## Introduction to the Research Literature Annotated Bibliography

In working through extensive literature about data mining, learning analytics, student success outreach, and equity in higher education outcomes, the research literature subcommittee of the QEP Working Group found ourselves returning again and again to three critical areas of the early alert design process—values and ethics, learning analytics and big data, and responses and interventions in support of equitable outcomes—which we focused on for three micro-reports written by members of our team.

However, many of the articles that covered topics outside of the themes of those three micro-reports still contained information that could be incredibly relevant to the working group’s efforts moving forward. We decided to capture these “everything else” resources in an annotated bibliography. Many of the articles we reviewed covered topics that were not covered by our micro-reports, yet could be relevant to our work moving forward. We captured these “everything else” resources in this annotated bibliography. It is far from perfect (including inconsistencies in its attributions of paraphrases and quotations), so please don’t view it as an official document. But hopefully it captures useful information that can be easily scanned for applicability by various working teams moving forward.

The annotated bibliography is organized into the following topics:

* Predictive Analytics: Overarching Resources
* Preparing for & Enacting Institutional Change
	+ Institutional Readiness for Change
	+ Approaches to Enacting Institutional Change
* Situating Early Alert within a Multi-dimensional, Institutional Approach to Justice, Equity, Diversity, and Inclusion
	+ Institutional Policy Needed in Support of Student Success
	+ Completion Outcomes Are Impacted by Representation
	+ Fairness and Institutional Communication to Students May Impact Persistence
	+ The Importance of Collecting and Connecting Comprehensive, Disaggregated Data
* Increasing Accuracy and Transparency in Predictive Models
* Promoting Agency: The role of Faculty, Advisors, and Students in LA Design & Intervention
	+ Engaging Students
	+ Engaging Advisors and Faculty
* Ethical Considerations in Learning Analytics
* It’s Only As Good As How You Use it: Best Practices in Student Success to Inform Intervention
	+ Strategies for Learning: Metacognitive, Motivational, etc.
	+ The Importance of Addressing Well-Being and Promoting Help-Seeking
	+ Leveraging the Power of Networking: Professional Networks and Peer-to-Peer Networks
	+ Designing and Refining Interventions Based on Predictive Models
* Other Resources

All articles have been loaded into a free, easy-to-use, online platform called Zotero. Please ask Jolie Lewis (lewis3jl@jmu.edu) to be added to the group’s Zotero library if you would like access to these articles. We also invite colleagues to add to this document as you encounter other resources that may assist with our collective work.

## Predictive Analytics: Overarching Resources

Lester, Jaime, et al. “Learning Analytics in Higher Education.” *ASHE Higher Education Report*, vol. 43, no. 5, 2017, p. 143.

*This 140+ page report from the Association for the Study of Higher Education (ASHE) takes a deep diver into learning analytics, with chapters introducing current trends and research; exploring organizational context and capacity in terms of decision-making, capacity, readiness, and adoption; the role of faculty, advisors and students in decision-making; ethical and privacy considerations; and recommendations moving forward.*

Barshay and Aslanian. “Predictive Analytics Are Boosting College Graduation Rates, but Do They Also Invade Privacy and Reinforce Racial Inequities?” *The Hechinger Report*, 6 Aug. 2019, <http://hechingerreport.org/predictive-analytics-boosting-college-graduation-rates-also-invade-privacy-and-reinforce-racial-inequities/>.

*This article, published in the Hechinger Report as a collaboration with American Public Media, introduces predictive analytics that could be understood by most audiences, capturing in broad brush strokes some of the central issues around colleges using big data. The article includes a case study / deeper dive into the use of predictive analytics at Georgia State, an early contract partner with EAB. The article discusses the history of how predictive analytics came to be used in higher education, highlights positive outcomes in terms of students staying in college and graduating, and provides an overview of concerns, including a lack of transparency with students and concerns that the reliance of predictive analytics on past experiences that could be the result of bias could perpetuate those biases.*

Selwyn, Neil. “What’s the Problem with Learning Analytics?” *Journal of Learning Analytics*, vol. 6, no. 3, Dec. 2019, pp. 11–19, <https://doi.org/10.18608/jla.2019.63.3>.

