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# Using the National Student Data Clearinghouse to Learn More About the Educational Journey of Students

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## **Abstract**

The National Student Clearinghouse (NSC) has available for research a large data warehouse of enrollment and graduation information from 1993 to the present for nearly all postsecondary students in the United States. In this most recent academic year, 18 million currently enrolled students alone were added to the database. Some of the following research questions were answered by administrators at the Brigham Young University (BYU) Salt Lake Center using this data warehouse: How many of the students actually graduated? How many institutions did they attend before they graduated? How long did it take for them to graduate? This information in the hands of a distance and continuing educator can help inform strategic planning, marketing, and retention efforts for their institutions.

## **Introduction**

The Director of the Office of Institutional Assessment and Analysis at Brigham Young University (BYU) recently encouraged one of the authors who also serves as Director of the BYU Salt Lake Center (Center) to consider using the *National Student Data Clearinghouse* (NSC) to better understand the educational journey of students at the Center. How many of the students eventually graduated? How long did it take them to do so? What institutions did they attend before and after the Center, and so on? Prior to discovering the data made available by NSC the researchers were unaware there was a way to answer these questions. However, upon discovering this data it became apparent how invaluable it might become in informing the administrative team on matters related to strategy, curriculum, services, and marketing.

Since these researchers did not know anything about NSC Because the NSC dataset is reserved for those who contribute to the dataset, this inquiry and study began with the assistance of BYU's Office of Institutional Assessment and Analysis. Assistants used the NSC tool called StudentTracker™ to download the customized data set used in this study. The BYU researchers in the university office and at the BYU Salt Lake Center quickly learned how new they all were to this data set as they worked with NSC on formatting issues and the interpretation of coding symbols used by NSC in the customized file transmitted to BYU. The researchers now understand this should not be unexpected since "NSC data are relatively new to academic researchers and policymakers" (Dynarski, Hemelt, and Hyman, p. 3).

This background information on the Center and NSC will be helpful to the reader and to better understanding the context of this study.

## **BYU Salt Lake Center (Center)**

The BYU Salt Lake Center is a satellite campus of BYU sponsored by The Church of Jesus Christ of Latter-day Saints. The main campus is in Provo, Utah, and the Center is situated in downtown Salt Lake City, Utah (about 40 miles north of Provo). The Center is relatively small but still close enough for one out of every five undergraduate students at BYU to enroll in three courses on average prior to graduating with an undergraduate degree from the main Provo campus. It primarily offers general education courses designed for first- and second-year students to service nonmatriculated and non-degree-seeking students—many of them living or working in the Salt Lake City area—as well as the matriculated students from the main campus.

## **National Student Data Clearinghouse (NSC)**

The clearinghouse's website states,

It was the higher education community itself that founded the Clearinghouse as a nonprofit organization in 1993 . . . to streamline the then time-consuming and complex enrollment reporting process for student borrowers. Initially called the National Student Loan Clearinghouse, we worked with the nation's colleges and universities to simplify and automate student record verifications. . . . Since then, the Clearinghouse has grown to a network of more than 3,600 colleges and universities. . . . The National Student Clearinghouse® Research Center™ was launched in 2010 to better inform the education community and policymakers about student educational pathways nationwide (see [http://www.studentclearinghouse.org/about/our\\_history.php](http://www.studentclearinghouse.org/about/our_history.php)).

The year after the Research Center was founded in 2010, it began publishing free reports from their data warehouse containing student enrollment and graduation data from over 3,600 institutions. The authors strongly recommend that distance educators subscribe to these free reports and visit the National Student Clearinghouse Research Center itself at <https://nscresearchcenter.org/>. The last research update sent to the author's email is dated, June 1, 2018, and includes the following media headlines associated with specific reports: “Undergraduate Enrollments Down 275,000 in Spring 2018,” and “Enrollment Declines Steepest in Midwest and Northeast.”

