Deficit, asset, or whole person? Institutional data practices that impact belongingness

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Abstract

Given the capitalist model of higher education that has developed since the 1980s, the data collected by institutions of higher education on students is based on micro-targeting to understand and retain students as consumers, and to retain that customer base (i.e. to prevent attrition/dropouts). Institutional data has long been collected but the authors will question how, why, and for whom the data is collected in the current higher education model. The authors will then turn to the current higher education focus on equity, diversity, inclusion, and particularly on the concept of belongingness in higher education. The authors question the collective and local purposes of institutional data collection and the fallout of the current practices and will argue that using existing institutional data to facilitate student belongingness is impossible with current practices. We will propose a new framework of asset-minded institutional data practices that centers the student as a whole person and recenters data collection away from the concept of students as commodities. We propose a new framework based on data feminism that intends to elevate qualitative data and all persons/experiences along the bell-shaped curve, not just the middle two quadrants.

Keywords

data management, critical methodologies, asset mindedness, institutional data

Introduction

Beginning in earnest in the 1980s, but accelerating in the 2000s, higher education has been transformed under a market-oriented, "academic capitalist" model. Academic capitalism as defined by Rhoades & Slaughter "[blurs] the boundaries between the for-profit and not-for-profit sectors, and a basic change in academy practices - changes that prioritize revenue generation, rather than the unfettered expansion of knowledge, in policy negotiation and in strategic and academic decision making" (Rhoades & Slaughter, 2004). In the case of the United States, higher education shifted to accommodate the political philosophies and demands of state and federal legislatures that were decreasing support while simultaneously requiring further alignment of the curriculum with the future work economy (Schulze-Cleven & Olson, 2017). The rise of neoliberalism in higher education at the same time introduced a commitment to the concept of higher education as a marketplace, not only of ideas but of students (Olssen & Peters, 2005). This alignment with a market-oriented model resulted in a students-as-customers ethos as higher education institutions were required to rely on tuition for day-to-day operational funding, and therefore, the development of robust data gathering on the customer pool in order to induce the customers to stay with the company, i.e. increase student retention as a part of the return on investment for the student, the state and the federal government (Oblinger, 2012).

This student retention effort stems from the mindset that the lack of persistence by a student is the fault of the student and not the institution itself. That is, the neoliberal mindset suggests there is an implicit deficit in every student who cannot persist and earn a degree. Bok eloquently suggests that "it's like making them [students] do a play without a script" in his germane work (Bok, 2010). The data

collected is being sought in order to identify those at the highest risk of leaving the higher education institution and to prevent those students from being lost (and their tuition dollars along with them) from the matriculation process. In the process, all students who enter the university system have data collected that similarly assume the potential for loss from the system, because all students are the market for the university "product", i.e., educational services. Higher education shrouds the capitalistic nature of the industry that it is and is able to retain an aura of service for the public good (Dorn, 2017). Therefore, the data practices and the data collected are also shrouded.

> "Much of it is useless to graduating high school students trying to understand whether they are likely to succeed in a specific program or major at a specific institution. [The IPEDS metrics] also [do] not effectively track student outcome data with regards to workforce specific indicators, such as employment metrics and post-college earnings. Finally many of these IPEDS metrics are not disaggregated by key student characteristics, such as race/ethnicity, gender, income status, or veteran status because reporting more disaggregated metrics requires a greater level of effort by institutions reporting the data." (Krishnamoorthi and Kaissi, 2020)

"Institutional data, the administration, and transactional data collected by the university, are already collected, and maintained at the individual level in application, registration, degree databases, and matched to the survey results" (University of California at Berkeley, 2022). That is, institutional data comes in many forms and from many sources, including self-reported and publicly available data. It may come from applications for admission or scholarship, FAFSA data, micro-targeting individuals and specific groups using social media, or even transcripts for high school. Because of the variety of sources and the ways that they were harnessed, the possibilities of biased, inaccurate, or incomplete data are boundless. Some institutions have made attempts to define and control institutional data and how it is used. But those efforts do not capture what could equitably be done to ensure appropriate use. For example, at Indiana University, institutional data is defined as:

- "It is subject to a legal obligation requiring the university to responsibly manage the data.
- It is substantive and relevant to the planning, managing, operating, documenting, staffing, or auditing of one or more major administrative functions, or multiple organizational units, of the university.
- It is included in an official university report.
- It is clinical data or research data that meets the definition of "university work" under the university's [Intellectual Property Policy].
- It is used to derive any data element that meets the above criteria." (Indiana University, 2022)

Statement of the problem

Academic capitalism uses student data as a foundational resource in decision-making, resource allocation, and predictive analytics. But because of the intent of the institution to use the student data for capitalistic purposes, institutional data collection methods fall short of providing institutions with appropriate and adequate data for other purposes, such as those to create more diverse and equitable educational experiences. Academic capitalism leans into the notion that colleges and universities are a part of a global knowledge market, and students are commodities within and of that market. In this paper, we propose that academic capitalism's micro-targeting falls short of creating individual footprint digital footprints to create narratives that foster belonging and thereby success. We propose

an alternative view of institutional data collection methods that is asset-focused that will more clearly align with an academic institution's articulated goals to facilitate belongingness, diversity, equity, and inclusion.

Literature review

Belongingness

In the diversity, equity, and inclusion goals for higher education institutions, one of the data facets that those institutions may seek to assess is the concept of belongingness. Belongingness is a core human need as defined by Maslow (1981), centered on the connection of the self to one's surroundings, community, possessions, or nearby objects or people. Hagerty et al. (1992) have defined a 'sense of belonging' as the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment. Though both of these definitions are germane to the psychological understanding of belonging, for the purposes of the paper, Strayhorn's definition is especially appropriate as "the sense of belonging refers to students' perceived social support on campus, a feeling or sensation of connectedness, and the experience of mattering and feeling cared about, accepted, respected, valued by, and important to the campus community or others on campus such as faculty, staff, and peers (Strayhorn, 2018).

Baumeister and Leary (1995) identify belongingness as a core motivator for much of what human beings do. Hausmann, Schofield, and Woods (2007) found that belongingness in higher education was positively associated with peer group interactions, interactions with faculty, peer support, and parental support, along with institutional commitment and intention to persist, while Glass and Westmont (2014) found that leadership programs, cultural events, and community service enhanced belongingness. Interestingly, academic integration and student background were not associated with sense of belongingness (Hausmann et al., 2007) . Although feelings of group membership, social connectedness and belongingness have been well defined and heavily researched in primary and secondary school contexts since at least the 1990s, university-level research into and data collection about student belongingness has received far less attention (Ingram, 2012; Slaten et al, 2017). Much of the information we have about belongingness, particularly as it relates to college students of racialized identities, exists either as part of a very context-specific program evaluation study (Hausmann et al., 2007) or as data disaggregation performed on results from national-level studies (Stebleton et al., 2010).

Although definitely correlated and often conflated, *belongingness*, *retention*, and *success* are not at all the same thing. Qualitative studies of the minority experience in U.S. universities often strongly suggest that, for students of marginalized identities, "success" means finding a way to graduate as fast as possible from an institution at which one has never truly felt welcomed or felt that they belonged (Davis et al., 2004). Retention, in the educational context, describes the enrollment and successful completion of the required courses, from year to year, for a student to graduate from a specified program and is often conflated with the term persistence which is the continuation to the path to graduation (NCES, 2022). Failure of retention often implies a deficit on the part of a student, rather than a systemic failure of the higher education institution. However, a student's sense of belongingness impacts their success, retention, and persistence (Haussman 2007). Measuring belongingness has been relatively well received with assessments such as the Scale of Ethnocultural Empathy (Wang, 2003) and the Social Connectedness Scale (Lee, 1995), however, those measures do

not account for the data collected otherwise, and the deficit framing of the interpretation of those data. Belongingness is fundamentally different in that it is student-focused, asset-focused, and descriptive of the life experience of the student (and hence, nearly impossible to describe quantitatively in easy metrics, especially when it rebuffs the purpose, paradigm, and sources of the data collected.)