*From The Journal of Learning Analytics comes a helpful analysis of concerns around the usage of learning analytics. Selway, a scholar outside the field, argues a sociotechnical approach in examining and engaging in critical dialogue about learning analytics. He identifies a series of potential negative consequences in implementing learning analytics: a reduced understanding of education, ignoring broader social contexts, reducing student and teacher capacity for decision-making, using analytics as a tool for surveillance rather than support, disadvantaging large numbers of people, serving institutional rather than individual interests, and creating opportunities for institutions to be performative instead of transformative. He also raises concerns about some of the values of learning analytics: an oversized faith in data, techno-idealism, limitations put on individual choice and agency and an exploitative data economy. He makes suggestions for how to rethink the design, economics, and governance of learning analytics, and how to increase public understanding of the field and its tools.*

## Preparing for & Enacting Institutional Change

**Institutional Readiness for Change**

Arnold, Kimberly, et al. “An Exercise in Institutional Reflection: The Learning Analytics Readiness Instrument (LARI).” *ResearchGate*, 2014, <https://doi.org/10.1145/2567574.2567621>.

*Co-authors from the University of Wisconsin-Madison, the University of Michigan, and Purdue University describe the instrument they developed to help institutions prepare for a successful analytics implementation. There are 90 items in the instrument pertaining to: 1) ability, 2) data, 3) culture and process, 4) governance and infrastructure, and 5) overall readiness perception.*

**Approaches to Enacting Institutional Change**

Ishimaru, Ann M., and Mollie K. Galloway. “Hearts and Minds First: Institutional Logics in Pursuit of Educational Equity.” *Educational Administration Quarterly*, vol. 57, no. 3, Aug. 2021, pp. 470–502, <https://doi.org/10.1177/0013161X20947459>.

*In studying two school equity teams in a K-12 context over the period of a year, Ishimaru and Galloway found that despite “differences between principals, the trajectories of team conversations, and school and district contexts,” both teams ultimately decided to address people’s beliefs and mindsets about equity before trying to enact other kinds of institutional change (472). The researchers suggested that this approach—a “theory of change” that prioritizes the winning over of “hearts and minds” first—may limit an organization’s ability to enact actual change. They recommend other approaches that still prioritize the importance of dialogue: “addressing beliefs and practice in tandem, or changing practice first, then shifting educator beliefs and expectations on realizing improved student learning” (494).*

Kinzie, Jillian, and George Kuh. “Reframing Student Success in College: Advancing Know-What and Know-How.” *Change: The Magazine of Higher Learning*, vol. 49, no. 3, May 2017, pp. 19–27, <https://doi.org/10.1080/00091383.2017.1321429>.

*“The student success agenda must be guided by a conceptual structure emphasizing how student success will be achieved,” write Kinzie and Kuh (20). There is a tremendous volume of literature that examines what tools and practices can improve college access and student success and help to address achievement gaps, yet institutions struggle to implement “the kinds of promising policies and practices that work elsewhere.” Or they do so in ways that lack focus and connection, or are inappropriate for their institution and student body, which can lead to “initiative fatigue” (22). They recommend ending the buffet approach to student success and instead creating driver diagrams to define a theory of change defining at least three levels of a “proposed solution path”: the description of the goal or desired outcome, the conditions that are needed to achieve that goal (primary drivers), and the specific activities that create those conditions (secondary drivers) (23). Examples and further resources are included.*

Klempin, Serena, and Melinda Mechur Karp. “Leadership for Transformative Change: Lessons from Technology-Mediated Reform in Broad-Access Colleges.” *The Journal of Higher Education*, vol. 89, no. 1, Jan. 2018, pp. 81–105, <https://doi.org/10.1080/00221546.2017.1341754>.

*Klempin and Karp looked at case studies of iPass efforts at six different colleges to answer two questions: “(a) What do colleges’ early implementation plans and experiences reveal about the potential for technology adoption to drive transformative change? And (b) how do different approaches to college leadership influence technology adoption and transformative change?” They focused on the interrelated nature of addressing system, process, and attitudinal change simultaneously, as all three are required for a successful outcome. They found that multi-level leadership—both from upper-level administrative leadership and midlevel project managers—committed to shared goals and change was necessary to transformative change. They define adaptive (vision for change) vs. technical leadership (logistics-focused) styles, and then categorized the institutions in their study by determining which leadership style was demonstrated by the institution’s administration, and which was demonstrated by midlevel project managers. Ultimately, they said, “the only colleges making significant changes to structures, processes, and attitudes were the sites where institutional and project leaders shared a clear vision for adaptive change.” They viewed iPass as a complex reform, and they made sure to communicate how it would impact the daily work of advisors. Sites with other leadership pairings did not experience transformative change.*

Fuad, Khaleed, et al. *Student Success through Digital Innovation: A Change Model*. Research Report, Center for Digital Innovation | J Mack Robinson College of Business | Georgia State University, 2021, p. 6, <https://theuia.org/sites/default/files/2021-07/GSU-Research-Report.pdf>.

