Federal Postsecondary Data Limitations for Indigenous Students and for Tribal Colleges and Universities

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Abstract

The purpose of this project is to explore the limitations of federal postsecondary data as data as those data relate to Indigenous students and to Tribal Colleges and Universities. After first establishing some of the statistical limitations we commonly find in postsecondary data with Indigenous students, we provide strategies and practices that educational institutions should consider. We highlight important considerations that they must consider when working with Indigenous data, including data sovereignty and data governance through some current examples of improving data outside postsecondary data efforts.

The concern about postsecondary education erasure of Indigenous people has been investigated by several Indigenous scholars (Brayboy, 2004; Lopez, 2020a; Lopez & Marley, 2018; Shotton et al., 2013, pp. 1–24; Tachine, 2022). Indigenous people erasure is found in almost every federal data set, and is often denoted by an asterisk. The use of an exclusionary measure such as consistently using an asterisk next to Native American data signifies statistical extermination. This use of statistics is a remnant of consistent federal government extermination policies that continue to exacerbate the validation of the federal government's efforts to eradicate Indigenous people's existence and presence (Jaimes, 1992, p. 137).

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Through statistical extermination, settler colonialism (Wolfe, 2006) permeates with efforts to control Indigenous peoples within the borders of the United States by treating them as wards of the government. Such efforts are in direct conflict with the recognition of Indigenous people as a political designation, owing to the government-to-government relationship with federally recognized tribal nations, rather than as an ethnological or racial designation. Thus, there is an inherent trust responsibility on behalf of the federal government to protect and promote sovereignty of Native peoples (Bureau of Indian Affairs [BIA], 2024). For these reasons, among others, Native presence and sovereignty (Tachine, 2022) are apex goals of this work to improve the data limitations that exist in currently managed federal postsecondary data sets. Therefore, the purpose of this article is to explore the limitations of postsecondary data as those data relate to Indigenous students and Tribal Colleges and Universities. This article will also provide strategies and suggest practices that organizations should consider related to data sovereignty as well as the students and tribal nations served by Tribal Colleges and Universities.

BACKGROUND

Federal Postsecondary Data Collection

As described by Miller and Shedd (2019), the U.S. Department of Education has attempted to capture postsecondary data since the late 1800s. Primarily focused on enrollment, earned degrees, and faculty, these data have been used to help policymakers understand the higher education landscape. Eventually, in the early 1960s, the U.S. Department of Education established the National Center for Education Statistics (NCES) to help provide guidance and support of education statistics.

The passage of the Higher Education Act of 1965 introduced the Higher Education General Information Survey, which was a more systematic and regular reporting system. Data from that survey were primarily used for reporting purposes, such as in the *Digest of Education Statistics*, to inform policymakers on the condition of higher education. In addition, data from that survey were made available to researchers who were interested in higher education research.

The Higher Education General Information Survey evolved into the Integrated Postsecondary Education Data System (IPEDS) around the late 1980s. Over time, IPEDS has transitioned from a paper format to an online format. The number of institutions participating in IPEDS has increased to more than 6,500 institutions. In addition, the collection cycle surveys and variables collected have all expanded over the years. Currently, there are 12 reporting components: (1) institutional characteristics, (2) completions, (3) 12-month enrollment, (4) student financial aid, (5) graduation rates, (6) 200% graduation rates, (7) admissions, (8) outcome measures, (9) Fall enrollment, (10) finance, (11)

human resources, and (12) academic libraries. A dense codebook has attempted to standardize data definitions. However, it is unknown the extent to which data are consistent among institutions. In addition, IPEDS tends to primarily focus on mainstream, traditional 4-year degree-granting institutions. Given the distinct missions of varying institutional types, the data required for IPEDS are not always appropriate or readily available.

Through legislation and harsh penalties, postsecondary institutions are compelled to participate. Failure to report IPEDS metrics results in fines and withholding of Title IV funds. In the early 2000s, the reauthorization of the Higher Education Act led to increased transparency and consumer information related to postsecondary education (Miller & Shedd, 2019). In 2007 the NCES created the College Navigator (nces.ed.gov/collegenavigator/) to increase accessibility and to allow parents and students to make comparisons among institutions by using the data available. Data are also made available to educational researchers.