Organizations within higher education institutions that gather data regarding belongingness are scattered across the institution. Both data gathering and data transparency vary widely depending upon the area of the institution that is gathering the data. In the U.S., institutional data researchers began to coalesce as a profession in the late 1960s, and are now incentivized by federal and state regulatory structures, which in turn are tied to compliance and funding mechanisms that focus almost exclusively on educational outputs (e.g. retention, graduation and post-graduation employment) (Volkwein, 2008). Within this system, student belongingness often matters at the institutional level only inasmuch as it contributes to those bottom-line considerations (Chirikov, 2013). As a consequence, the metric of student belongingness frequently tends to exist outside the power hierarchy, often falling under the purview of units such as academic assessment or co-curricular assessment, whose professional support structures began to coalesce in the 1990's (Delaney, 2009) and in the 2010s (Bresciani, 2006), respectively.

Many U.S. universities periodically administer a large-scale survey instrument to students to gain actionable information about the student experience. Typically this survey is developed by a nationally recognized entity, for a group of fee-paying consortium members and is administered locally out of an individual consortium member's central institutional research or academic assessment office. Generally, because of a combination of cost and complexity, such a survey is administered to an institution's student body every two or four years, rather than annually. Some universities also regularly collect belongingness data via either survey or qualitative methods as part of the continuous quality improvement cycle for student support services, such as new student orientation, suicide prevention efforts or mentorship programs. Depending on the institutional context, these smaller program evaluation efforts inconsistently feature as part of an institutional level inclusion report or other regular cycles of student outcomes transparency. One of the earliest institutional consortium instruments was the College Student Experience Survey (known as the CSEQ or CSXQ), which was operated out of Indiana University from 1979-2014. The National Survey of Student Engagement (NSSE) is another staple in the assessment of national trends and localized aggregate data about students' collegiate experiences, including involvement in high-impact practices (HIPS), overall engagement (Kuh, 2003).

Critical Methodologies

According to Finocchiaro (1979), critical methodology is the "study of the nature of criticism and of proper methods of criticism." The author goes on to say "...critical methodology is the distinction between practice and theory, i.e. between what one does and one's reflections on what one does" (p. 364). Critical methodology is a discourse that critiques data collection and analysis methods in order to understand the implications of those data handling decisions on the resultant data sets and analysis. By understanding the data collection and analysis process through this critical lens, we can better articulate the range of ways that the data's story can be understood. Does current institutional data reflect the stories of the students enrolled in our institution, and thereby tell us what they need from

us to belong? And secondarily, does it tell us what we need as an institution to ensure their belonging? Critical methodologies call for the examination of current methods of collecting institutional data, the theories undergirding those practices, and they propose different pieces of evidence be collected based in the narratives of the students. Schrag (1980) called for critical reflection of the scientific method that "deconstructs the layers of methodological and metaphysical conceptualization that surround man's inquiries about himself and his world so as to reopen the text of everyday life and make visible its language, thought, and praxis (p. 126)." It is the everyday lives of our students and prospective students where belonging is defined and created. We currently do not have the institutional data to presume what that could mean on our campuses. Schrag describes "methodological naiveté" as the mistaken assumption that "more universality" empirical methods are the only valuable option for measuring student belongingness or student experience, pretentiously (Schrag, 1980). We have simply lost the origin of the questions that we are asking, both of the complex and nuanced social dynamics of people collectively and of individuals specifically (Schrag, 1980).