*Three researchers took a deep dive—through interviews with key faculty and staff and review of archival data—into initiatives focused on digital innovation at Georgia State University to answer the question: “How does a higher education institution effectively manage change through digital innovations for student success?” They identified three areas of digital innovation to support student success: 1) teaching and learning (LMS, adaptive online math learning), 2) monitoring and advising (EAB’s GPS, 60 academic advisors to monitor and respond to alerts), and 3) engaging and informing students (Pounce AI chatbot). How were they able to enact these changes? “Along the dimensions of context, content, and process of change, GSU took important steps to rationalize, initiate, and administer” (3). The context component required strong and visionary leadership at the highest levels of administration combined with an unwavering commitment to student success among faculty and staff and outsourcing for technological expertise. The process component benefited from a “culture of collaborative and participatory innovation and learning," evidence-based solutions to problems, and starting small and then scaling (4). Both led to the content of the change: intentionally focusing on support along the student journey, engaging predictive analytics and advising systems to respond to needs, and recognizing the importance of faculty and staff in making the new technologies work.*

## Situating Early Alert within a Multi-dimensional, Institutional Approach to Justice, Equity, Diversity, and Inclusion

**Institutional Policy Needed in Support of Student Success**

Erwin, Ben, and Jennifer Thomsen. *Addressing Inequities in Higher Education*. Policy Guide, Education Commission of the States, July 2021, p. 14, <https://www.ecs.org/wp-content/uploads/Addressing-Inequities-in-Higher-Education.pdf>.

*This 14-page policy guide from the Education Commission from the States identifies areas for policy review around 1) college readiness supported through K-12 education systems, 2) student transitions from high school to college, including how underprepared students are served by developmental education upon arrival, and 3) how institutions provide support to students in degree attainment. In the third area, they share questions to consider related to retention and completion related to evaluating and addressing campus climate, offering culturally relevant courses and instruction, recruiting and retaining diverse faculty, offering supports specifically for students of color, providing meaningful academic advising, and targeting financial aid to support retention. They share policy advice related to student debt, as student loan debt falls disproportionately on Black students. This report does not include in-depth early-alert research but is an important reminder to contextualize our efforts within a broader array of equity-focused initiatives at the university. It also encourages us to keep in mind students’ financial stressors in early-alert planning.*

**Completion Outcomes Are Impacted by Representation**

Bowman, Nicholas A., and Nida Denson. “Institutional Racial Representation and Equity Gaps in College Graduation.” *The Journal of Higher Education*, vol. 0, no. 0, Sept. 2021, pp. 1–25, <https://doi.org/10.1080/00221546.2021.1971487>.

*Researchers found that universities where there was same-race representation as well as representation of other minoritized groups among both the student body and instructors see more racial equity in graduate outcomes. “[In] fact, no Black-White and Latinx-White gaps were present when Black or Latinx students, respectively, comprised at least half of undergraduates at that institution” (1). These patterns were seen primarily at institutions where there were few online students, suggesting that in-person interactions “facilitate situational racial cues and interpersonal experiences that may foster success for racially minoritized students” (1).*

**Fairness and Institutional Communication to Students May Impact Persistence**

Dolan, Amanda. *Synthesizing Undergraduate College Student Persistence: A Meta-Analytic Structural Equation Model*. Kent State University College of Education, May 2019.

*This 173-page dissertation offers a meta-analysis of many research studies and proposes a 10-part model in which a student's background characteristics (including GPA, demographics, etc.) and outside commitments (which influence each other) combine with organizational factors (size, culture, sense of belonging, fairness of policies, communication to students, and satisfaction with the college, p. 51) to determine the student's initial commitment to the institution. Their commitment then drives their academic and social engagement (which influence each other), which then leads to their institutional commitment at the end of their first semester, which in turn drives their intent to persist into a second semester. Of the 10 paths proposed for the model, all were found to be statistically significant except student characteristics (it was the weakest correlation in the analysis, even though high school GPA is typically found to be directly related to persistence-p. 99, 110) and external factors. The impact of organizational factors on commitment, interestingly, was significant. Read sections starting around page 112 for details about the various pathways in the model that did show significance. How can JMU’s early alert work support “sense of belonging” in students and promote fair policies and better communication to students across the institution?*

**The Importance of Collecting and Connecting Comprehensive, Disaggregated Data**

Wong, Nancy. “Data for Equity: Closing Racial and Economic Gaps Through a Federal-State Partnership.” *The Institute for College Access & Success*, July 2021, <https://ticas.org/affordability-2/student-aid/federal-state-partnerships/data-for-equity-closing-racial-and-economic-gaps-through-a-federal-state-partnership/>.