Insufficient Data on Indigenous People in Postsecondary Education

Even with the extraordinary efforts, expenses, and resources made by the federal government to establish a postsecondary data warehouse, the result has been skewed, insufficient, and biased information—especially for Indigenous students in higher education. Specifically, there are excessive limitations to federal data due to self-reported data on identity, race/ethnicity definitions, small sample sizes, and other constructs that better reflect culturally relevant variables (Lopez, 2018).

All federal data have excessive limitations because of self-reported data on identity. Native Americans are political designations given the government-to-government relationships, and not only a racial or social construct. According to the BIA, the term *Indian*, which also is recognized as referring to Native American and/or American Indian people, refers to a political designation due to the special trust status conferred to these communities as a result of treaty negotiations, land cessions, and so on (BIA, 2024).

Also, IPEDS and other federal data sets have done an inadequate job of representing the diversity of students in higher education. Currently, higher education institutions are forced to collect race/ethnicity identities based on IPEDS's definitions:

> When institutions collect race and ethnicity data from students and staff, they are required to use a two-question format. The first question asks about ethnicity (is the individual Hispanic or Latino, yes or no) and the second question asks about race (the individual is asked to select one or more race categories with which he or she identifies: American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; White[)]. So, there are 6 categories for data collection. ALL respondents must have the opportunity to answer BOTH questions.
>
> There are 9 categories for data reporting to IPEDS. The categories for reporting are: Hispanic (regardless of race); and for non-Hispanics: American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; White; Two or more races. In addition, U.S. Nonresident (for whom race, and ethnicity is not reported), and Race and ethnicity unknown. (NCES, 2024, #1)

Using these definitions results in categorizing identity based on a hierarchy, so each student has one race or ethnicity identity. If a student selects Hispanic or Latino, they will be primarily categorized as "Hispanic." If a student selects more than one race, they will be categorized as "Two or more races." Specifically, if an American Indian or Alaska Native student also identifies with any other race, they will not be counted as American Indian or Alaska Native, but rather will be placed in the "Two or more races" bucket. This has resulted in severe undercounting and erasure of American Indian or Alaska Native students that participate in postsecondary education (Faircloth et al., 2015; Sharma, 2021). As Lopez and Marley (2018) argued, researchers collecting federal data on Indigenous populations need to recognize their limitations more thoroughly. Any policymaker or researcher who has used these data has not received accurate data that reflect student diversity.

These data definitions have resulted in small counts and sample sizes for Native student data. As many students sitting in statistics classes are taught, we either ignore or throw out small counts, or we somehow combine data (e.g., all non-White students). Again, this has resulted in underrepresentation of Native students, Native student experiences, and Native student outcomes as it relates to postsecondary education systems.

As Lopez (2018) has suggested, there is a strong need for oversampling Native students, and for collecting culturally relevant variables that address the omitted variables that plague current federal data. Current data available in federal postsecondary data do not oversample or have enough variables relevant to Natives, whereas some of the data collected by Native-focused national nonprofits, such as the National Native Scholarship Providers, have collected some of the most national data on Indigenous students, but are not federally managed. Oversampling is not a new suggestion, but rather a long-standing plea of many researchers over the past two decades (Faircloth et al., 2015; Lopez & Marley, 2018; Shotton et al., 2013). Additionally, federal data sets omit items to measure constructs such as reciprocity, Native nation-building, and cultural experience that render most federal data all but useless.

We do note that the American Indian Measures of Success (AIMS) defines American Indian or American Native (AI/AN) students as students who are able to provide federally accepted documentation that they are either an enrolled member of a federally recognized Indian tribe, or that they are the biological child of an enrolled member of a federally recognized Indian tribe, living or deceased. This is somewhat different from Tribal Colleges and Universities (TCUs) and the BIA, who define the term *AI/AN student* as meaning a member of an Indian tribe, because membership is defined by the tribe (White House, 2011). We do recognize that American Indian Higher Education Consortium (AIHEC) reporting classifies students in their Indian students count as either Indian or non-Indian. While we see that this can eliminate the Hispanic component as a barrier to accurate head count, the method has limitations in that the Indian students count is only for a student who is an enrolled member or the biological child of an enrolled member of a federally recognized tribe. This method excludes from the performance measures a significant number of students who identify as Native American but who are not enrolled members of a federally recognized Indian tribe. This is why the AIHEC AIMS Key Indicator System (AIHEC AKIS) uses descendancy as well. Nonetheless, at the end of the day tribes have the sovereignty to determine their own membership.

Finally, there is a lack of constructs that reflect culturally relevant information. For example, IPEDS does not currently ask for tribal affiliation, tribal language(s) spoken, whether a student was raised in their tribal community, or whether community members served their tribal community.