The tension between the academic capitalist tendency to measure belongingness as an individual focused trait, and the psychology-based definition of belongingness has implications for both the student experience on campus and the efforts to measure belongingness as a metric. Belongingness in the writings of bell hooks is the human collective moving towards community (hooks, 2009). In her book, Belonging: The Culture of Place, she reflects on the duplicity of space and nature, being both black and white, rich and poor, invited and excluded (hooks, 2009). Her backdrop is Appalachia but her realization of the intricacies of going to a new place cannot be ignored. College students migrate to new homes when they move onto college campuses. But their understanding of their new surroundings is defined by what they perceive as safe and comfortable, that is, what feels like home. Institutional data at best may minimize their home to zip code, high school attended, and family income. However, those variables do not define belonging in their previous home or the new campus home. It is storytelling and personal narratives like those demonstrated by bell hooks in Belonging that can uncover the nuances of the lived experiences of the students with whom we are invited to our campus communities, but also who have been trusted to nurture and guide towards success (Denzin et al., 2008). The constructs of nurture and success are subjective, nuanced, and can shift along the student developmental cycle from high school graduate to college graduate. The variables and metrics are not static, which requires a paradigm shift from neoliberal to student-centered. Institutional data methodologies can gather snapshots over an academic lifecycle at a university and can center the origin of the data (the person) rather than the data itself (Abes, et.al, 2019). Weber-Pillwax suggests that research data belongs to the source community (Weber-Pillwax, 2004). We suggest that institutional data perhaps should also belong and represent the interests of those entering the institution.

Data Feminism, coined by D'Ignazio and Klein (2020), criticizes the collection and use of data science and data ethics at the intersection of feminist thought and ideology, specifically challenging power and elevating the pursuit of justice for all. Data Feminism is defined by seven guiding principles:

- Examine power
- Challenge unequal power structures and working toward justice
- Elevate emotion and embodiment with multiple forms of knowledge
- Rethink binaries and hierarchies

- Embrace pluralism
- Consider context
- Make labor visible (D'Ignazio and Klein 2020).

In the context of institutional data methodologies, data feminism challenges who has the power to decide what data is gathered and for what purposes, regardless of the source of the data, which is inherently biased. Current practices elevate one capitalistic voice, centered in western and patriarchal thought, that by nature decenters marginalized experiences and authentic voices (D'Ignazio and Klein 2020). The numbers are not enough and do not give the complete story of lived experiences, and cannot be minimalized to a single quantitative measure. Belonging requires that a person or a set of people be valued and matter to an institution, which includes the nuances of their experiences and shared pursuit of subjective growth and success. Data feminism would tell us that to measure belonging as a data point requires that the data not be viewed in a vacuum and pursues the understanding of context and social norms and expectations (D' Ignazio and Klein 2020). Current capitalistic methods of collecting institutional data rely on the market and micro-targeting to tell the story, which is in direct contrast to the centering of a variety of forms of knowledge and ways of knowing, which will encapsulate the entirety of the embodiment of community.

In order to reframe data collection away from demographic data and micro-targeting/marketing focused institutional data collection, additional strategies for data collection are needed. Those data collection strategies can be developed using multiple existing theories that center the whole student, rather than a shorthand that captures quantitative, descriptive statistics about the person in a deficit-driven frame.

Campus Ecological Theory & Qualitative Network Theory

Campus ecology is the study of interactions and interdependence between students and their campus environment, which is dynamic in fostering learning, engagement, and belonging (Banning & Bryner, 2001). Though the campus ecology movement began in the 1970s, it is not as robustly studied contemporarily. As an interdisciplinary field, literature can be found in student affairs, counseling psychology, environmental psychology, and developmental psychology (Banning & Bryner, 2001). Developmental psychology and constructs of belonging are interwoven and cannot be easily disentangled, but instead respected and normalized within the traditional capitalistic measures of institutional data methodology, institutional and community belonging experienced by students (Cabrera et. al, 2016). Campus ecology provides a tool that will allow us to examine the communities that arise and provide a sense of belonging for students within the higher education, campus-focused environment (Renn 2003). Using the findings of a campus ecology-focused analysis, we can gather qualitative focused data assets that reflect a more accurate understanding of how students engage with the campus environment. The use of this theory gives a starting point that allows campuses to gather asset-based data that reflect both the student experience and the impact of systemic factors.