*While this July 2021 paper from the Institute for College Access and Success focuses on the need for greater data collection and analysis related to educational success and outcomes at the state level—with a nod to the College Transparency Act which has passed the U.S. House of Representatives and been referred to committee in the U.S. Senate—the points made can be applied to some degree at the institutional and even programmatic level. The article points out that systemic barriers not only make it more difficult for BIPOC students and students from low-income backgrounds to earn a degree, but also to receive a comparable return on their investment. The paper makes a case for data transparency, data coverage, and data connection, arguing that data points should include costs, financial aid, access, enrollment, and completion—a broader scope of data than have been historically considered—and should include data points for all students that can be fully disaggregated by race, income, first-generation student status, veteran status, and gender, as well as combinations of those categories.*

## Increasing Accuracy and Transparency in Predictive Models

Bertolini, Roberto, et al. “Enhancing Data Pipelines for Forecasting Student Performance: Integrating Feature Selection with Cross-Validation.” *International Journal of Educational Technology in Higher Education*, vol. 18, no. 1, Aug. 2021, p. 44, <https://doi.org/10.1186/s41239-021-00279-6>.

*A 23-page article from the International Journal of Educational Technology in Higher Education takes on three research questions related to simplifying the data pipeline used in data mining methods (DMM), identifying whether using filter feature selection techniques in developing algorithms predicting student success could improve accuracy (as well as transparency), and identifying the sets of student attributes, both academic and nonacademic, that contribute to student performance in a gateway biology course. They found that using pre-processing filter techniques instead of analyzing all available features could be successful in developing “more robust and less convoluted educational data science pipelines,” while also allowing the “black-box” algorithms to be more easily explained to stakeholders. They also found that academic and course features were more predictive of student success than other academic factors (LMS usage was less predictive than they expected, but they noted that there may have been explanations for that). Finally, they talked briefly about the importance of evaluating algorithms for stability. Please note: this article includes an analysis of data mining methods that goes well beyond my level of expertise but could be very useful to a team looking at design related to educational data mining for the QEP.*

Bird, Kelli A., et al. “Bringing Transparency to Predictive Analytics: A Systematic Comparison of Predictive Modeling Methods in Higher Education.” *AERA Open*, vol. 7, Jan. 2021, p. 23328584211037630, <https://doi.org/10.1177/23328584211037630>.

*This source begins by talking about the importance of accuracy, stability and fairness in predictive analytics—but college administrators have little to no ability to evaluate predictive analytics software on these dimensions due to the proprietary nature of the algorithms, which leads to risks for both institutions and students through misidentification and bias reinforcement. The study compares two dimensions of predictive modeling: different approaches to sample and variable construction and different modeling approaches (tree-based vs. Regression-based). Some important findings (15): 1. “the notion of ‘risk’ is not stable and can vary meaningfully across the modeling strategy used,” and 2. “institutions would realize important gains in model accuracy through a thoughtful sample and predictor construction” (sophisticated tree-based models perform more accurately than simpler regression-based models, but the gains in accuracy are small). They suggest that using a sophisticated model could be important if an institution has limited choice over modeling decisions (due to data limitations, legal restrictions on inclusion of student attributes, etc.), but that when colleges can only target a small subset of students for additional support, regression models have an advantage. They also note other important considerations beyond accuracy: bias reinforcement, ethical questions around using certain data (such as dorm swipes), the need to consider benefits vs. costs when predictive modeling can be so expensive, and the importance of not conflating accuracy in a predictive model with designing appropriate and effective intervention. A good model in and of itself doesn't impact student outcomes. Note that two of the authors hail from University of Virginia: Kelli A. Bird and Benjamin L. Castleman.*

## Promoting Agency: The Role of Faculty, Advisors, and Students in LA Design & Intervention

**Engaging Students**

Buckingham Shum, Simon, et al. “Human-Centred Learning Analytics.” *Journal of Learning Analytics*, vol. 6, no. 2, July 2019, pp. 1–9, <https://doi.org/10.18608/jla.2019.62.1>.