Comprehensive Data for Tribal Colleges and Universities

Because federal postsecondary data sets are typically created with large 4-year public universities in mind, they have not accurately reflected institutions with culturally relevant missions, such as TCUs. Currently there are 35 accredited TCUs. These institutions are located primarily in the Midwest and Southwest, on the West Coast, and in Alaska. Their missions are tied to their local tribal community to help preserve American Indian culture, languages, and traditions. These 35 TCUs represent more than 250 tribal nations.

Due to the significant limitations of federal data, TCUs and AIHEC have worked together to define and collect postsecondary educational data that are more reflective of TCUs missions, community, and the students they serve. The AIHEC AIMS has a set of 116 tribal college indicators. As previously reported (Hanson et al., 2023), AIMS collects more-robust information on students who are enrolled, such as on both AI/AN students and non-AI/AN students. TCUs report on the number of students who are members of federally recognized tribes. AIMS includes qualitative components to invite institutions to share their narratives. There are also sections on community partnerships and services provided to the community. The AIHEC AKIS collects information on the institution, such as mission, location, and tribal reservation information. Unlike IPEDS, AIHEC AKIS includes qualitative components where institutions can describe their successes and challenges. In addition, there are also indicators related to the number of students who speak an American Indian or Alaska Native languages. AIHEC has collected these data since 2007.

Because of AIMS, we know that TCU student enrollment has steadily increased. The overall total and first-time entering enrollments have increased by 18% over the past 3 years across all TCUs. The proportion of AI/AN students (using the AIMS definition) attending TCUs and not attending non-TCUs has remained steady, averaging 86% identifying as AI/AN. The average retention rate has increased by 7% over the past 3 academic years. These institutions remain a good value for students, and offer an average cost per credit hour that is significantly lower than the cost at other private and public institutions. Currently, AIMS is undergoing a revamp related to what data are collected, and how they are collected, from each TCU. The goals of this revamp include recording data that are more consistent and improving data accessibility for TCUs. Also, additional culturally relevant variables have been added.

THE IMPORTANCE OF DATA SOVEREIGNTY AND DATA GOVERNANCE

As demonstrated, there are several limitations to federal data and educational data sets. There are important considerations that must also be considered when working with Indigenous data, but at the forefront we must include data sovereignty and data governance. Tribal nations have inherent sovereign authority to administer the collection, ownership, and application of their own data (Carroll Rainie et al., 2017). Due to gross misuse and abuse

by researchers, it is vital to protect tribal nations' data. Data governance also plays a role in Indigenous nations' management of their data systems and sharing of information (Carroll et al., 2020).

TOWARD A NEW INDIGENOUS DATA FUTURE

To ensure that federal data are helpful and that they support Native students at all levels, the federal government must engage in meaningful consultation with tribal nations and TCUs to cultivate a relationship that fosters productive data collection that is representative of Indigenous populations in the United States. Furthermore, tools need to be developed to provide tribal nations with deliberate and useful access to data about their respective nations. Finally, federal data should seek to support tribal governments and to honor their right to sovereignty by helping Native nations answer and contextualize their own questions as they pertain to postsecondary education. Notably, Indigenous data sovereignty approaches and frameworks, such as Carroll et al. (2020) and their "CARE Principles for Indigenous Data Governance," provide a framework and set of principles that honor data sovereignty concerns within tribal communities. Furthermore, culturally safe research frameworks have also advanced Indigenous data sovereignty as a central component of the set of principles known as Ownership, Control, Access, and Possession (OCAP; Brockie et al., 2022). One example of moving forward is to ask what we should measure that we do not currently measure.

When thinking about measurement, we need to consider what we are measuring. There have been several reports recommending the reimagination of educational outcomes of Native communities to reflect the reality in which those communities' function. The first example is the Meriam report (Meriam, 1928), which extensively demonstrates the lack of adequate education provided by the federal U.S. government. Furthermore, the Meriam report recommends that standardized testing should not be used in Indigenous communities because it was biased. This recommendation implies that they knew in 1928 that standardized testing should be based on Indigenous value systems. Nonetheless, little changed, and almost 100 years later the Broken Promises report (U.S. Commission on Civil Rights, 2018) recognized identical results and implications for Native communities. Based on those two reports, an argument could be made that we measure educational outcomes differently for Native and non-Native students, and that we do not currently measure outcomes well.