The Research Center website itself lists 83 reports and 10 videos at the time of this writing. The 26 *Signature Reports* and the 31 *Snapshot Reports* are especially informative. Some titles of the *Signature Reports* follow: “Completing College: A National View of Student Completions Rates (Fall 2011 Cohort);” “Tracking Transfer: Measures of Effectiveness in Helping Community College Students to Complete Bachelor's Degrees;” “Some College, No Degree: A National View of Students with Some College Enrollment, but No Completion;” and “Time to Degree: A National View of the Time Enrolled and Elapsed for Associate and Bachelor's Degree Earners.” Some titles of the *Snapshot Reports* include “Certificate and Associate Degree Pathways,” “First-Year Persistence and Retention,” “Contribution of Two-Year Public Institutions to Bachelor's Completions at Four-Year Institutions,” and “Yearly Success and Progress Rates.”

## **Purpose**

The purpose of this article is to introduce NSC to distance educators and to share with them some of the ways the BYU Salt Lake Center uses this information to better understand the educational journey of its nonmatriculated students. The findings and tables presented throughout this article focus on only the educational journey of the nonmatriculated students at the Center, which is around 20% of the student headcount each semester, though the same kind of analysis is now being conducted by BYU researchers for another type of students—primarily those once-matriculated students who attended BYU at some point in time but never completed their undergraduate degrees at BYU or anywhere else.

## Literature Review

This research was made possible by the emergence and utilization of analytical procedures and “big data” tools in all facets of society, and within almost every industry. Some authors recently noted data science is a “rapidly developing discipline” with applied importance in “virtually every field of human activities” (Barneva et al, 2018). Just four years ago from this writing another team of researchers recognized “two distinct research communities, Educational Data Mining and Learning Analytics and Knowledge, have developed because of the increasing interest in the application of analytics in education” (Jayaprakash, Moody, Lauría, Regan & Baron). This “interest” is now becoming a reality.

While the migration of learning analytics “from periphery to mainstream in higher education” (Williams, 2017) is still early in its development, this research about the educational journey of students is evidence of its possibilities. The understanding, appreciation, and use of “big data” tools and methods is an exciting new frontier yet to be charted and traveled by distance education researchers, and others too.

## Limitations

As one of the co-authors began analyzing the data transmitted from NSC he discovered four limitations involving the analysis and interpretation of the data. While there may be other limitations, the researchers are aware of the following four:

- Family Educational Rights and Private Act (FERPA). If a student “blocks” or seeks to ensure the privacy of personal records then the institution and NSC must respect this request under FERPA law. “The Clearinghouse can receive both directory, non-directory and blocked information, but must respect the school's directory information definition and blocks within the work it performs on behalf of the school” (See [http://www.studentclearinghouse.org/high\\_schools/studenttracker/ferpa.php](http://www.studentclearinghouse.org/high_schools/studenttracker/ferpa.php)).

This means that even though the BYU Salt Lake Center knew which students attended the Center during the period selected for research (2004–2014) NSC was unable to disclose information about students who blocked or privatized their records with them or other institutions under FERPA guidelines.

- NSC tracks students by name and date of birth. It is likely naming discrepancies due to marriages and other changes will contribute to certain records becoming unrecognizable by NSC and, thereby, excluded from the analysis.
- In selecting a research cohort of students or a period of time for the study there will always be some outliers (e.g., students who still have not graduated within the parameters established). In this particular study the researchers selected the 10-year period from 2004–2014, thinking that most students enrolled during this period will have completed their educational journey by the time of this study and writing (2018). However, this line of thinking was shortsighted. This study revealed many students who are still pursuing completion or graduation—and some may still take another 40 or 50 years to complete it, if they do at all. If the researchers were to do this study again they would shorten the research period to five years and likely use the time period from 2004–2009 to give students who enrolled in 2009 almost 10 years to graduate with a two- or four-year degree rather than just the four years to graduate used in this study.
- Not all institutions contribute their student data to NSC and those that do might be so new that the earlier institutional records were never submitted. At the time of this writing, 98% of all students enrolled in public and private U.S. colleges and universities (approximately 3,600) participate in transmitting their student information to NSC; 121 institutions with at least

1,000 annual enrollments still do not participate and many more institutions with less than 1,000 annual enrollments also do not contribute. In Table 1, a sample of institutions with at least 1,000 annual enrollments that are not yet participating are listed with their status as private or public, the state from which they operate, and their total annual enrollments (National Student Clearinghouse, 2017).