*In 2019, the Journal of Learning Analytics published a special section of five papers about “Human-Centered Learning Analytics,” which they define thus: “The essence of adopting a human-centered approach is that meanings, interaction opportunities, functions, and attributes associated with the system should be defined by the people for whom the system is intended, rather than imposed by designers or researchers” (2). Whereas LA was around 10 years old at that time, the introduction describes HCLA as being in its toddlerhood. In addition to the included articles, the section points toward other resources in HCLA.*

**Engaging Advisors and Faculty**

Scheers, Hanne, and Tinne De Laet. “Interactive and Explainable Advising Dashboard Opens the Black Box of Student Success Prediction.” *Technology-Enhanced Learning for a Free, Safe, and Sustainable World*, edited by Tinne De Laet et al., Springer International Publishing, 2021, pp. 52–66, <https://doi.org/10.1007/978-3-030-86436-1_5>.

*Advisors and students aren't likely to trust models--especially black-box models--when they can't test the algorithms against their own beliefs about the reasonableness of the model. This article user-tests a couple of explainable AI (XAI) models that predict student success based on indicators prior to and/or as they arrive at college: number of hours of math courses in high school, time management skills, etc. The visualizations were presented in such a way that students could see where they were strong and weak--but also what areas they could yet impact, and what might happen to their likelihood of success if they could improve those areas, such as managing anxiety, improving test strategies, etc. Helpful for thinking about implementation--who and how would respond to data from predictive models?*

Jones, Kyle M. L. “Advising the Whole Student: EAdvising Analytics and the Contextual Suppression of Advisor Values.” *Education and Information Technologies*, vol. 24, no. 1, Jan. 2019, pp. 437–58, <https://doi.org/10.1007/s10639-018-9781-8>.

*From the abstract: This study shares findings from interviews with professional advisors at a public university regarding the recent adoption of eAdvising technologies with prescriptive and predictive features. The advisors “rejected the tools due to usability concerns, moral discomfort, and a belief that using predictive measures violated a professional ethical principle to develop a comprehensive understanding of their advisees.”*

Klein, Carrie, et al. “Learning Analytics Tools in Higher Education: Adoption at the Intersection of Institutional Commitment and Individual Action.” *The Review of Higher Education*, vol. 42, no. 2, 2019, pp. 565–93, <https://doi.org/10.1353/rhe.2019.0007>.

*From the abstract: This case study at a large, public research university sought to understand organizational barriers, incentives and opportunities in faculty (6) and professional advising staff (21) adopting learning analytics tools. “Organizational context and commitment, including structures, policies, processes, and leadership impact individual decisions to trust and adopt learning analytics tools.” The abstract also stresses the importance of communication about the implementation plan, which needs to be clear, thorough, and inclusive.*

Delmas, Peggy M., and *Tracey* N. Childs. “Increasing Faculty Engagement in the Early Alert Process.” *Innovations in Education and Teaching International*, vol. 58, no. 3, May 2021, pp. 283–93, <https://doi.org/10.1080/14703297.2020.1740102>.

*JMU’s Madison CARES program already provides an opportunity for university faculty and staff to provide alerts when they are concerned about students. Based on its abstract, this article talks about the importance of the faculty role in providing early alerts, identifies practices to encourage faculty usage of an EAS, such as communicating ease of use and positive outcomes.*

Pistilli, Matthew D., and Gregory L. Heileman. “Guiding Early and Often: Using Curricular and Learning Analytics to Shape Teaching, Learning, and Student Success in Gateway Courses.” *New Directions for Higher Education*, vol. 2017, no. 180, 2017, pp. 21–30, <https://doi.org/10.1002/he.20258>.

*Abstract: “This chapter provides information on how the promise of analytics can be realized in gateway courses through a combination of good data science and the thoughtful application of outcomes to teaching and learning improvement efforts—especially with and among instructors.”*

## Ethical Considerations in Learning Analytics

Ferguson, Rebecca. “Ethical Challenges for Learning Analytics.” *Journal of Learning Analytics*, vol. 6, no. 3, Dec. 2019, pp. 25–30, <https://doi.org/10.18608/jla.2019.63.5>.