After searching the literature, it is fairly evident that a dominant construct that consistently arises is the desire of Native American students enrolled in postsecondary education to give back to their community (Drywater-Whitekiller, 2010; Guillory, 2009; Huffman, 2011; Lopez, 2018; Shotton et al., 2013). This lays evidence to the fact that Native communities put a high value on giving back through postsecondary education. However, postsecondary data sets often overlook giving back as a postsecondary outcome, which is the value of giving back to one's tribal nation. Lopez and Tachine (2021) argue that giving back is a form of nation-building. Or, in the contexts of Indigenous communities, nation-building is a tribe's pursuit to build its respective capacity to self-govern toward sustainable communities. The argument Lopez and Tachine (2021) make is that the desire of Indigenous people to give back to Native communities is the motivation behind students persisting through postsecondary

education. If giving back is an important construct to Native students, then it should be measured. If giving is measured, it may become a more important educational outcome than traditional measures of postsecondary success such as persistence, graduation rates, and GPA. Native communities have often demonstrated that giving back is a more important outcome than a student persisting from their 1st to 2nd years. We are not saying persistence is not an important metric, but rather that there are other metrics that are just as important in the context of Indigenous communities.

An example of Indigenous outcomes is the construction of Kwanamii as an educational outcome for Quechan students. Kwanamii is the embodiment of the warrior spirit as it relates to protecting and giving back to the Quechan way of life. Lopez et al. (forthcoming) began constructing evidence about the relationship between giving back and the Quechan value of Kwanamii. Exploring the relationships among the Kwanamii (warrior spirit), nation-building, and postsecondary education, Lopez et al. (forthcoming) indicate findings that contribute to the development of survey questions that measure Kwanamii, and that can be used in future postsecondary research among the Quechan. A short clip of the scale development and validation process to establish evidence based on content validity (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014) was captured in a short documentary (Lopez et al., 2019). Through the Kwanamii Project, questions were asked related to defining Kwanamii, and the relationship between Kwanamii and postsecondary education. To provide validity (Shadish et al., 2002) and to center Indigenous quantitative methodologies (Walter & Andersen, 2013), there were five semi-structured interviews with Quechan veterans about their embodiment of Kwanamii. The transcripts were coded using a phenomenological method, with an additional six more interviews planned to strengthen the construct validity for survey items measuring Kwanamii. From the completed interviews, the dominant emergent theme to operationalize Kwanamii is that Quechan veterans viewed their military service as an act of protection, while they carried out ancestral traditions related to war. Later in the interviews, however, it became more important that the wars the Quechan fight are not physical or court battles, but instead are fights to protect water, language, agriculture, and, ultimately, the way of life.

FRAMING INDIGENOUS DATA

A structure for considering the use of Native data should be Indigenous data sovereignty. Indigenous data sovereignty recognizes the right of tribes to build the capacity of their respective nation to develop data processes and analyses as data relate to governance of Indigenous data. The basis of Indigenous data sovereignty in the context of postsecondary education data should be situated within Indigenous quantitative methodology, which remedies many limitations that plague national and institutional data sets while simultaneously uplifting Indigenous data sovereignty. Indigenous quantitative methodology relies on two concepts related to creating data from Indigenous lens that privileges the Native voice, denies dominant non-Native value systems, and avoids deficit frameworks as the beginning in research. The second aspect of Indigenous quantitative methodologies is that they challenge the postpositivist statistical practice that has historically been conducted within Indigenous nations by recognizing the problematic approaches

that traditional quantitative research has operated with in Indigenous communities in the past (Snowshoe et al., 2015; Walter & Andersen, 2013). Due to the limitations discussed in the previous sections of this article, some Native communities have made efforts to embody Indigenous data sovereignty to improve the relevance of and access to data, and to improve the consistency with which those data can operate.

Indigenous people have seen the recognition that standardized testing was not meant for them (Meriam, 1928). There is also the constant wait for federal data sets to improve and to have data collected on a national level to indicate the progress Indigenous communities have made. Yet, it is highly unlikely that the data will become relevant at the federal level, be consistent, and/or have a representative sample within the next decade. The support of Indigenous data, including the collection of those data, can be led only by Indigenous researchers with tribes as stakeholders to improve the understanding of Indigenous communities' realities. The burden is therefore on the tribal nation and/or Indigenous researcher to address the issue of data, and it becomes an extra concern that many other racial identities do not need to carry. However, the previously stated needs of quality data underpin the reasons why the burden needs to be carried so that tribes can make data-driven decisions that inform nation-building while also holding the federal government accountable for treaties that are contingent on accurate numbers. Indigenous data sovereignty helps Indigenous communities and is something that all researchers controlling federal data should consider when trying to make Native communities more visible.