Table 1

*Examples of Non-Reporting Institutions with at least 1,000 enrollments as of June, 2018*

<u>School Name</u>	<u>Type</u>	<u>State</u>	<u>Enrollment Size</u>
PIMA MEDICAL INSTITUTE	PRIVATE	AZ	10,143
UNIVERSAL TECHNICAL INSTITUTE OF ARIZONA INC	PRIVATE	AZ	7,718
AMERICAN CAREER COLLEGE	PRIVATE	CA	3,397
ARGOSY UNIVERSITY	PRIVATE	CA	27,807

Since all institutions did not begin contributing their student enrollment information until recently, the enrollment record for students who attended this institution previously does not exist and cannot be used for analysis. For example, BYU first began reporting to NSC in 1994 and it was only four years later (1998) that 50% of all schools reported and 14 years later, 75% reported. (In 2004, when the data set for this study began, 67% of schools reported.) Now that the participation rate has improved to 98% and become more complete it is no wonder researchers and administrators in higher education are becoming more interested in using NSC data for theoretical and applied research.

## Methodology

A file with the names and birthdates of all students who spent at least one semester as a nonmatriculated student at BYU Salt Lake between the years 2004–2014 was sent to NSC. The clearinghouse then returned to BYU a comma-delimited text file with a .csv extension of all extant enrollment information for these students using a secure file-transfer proxy (FTP) to protect the confidentiality and integrity of the data. This data was merged with demographic data for these same students.

Nearly all reported metrics in this article were calculated using the merged data sets. Combining BYU's enrollment records with those of NSC confirmed some student enrollment information was incomplete, as explained in the Limitations section above, but for the most part the NSC StudentTracker® report was accurate. Merging data sets was critical to the research purpose at the BYU Salt Lake Center because the NSC StudentTracker® report does not differentiate between enrollments at BYU's main campus and the BYU Salt Lake Center; the data merge enabled extraction of the data for nonmatriculated students enrolled at the BYU Salt Lake Center from 2004–2014.

All analyses were conducted using the open source, statistical software, Base R (version, 3.4.4) with no external packages used to calculate basic summary statistics.

## Results and Discussion

This study used data regarding the educational journey of all students who had a nonmatriculated status for at least one term from 2004–2014 at the BYU Salt Lake Center. The data comes from the NSC StudentTracker® report and demographic information from BYU's student records. The original query on enrollment data for the BYU Salt Lake Center yielded 3,220 nonmatriculated students who attended at least one semester or term during the 10-year research period (2004–2014). However, NSC was unable to find information for 63 of those students submitted to them by name and date of birth (likely due to name changes as explained in the Limitations section), three students had all records blocked, and additional students had partially blocked "term or

enrollment/degree records” leaving the researchers with the enrollment data of 2,994 (92.9%) of the original student population.

Since the researchers were unfamiliar with the NSC data set and because there is such a paucity of literature specific to this applied research, especially for those whose educational mission is distance and continuing education, the research questions are unsophisticated. However, the researchers experienced excitement and anticipation throughout the study because this data and the subsequent analysis yielded so much new and helpful information—even as basic as it is. The researchers sensed a whole new frontier of understanding and insight about those nonmatriculated students (and other categories of students too) who attended the BYU Salt Lake Center during this 10-year period (2004–2014) as a result of receiving information from the NSC data set for these students.