*This article is part of a dialogue about the ethical challenges of learning analytics, and engages with the six broad areas of ethical challenges identified for the field in 2016: duty to act, informed consent, safeguarding, equality and justice, data ownership and protection, and privacy and integrity of self. This author proposes a new consideration should be “expanded to reflect a broader range of issues, and to indicate more clearly what needs to be done to address them” (28): 1) Ensure analytics accounts for all that is known about teaching and learning so data and analytics can contribute to learner success, 2) Improve data literacy skills so users can be sufficiently informed to give or withhold consent, 3) Identify potential risks in safeguarding data and taking action to limit them, 4) seek to understand ways analytics can increase rather than decrease the work of equity and justice, 5) increase understanding of the value, ownership, and control of data, increase the agency of learners and education in understanding and using educational data.*

## Only As Good As How You Use it: Best Practices in Student Success to Inform Intervention

**Strategies for Learning: Metacognitive, Motivational, etc.**

McGuire, Saundra. “Close the Metacognitive Equity Gap: Teach All Students How to Learn.” *Journal of College Academic Support Programs, Spring/Summer 2021, Vol. 4, No. 1, Pp. 69-72.*, Aug. 2021, <https://digital.library.txstate.edu/handle/10877/14189>.

*McGuire suggests complicating our understanding of “educational equity” by considering a term she thinks of as “metacognitive equity.” Metacognition requires an understanding of your own learning process far beyond memorization or other study skills: “planning, monitoring, controlling, and making adjustments” through strategies such as reflection and analysis of one’s own learning strengths and weaknesses. She argues “that it is the gap in metacognitive strategies that contributes most to the persistent achievement gap and that all students must be taught how to learn.” Students can be taught these strategies through campus learning centers, faculty-led sessions where students discuss learning strategies, or reading books about metacognition. The QEP working group has often discussed the need to design an early alert system that promotes student agency; drawing on this article suggests that student agency should be promoted not only in the context of an early-alert system, but also in the context of approaches to learning.*

Fong, Carlton J., et al. “LASSI’s Great Adventure: A Meta-Analysis of the Learning and Study Strategies Inventory and Academic Outcomes.” *Educational Research Review*, vol. 34, Nov. 2021, p. 100407, <https://doi.org/10.1016/j.edurev.2021.100407>.

*From the abstract: This 24-page paper is based on a meta-analysis of research about the relationships between learning and study strategies, specifically measured by the Learning and Study Strategies Inventory (LASSI). Their analysis showed that motivation strategies had the strongest correlations on GPA and persistence. Test taking strategies, addressing anxiety, and selecting main ideas had the strongest correlation with higher test scores. Again, this kind of article may have the biggest impact on the work of the QEP in the intervention phase and identifying what resources students may most benefit from being connected to.*

Lucas, Chris, et al. “Predicting and Supporting Student Performance in a High Fail and High Incompletion Course: An Exploratory Study of Introduction to General Chemistry.” *College Student Journal*, vol. 55, no. 2, June 2021, pp. 135–44.

*A study that proposes modeling to predict which students are likely to DFW the introduction to chemistry course at an unidentified university. SAT/ACT/GPA were found to be predictors, Pell was not. Significant attention give to the importance of instructor in student success and by extension the importance of teaching methods based in learning research. Implications include the possible development of support programs/practices for students identified as likely to finish DFW.*

**The Importance of Addressing Well-Being and Promoting Help-Seeking**

Brocato, Nicole, et al. *Well-Being for Students with Minoritized Identities*. American Council on Education, 2021, p. 33, <https://www.acenet.edu/Documents/Well-Being-Minoritized-Identities.pdf>.

*Even as JMU considers approaches to identify students in need of support and designs programs or communication to reach them, this article can serve as a reminder of the importance of addressing campus culture in addition to supporting individual students. The 26-page report from the Amercian Council on Education emphasizes that undergraduate students with minoritized racial and ethnic, gender, and sexual orientation identities have substantially lower subjective well-being levels than their peers with privileged identities (iv). It calls for a shift from accommodation and inclusion design to a fundamentally diverse design, and shares tools and frameworks to help institutional leaders enact change.*

Asher BlackDeer, Autumn, et al. “Depression and Anxiety among College Students: Understanding the Impact on Grade Average and Differences in Gender and Ethnicity.” *Journal of American College Health*, vol. 0, no. 0, July 2021, pp. 1–12, <https://doi.org/10.1080/07448481.2021.1920954>.

*From the abstract: Some are beginning to call collegiate mental health a crisis. This student presents data about prevalence of anxiety and depression, and the significantly lower GPAs among students who were diagnosed but not treated as compared with those receiving treatment. Proposes further research into help-seeking behaviors and effect on GPA.*

Chen, Jason I., et al. “The Relationship of Perceived Campus Culture to Mental Health Help-Seeking Intentions.” *Journal of Counseling Psychology*, vol. 63, no. 6, Nov. 2016, pp. 677–84, <https://doi.org/10.1037/cou0000095>.