Furthermore, when measuring educational outcomes from a Native lens, researchers can implement policy that recognizes Indigenous outcomes by adding statistical validity to the values through robust statistical practices. This is an opportunity to change how we measure educational success for Indigenous students, a change that has been long overdue. For example, if federal longitudinal data are collected and the subsequent analytical procedures are framed through an Indigenous lens, researchers then can create statistical and theoretical models so institutions can measure Indigenous educational success using causal statements. Using the subsequent evidence, tribes can have empirical evidence to establish meaningful data-driven policy change that will modify the deficit perspective that society has often been acclimated to viewing Native peoples. Future and current practice and policies should consider collecting data that recognizes and upholds tribal culture, even though the most basic statistical procedures such as data collection. Indigenous data collection (Lopez, 2020b) can be used if we were able to accurately and consistently identify tribal affiliation. Researchers could then group tribes according to creation stories, and in turn give credibility to Indigenous knowledge and Indigenous voices, while also analyzing data from homogenous groups that could identify finite relationships that are often missed by federal data. Finally, data collection generally should follow these procedures (adapted from Lopez [2020a] and Snowshoe et al. [2015]):

1| Engage in the complex authority structures of Indigenous nations.

2| Follow each individual tribal nation's elder engagement process.

3| Use culturally competent partners to help in the tribal partnership process.

4| Use an Indigenous approach that works in the community for the research design.

5| Anticipate a longer timeframe for the community engagement process.

6| Select culturally appropriate data collection methods.

7| Commit significant time and resources to Indigenous data collection and analysis.

CONCLUSION: IMPLICATIONS FOR ORGANIZATIONAL CONSIDERATION

There are already organizations working toward making Indigenous data more relevant among Indigenous communities. First is the state of Michigan, which requires school-to-state tribal affiliation; second is AIR and its federal practices around improving Indigenous data. Michigan is one of the first states to require schools to report tribal affiliation. The Michigan Department of Education has a $3 million budget to assist schools with the new reporting requirement. This is a great tool for tribes to use when looking at their respective data and tracking their tribal citizenship in urban areas (Fernandez-Alvarado, 2023).

There is also the Indigenous Student Identification project that the American Institutes for Research (2024) is supporting. The goal for the project is to increase the capacity of state education agencies in supporting Indigenous students, and to improve the policymaking power of national Indigenous education professionals and organizations by offering information, research, and tools to locate and advocate for Indigenous students. For example, the American Institutes for Research has released the Indigenous students count map and reports that show Indigenous students in K–12 schools. Although these two organizations are in their infancy, their existence indicates that they will be a solution to a long-standing problem.

Again, the purpose of this article is to explore the limitations of postsecondary data as they relate to Indigenous students and TCUs. We established some of the statistical limitations we commonly find in postsecondary data with Indigenous students, but we also provide strategies and practices that organizations should consider. Two major suggestions we would like organizations to consider are these:

First, collect data with Indigenous communities by using the following process (adapted from Snowshoe et al. [2015]).

1| Engage in the complex authority structures of Indigenous nations.

2| Follow each individual tribal nation's elder engagement process.

3| Use culturally competent partners to help in the tribal partnership process.

4| Use an Indigenous approach that works in the community for the research design.

5| Anticipate a longer timeframe for the community engagement process.

6| Select culturally appropriate data collection methods.

7| Commit significant time and resources to Indigenous data collection and analysis.

Second, add items such as the following to measure cultural identity that move beyond only asking if a person is "American Indian," because folks committing ethnic fraud by claiming Native ancestry permeates many spaces in academia.

1| I have a close relationship with my tribal relatives.

2| Before coming to college, I had knowledge of my tribal language.

3| I can speak my tribe's language.

4| I participated in tribal ceremonies prior to attending college (e.g., sunrise, sundance, cremation, sweat).

5| I know my tribe's history.

6| I spent most of my life on my tribal homelands.

A few other important considerations we offered when working with Indigenous data include data sovereignty and data governance through some current examples of improving data outside postsecondary data efforts. As we have seen, we can wait another 90 years with no substantial change to the limitations of AI/AN data, or we can allow Indigenous researchers to lead the way on how we can reimagine the future of Indigenous data.

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