The research questions, the findings, and a brief discussion about the results follow:

- What was the gender mix of the nonmatriculated students at the BYU Salt Lake Center? (This is the only research question which was answered without the NSC data but it was the use of the NSC data and this study itself that gave the researchers reason to examine it in the context of the merged data. However, the NSC data provides a national benchmark for gender across all institutions for comparative purposes.)

There were 1668 (56%) male students and 1326 (44%) female students attending the BYU Salt Lake Center from 2004–2014, which is higher (for males) and lower (for females) than the matriculated student population at BYU. The current BYU gender mix is 52% male and 48% female (Brigham Young University, 2018) which resists the national trend for more female than male students to enroll in higher education today. This mix of more men than women was something more common in the 1970s, but currently more women than men are enrolling in higher education throughout the United States. An article in *The Atlantic* talks further about the history and trend of enrollment by gender in higher education:

Where men once went to college in proportions far higher than women—58% to 42% as recently as the 1970s—the ratio has now almost exactly reversed.

This fall [2017], women will comprise more than 56% of students on campuses nationwide, according to the U.S. Department of Education. Some 2.2 million fewer men than women will be enrolled in college this year. And the trend shows no sign of abating. By 2026, the department estimates, 57% of college students will be women (Marcus, 2017).

This larger percentage of males than both the BYU student population and the national average was surprising to the researchers and warrants further investigation.

- What was the average age of the students when they first attended the BYU Salt Lake Center and how old were they when they ultimately graduated?

As shown in Table 2, the average age of the nonmatriculated students as they began attending the BYU Salt Lake Center was 23.9 years and of those who eventually graduated it was 27.4 years. The researchers are unable to find good, current information at this time for the average age of students in the U.S. who graduate with a bachelor’s degree to compare with this institutional data. However, the researchers are now able to monitor changes over time in graduation age at other institutions for those who previously enrolled in classes at the BYU Salt Lake Center: is the age increasing, decreasing, or staying the same, and then compare it to national averages.

Another finding of interest is the difference in age for the female students (25.3) who make a stop along their educational journey at the BYU Salt Lake Center as contrasted to the male students (22.8). However, both the

men and the women are eventually graduating at nearly the same age (27.3 or 27.4 respectively).

Table 2

<u>Student Type</u>	<u>Began Enrollment at BYU Salt Lake Center</u>	<u>Graduated elsewhere</u>
All	23.9	27.4
Male	22.8	27.4
Female	25.3	27.3

- How many years did it take for those who graduated to do so?

The average number of years it took these nonmatriculated students who were ultimately able to graduate was 6.7 years for a four-year degree and 5.0 years for a two-year degree. The National Center for Education Statistics reports the years-to-graduation information somewhat differently. They identify an undergraduate cohort by year and then report by percentage those students who graduate within four, five, and six years. Using the 1996 to 2009 cohorts report (Table 326.10, NCES.ed.gov, 2016) they report the percentage of graduates for a four-year degree as follows by number of years: four years (33.7–39.8%), five years (50.2–55.3%), and six years (55.4–59.6%).

The researchers expected the year-to-graduation rates to be higher for the students included in this study due to the large number of them who served missions (typically 18–24 months long) for The Church of Jesus Christ of Latter-day Saints, which also sponsors Brigham Young University. However, future studies should consider a closer alignment between institutional analysis and reporting with NCEs reports to ensure more comparability and interpretability between both.

- How many of the students eventually graduated from another institution since the BYU Salt Lake Center is unable to graduate nonmatriculated students?

Table 3

<u>Graduates</u>	<u># of Students</u>	<u>% of Students</u>	<u>% of Graduates</u>
All	1723	57.5%	100%
4-year	1611*	53.8%	93.5%
2-year	285*	9.5%	16.5%
Male (All)	1018	34%	59.1%
Female (All)	705	23.5%	40.9%

\*Most two-year graduates (174/285 or 61%) are also four-year graduates, but most four-year graduates are not two-year graduates (174/1611 or 10%).