*This article studies the impact of campus culture (attitude, barriers, stigma) on mental health help-seeking MHSS) behaviors in students. The research suggests that the campus culture matters and suggests programming and messaging to promote MHHS. How does this pertain to early alert at JMU? Mental health will likely be one component of early alert flags and an important aspect of the response--so thinking about how to promote a culture that supports MHHS could be an auxiliary or simultaneous consideration.*

Tichavakunda, Antar A. “Black Students and Positive Racialized Emotions: Feeling Black Joy at a Historically White Institution.” *Humanity & Society*, July 2021, p. 01605976211032929, <https://doi.org/10.1177/01605976211032929>.

*From the abstract: Research of Black students’ experiences at historically White institutions of higher education (HWIs) often focuses on Black students’ negative emotions as a result of racist conditions. This paper examines their positive emotions and feelings and how they “experience ‘Black joy’ in an otherwise White space,” in an effort to complicate the conversation about Black student experiences within HWIs. Participants identified being, achievement, and collectivity as sources of Black joy.*

Shyne, Cynthia. *Perspectives of African American and Hispanic American Students on Academic Support Services*. Walden University, 2021, <https://scholarworks.waldenu.edu/dissertations/10683/>.

*Shyne’s dissertation identifies a need for culturally appropriate academic services for African American and Hispanic American students (AAHA) at the college being studied, which had recently received university status and was serving an increasingly diverse student body. Shyne investigated how AAHA student perceptions of academic support services influenced their use and asked students what suggestions they had that would increase their use of support services. Four themes emerged: lack of understanding of various academic supports; feelings of isolation, discomfort, or lack of belonging; and lack of consistency or accountability in accessing resources.*

Sarabia, Heidy, et al. “What Helps Students Get Help?: An Exploratory Analysis of Factors That Shape Undocumented College Students’ Use of Academic Support Services.” *Journal of Latinos and Education*, vol. 20, no. 3, July 2021, pp. 290–303, <https://doi.org/10.1080/15348431.2021.1949994>.

*From the abstract: This article uses regression analysis to identify factors contributing to engagement with academic support services among undocumented students. Findings include that campus integration is associated with increased odds of using academic support services.*

Campbell, Rosalyn, and Linda Long. “Culture as a Social Determinant of Mental and Behavioral Health: A Look at Culturally Shaped Beliefs and Their Impact on Help-Seeking Behaviors and Service Use Patterns of Black Americans with Depression.” *Best Practices in Mental Health*, vol. 10, no. 2, Oct. 2014, pp. 48–62.

*From the abstract: This study looks at the impact of cultural beliefs—particularly that black people don’t get depressed, don’t trust doctors, or don’t need a doctor for depression on help seeking and service use for depression among black Americans.*

**Leveraging the Power of Networking: Professional Networks and Peer-to-Peer Networks**

Waite, Chelsea. *Peer Connections Reimagined: Innovations Nurturing Student Networks to Unlock Opportunity*. Paper, Christensen Institute (Clayton Christensen Institute for Disruptive Innovation), June 2021, p. 38, <https://www.christenseninstitute.org/wp-content/uploads/2021/05/Peer-Connections.pdf>.

*From emergency aid in a catastrophic weather event to career pipelines, peer networks and peer social capital can play a significant role in supporting learners as they advance toward a successful future based on their own goals. Peer networks can take the form of social support to foster belonging and identify formation, academic support to drive learning and keep each other on track, guidance support to explore options and ease transitions, and mental health support to promote wellbeing and reduce loneliness. A range of approaches are surfacing for ways to leverage social capital in peer networks. The report shares innovative tools and models, as well as identifying five important considerations for institutions interested in engaging in this work (3).*

Stwalley, Robert Merton, et al. *Using Enhanced Professional Networks to Increase Overall Student Retention*. 2021, <https://peer.asee.org/using-enhanced-professional-networks-to-increase-overall-student-retention>.