As noted in Johnson, Sapp Nelson, and Yngve 2022, the theories listed above are useful starting points, but to actually collect usable data that describes belongingness that is asset-based and meaningful, the theories must be tied together and focused on the lived experience of the students. Qualitative network theory centers the students and their experiences from within the community, rather than outside of the community, as is done with institutional data methodologies (Ahrens 2018). This theory

centers the student as the source of the data describing the sense of belongingness in the campus environment, rather than the campus or higher-education environment itself.

Asset-Mindedness vs Deficit-Mindedness

Asset-mindedness is a way of thinking that focuses on strengths, whereas deficit-mindedness is a way of thinking that focuses on deficits or shortcomings (Pendakur, 2020). As it pertains to institutional data, the data collected about students and their families are often seen through the lens of what resources or gaps need to be filled, rather than what attributes and strengths the student, their family, and their perspectives bring to the institution. For example, does the family or the student need additional resources to fill in gaps (e.g. lower household income, high school courses on the transcript, highest degree obtained by a parent) could be deficit-framed, whereas does the family have lived experiences and perspectives that are valuable to the campus community (e.g. ability to make new friends, exposure to different lifestyles, ability to connect with others) is asset-framed towards the contributions that the family can bring. Table 1 summarizes the characteristics of these mindsets. Shifting institutional data methods toward the theories described above and framing them to center on individuals and their experiences enables the institution to frame a variety of students as assets and contributing members to the community rather than potential deficits that will be lost due to attrition. Switching the framework of data collection fosters flexibility in the perspectives that decision makers of the institution have by providing a wider range of insights into the assets and strengths that the students bring to the organization. Leaning into non-capitalistic models create campus and collegiate experiences where all can experience success and not just those for whom existing systems have been built.

Table 1. Comparison between Assets and Deficits Mindedness

Asset-Based Mindedness	Deficit-Based Mindedness
- Strengths driven - Opportunity focused - Internally focused - What is present that we can build upon - May lead to new, unexpected response	- Needs driven - Problem focused - Externally focused - What is missing that I must go find - May lead to downward spiral of burnout

Source: Adapted from: https://www.memphis.edu/ess/module4/page3.php

Conclusion

Linda Tuhiwai Smith, an Indigenous education scholar at the University of Waikato who has penned germane texts on indigenous methodologies and critiques of western research methodologies posed eight questions to researchers as they embark on new projects:

> What research do we want done,
> Whom is it for,
> What difference will it make,
> Who will carry it out,

> How do we want the research done,
> How will we know is worthwhile,
> Who will own the research, and
> Who will benefit (Smith, 2017)

With these questions in mind, we must ask ourselves and our institutions: what research do we want to be done, how do we disentangle admissions data, belonging research, student success data, and the like and how do we be more specific about what we are doing and why? We must also realize that mixed methods are ok and perhaps even necessary to tell an adequate story about our students and their lived experiences. We must ask ourselves for whom we are researching and for whom are building our higher education institutions Are we researching for ourselves strictly, the accrediting agencies, for our competitors or peers, or for industry e.g. (to demonstrate how "employable" our students are)? We must also ask ourselves who will do the data collection and if they are the most representative, unbiased, and/or suitable researchers for the type of projects that we are embarking on. Is there room for representation? Should we trust a third-party vendor to capture the data in a manner that matters for our students and our community? And is our work student-centered, asset-based or does it benefit the institution and create gaps for our students to address on their own? These are questions that can be addressed with deliberative decision making about data collection at the institutional level. The constructs presented in this paper present new ways of thinking about institutional data practices and methodologies.

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