This question was of most interest to the researchers: How many students eventually graduated with four- or two-year degrees, by gender? Table 3 lists the answers to these questions. The researchers learned over half graduated so far—more will do so, especially those from the 2012–2014 enrollment period, since they are within the six-year window during which time period nearly 60% graduate according to the NCEs statistics noted above. This percentage of 57.5% also is within range of the six-year period mentioned. The researchers also observe in Table 3 a larger percentage (59.1%) of males graduated than females (40.9%). The researchers are not sure why such a disparity between men and women exists and this question deserves additional research.

- How many other institutions did these nonmatriculated students at the BYU Salt Lake Center attend before and after attending?

Table 4

<i>Number of other institutions attended</i>			
<u>Student Type</u>	<u>Before</u>	<u>After</u>	<u>Total (Unique)</u>
All students	1.1	1.5	2.3
All graduates	1.2	1.9	2.6*
4-year graduates	1.2	1.9	2.6
2-year graduates	1.4	2.4	3.0

\*Most two-year graduates (174/285 or 61%) are also four-year graduates, but most four-year graduates are not two-year graduates (174/1611 or 10%). This explains why the average of 2.6 for all graduates is lower than expected by looking at the table but also why the two-year graduates attended more schools than four-year graduates.

In Table 4 we learn that nonmatriculated students who eventually graduate had already attended one institution before joining the Center and will yet attend another two after leaving the Center. This means that, on average, the students who attended the BYU Salt Lake Center and eventually graduate attend 2.6 + 1 (BYU Salt Lake Center) for a total of 3.6 institutions. The researchers found this finding surprising and believe it deserves further consideration. These students, who use more mobile devices than ever before, are also more mobile in their collegiate attendance, attending on average nearly four different institutions of higher education before claiming their degrees.

- How many states did students move between to realize their four- and two-year degrees?

Because the state-based enrollment data is available, the researchers calculated the number of states the four-year and two-year graduates moved between before graduating; they discovered students move between 1.6 and 1.1 states respectively while earning their degrees. Using the findings from this research question and the previous one, it may be summarily stated: four-year graduates attended 3.6 institutions in 1.6 states before earning their four-year degree.

- Where does the BYU Salt Lake Center fit in the students' educational journey—is it first, second, or a later institution they attended?

The results in Table 5 were previously unknown to the administrators and researchers at the BYU Salt Lake Center before this study. One of them guessed (hypothesized) before the study that at least 75% of those nonmatriculated students who attended the BYU Salt Lake Center were doing so as their first institution of choice. However, the hypothesis was found to be completely inaccurate: only 32% attended the Center first (see Table 5). This kind of information for any institution will help inform the strategic planning, student services, retention services, and marketing approaches as administrators realize that the Center is only one phase along the educational journey of its students.

Table 5

<i>Order in which Nonmatriculated Students Attended the BYU Salt Lake Center</i>		
<u>Institution of Choice</u>	<u>Number of Students</u>	<u>Percent of Total</u>
First	951	31.8%
Second	1181	39.4%
Third	648	21.6%
Fourth or later	214	7.1%
Total	2994	100.0%

The days when a majority of students attended only one institution of higher education are now gone. For the group of students studied, more than 56% attended at least three different institutions before graduating.

- Of those students for whom BYU Salt Lake Center was NOT the first institution of choice, which institution were they most likely to have transferred from? Or from which institution did they transfer?

Some of this data in Table 6 was as intriguing as it was surprising. While the researchers were not surprised to learn that of the top 10 transfer-from institutions, seven were from within the state of Utah, they were surprised to find the largest body of transfer students previously attended Utah Valley University. The researchers assumed more of the students would transfer from two-year programs (like Salt Lake Community College and LDS Business College) than the four-year universities like Utah Valley University and the University of Utah. Also of interest was the number of transfers from other BYU campuses (i.e., Idaho, Hawaii, and Provo), where the students had previously been admitted as degree-seeking, matriculated, Title IV-eligible students and then later gave that up to attend an educational center that is not Title IV-eligible and does not offer degrees. This phenomenon justifies further research.