*From the abstract: Through an NSF-funded project modeled on a Web of Support characterization model based on work with Native American populations, promising STEM students with low socioeconomic status could apply for a $6,500 4-year scholarship in the Rising Scholars Program. Students attended a summer boot camp, assisted in a faculty members’ lab, received mentoring, focused on communication skills and career selection, conducted a research project and an internship, and received support applying for an entry-level position after graduation. Data suggested first-generation students from low SES backgrounds were successful in STEM fields when provided structure and counseling. Scale-up was recommended.*

**Designing and Refining Interventions Based on Predictive Models**

Milliron, Mark David, et al. “Insight and Action Analytics: Three Case Studies to Consider.” *Research & Practice in Assessment*, vol. 9, 0 2014, pp. 70–89, <https://eric.ed.gov/?id=EJ1062814>.

*This article focuses on three case studies with Civitas partner institutions which bring together insight analytics with what Civitas calls action analytics, delivered through a suite of applications that leverage predictive models for intervention activities through strategically designed workflows and formats that help administrators, faculty, advisors, and students interact with data to understand risk, test interventions, and guide outreach (72). Interestingly, they point out that the action analytics in turn further inform and continuously improve the insight analytics. The first case study, at an institution of >50,000 students, evaluated the effectiveness of intervention approaches in course success through an actions-analytics approaches delivered through an app and refined over the period of several pilot semesters using a control group. The interventions included emails, messaging, and calendar invites and responded to an institution-specific predictive model that Civitas developed (mostly based on SIS and LMS data). After several semesters of testing and refinement, students receiving the interventions outperformed the control group. The second case study, at an institution of >20,000, used predictive models to create daily engagement scores and focused on the potential of differentiated faculty outreach to improve student engagement and in turn, outcomes, in online courses. The third case study was conducted at a 4-year access institution with >40,000 undergraduate and graduate students to evaluate and refine scalable advisor/student success coach interventions not for course success, but for student persistence. The predictive model was continually updated through the course of a semester to incorporate new student behavior data. Among the lessons learned: that for students who were of greater concern for persistence, phone calls worked better than email; for students who were likely to persist, speaking with a student was only slightly more effective than email. In summary, as captured in a sidebar in the article, “We present three cases in an effort to show how this iterative work unfolds in diverse institutions, approaching diverse student success challenges, and to underscore a key finding: There is not a one–size– fits–all predictive model for higher education institutions. Each institution has its own predictive student flow and leaders, teachers, and advisors need to understand and engage their student success strategies in the context of their own students, policies and practices” (75).*

## Other Resources

Armatas, Christine, et al. “Learning Analytics for Programme Review: Evidence, Analysis, and Action to Improve Student Learning Outcomes.” *Technology, Knowledge and Learning*, Aug. 2021, <https://doi.org/10.1007/s10758-021-09559-6>.

*From the abstract: A case study report of a project applying learning analytics to program curriculum review in a major cross-institutional project in Hong Kong, including description of project rationale, conceptual model, development of software tool, and challenges faced in data governance.*

Buyarski, Catherine, et al. “Learning Analytics Across a Statewide System.” *New Directions for Higher Education*, vol. 2017, no. 179, 2017, pp. 33–42, <https://doi.org/10.1002/he.20241>.

*Abstract: “This chapter explores lessons learned from two different learning analytics efforts at a large, public, multicampus university—one internally developed and one vended platform. It raises questions about how to best use analytics to support students while keeping students responsible for their own learning and success.”*

Smith, Dimitra J., et al. “Beyond Articulation Agreements: Fostering Success for Community College Transfer Students in STEM.” *Community College Journal of Research and Practice*, vol. 0, no. 0, Aug. 2021, pp. 1–5, <https://doi.org/10.1080/10668926.2021.1961923>.

*From the abstract: Based on responses from more than 500 STEM students transferring between two-year and four-year colleges in a south-west alliance, transfer students indicate a need for support beyond articulation agreements, including knowledgeable advising and mentoring, lab equipment and study space, and opportunities to connect with professionals in industry and higher ed. Increasing faculty diversity, establishing a faculty diversity training and developing a writing center were other recommendations.*

Swanson, Elise, et al. “Examining the Relationship Between Psychosocial and Academic Outcomes in Higher Education: A Descriptive Analysis.” *AERA Open*, vol. 7, Jan. 2021, p. 23328584211026970, <https://doi.org/10.1177/23328584211026967>.

*From the abstract: This study estimates the relationship between low-income background student psychosocial and academic outcomes during the first three years enrolled at public, 4-year institutions. Four psychosocial outcomes were measured across the three years: mattering to campus, sense of belonging, academic self-efficacy, and social self-efficacy. They were moderately predictive of academic outcomes, with sense of belonging and academic self-efficacy being the most predictive of both cumulative GPA and persistence.*