all students can learn.

Students from diverse backgrounds can achieve social cohesion through a clear understanding of the SDOL and by embracing the associated interventions to mitigate risks. The vision for a framework for SDOL can be realized through a relationship with students and fostered in a learning community of belonging, understanding, and trust that launches students on a personalized learning journey of upward mobility through lifelong learning across the span of a career. In addition, to support appropriate, equitable patient care, nursing and health professions educators must embrace new approaches for increasing the number of ethnically diverse care providers today's health care system needs. As important as that is, there is an even more compelling reason to find new approaches for increasing diverse providers — it is the just thing to do.

The desired outcome of an SDOL framework is self-determined, accountable, confident, and courageous students who engage faculty and fellow students in order to build intellectual and social capital as a means to employment and a poverty-free future. The United States will have achieved educational justice when this outcome becomes the norm. As professionals whose practice is built on a culture of care, it is only right that nursing and health care education lead the way.

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