Table 6

*Other Institutions Students Transferred from to  
Attend the BYU Salt Lake Center*

<u>College Name</u>	<u>Number of Students</u>	<u>Percent of Students</u>
UTAH VALLEY UNIVERSITY	315	10.5%
SALT LAKE COMMUNITY COLLEGE	289	9.7%
BRIGHAM YOUNG UNIVERSITY	232	7.7%
BRIGHAM YOUNG UNIVERSITY -IDAHO	222	7.4%
UNIVERSITY OF UTAH	106	3.5%
LATTER-DAY SAINTS BUSINESS COLLEGE	94	3.1%
UTAH STATE UNIVERSITY	81	2.7%
WEBER STATE UNIVERSITY	56	1.9%
SADDLEBACK COLLEGE	54	1.8%
BRIGHAM YOUNG UNIVERSITY - HAWAII	38	1.3%
COLLEGE OF THE CANYONS	21	0.7%
MESA COMMUNITY COLLEGE	20	0.7%
PALOMAR COLLEGE	17	0.6%
SOUTHERN UTAH UNIVERSITY	17	0.6%
MOORPARK COLLEGE	16	0.5%
ORANGE COAST COLLEGE	14	0.5%
DIXIE STATE UNIVERSITY	13	0.4%
SIERRA COLLEGE	12	0.4%
COLLEGE OF SOUTHERN NEVADA	11	0.4%
(NONE: BYU SL was first stop)	951	31.8%
(Other)	415	13.9%
Total	2994	100%

- Did students who attended another institution before enrolling at the BYU Salt Lake Center attend a private or public institution?

The researchers learned (see Table 7) that almost 21% of the students who previously attended another institution before enrolling at the BYU Salt Lake Center attended another private institution (private-to-private transfer) but that another almost 48% attended a public institution (public-to-private transfer).



Table 7

*Private or Public Institutions Students Attended before Transferring to the BYU Salt Lake Center*

<u>College Type</u>	<u>Number of Students</u>	<u>Percent of Students</u>
Private	620	20.7%
Public	1423	47.5%
(NONE: BYU SL was first stop)	951	31.8%
Total	2994	100%

- Which institutions did students transfer to after leaving enrollment at the BYU Salt Lake Center, including the main campus of BYU as a matriculated student?

One of the questions administrators at the BYU Salt Lake Center had wondered about for a long time was how many of the nonmatriculated students eventually matriculated to BYU as transfer students? One might think this question could be easily answered using extant data but, for many reasons, it was not so. To come to this percentage of 33.9% as reported in Table 8 using the NSC StudentTracker® was not considered possible without trying to work through different departments, databases, and political structures at BYU and at the BYU Salt Lake Center. It is also of interest to note that the next grouping of transfer-to institutions almost mirrored those from which students transferred to the BYU Salt Lake Center, e.g., Utah Valley University, Salt Lake Community College, University of Utah, Latter-day Saints Business College, etc.

Table 8

*Institutions Students Transferred to After Leaving the BYU Salt Lake Center*

<u>College Name</u>	<u>Number of Students</u>	<u>Percent of Students</u>
BRIGHAM YOUNG UNIVERSITY	1014	33.9%
UTAH VALLEY UNIVERSITY	430	14.4%
UNIVERSITY OF UTAH	198	6.6%
SALT LAKE COMMUNITY COLLEGE	184	6.1%
BRIGHAM YOUNG UNIVERSITY -IDAHO	180	6%
LATTER-DAY SAINTS BUSINESS COLLEGE	100	3.3%
BRIGHAM YOUNG UNIVERSITY - HAWAII	53	1.8%
UTAH STATE UNIVERSITY	51	1.7%
WEBER STATE UNIVERSITY	40	1.3%
SADDLEBACK COLLEGE	25	0.8%
MESA COMMUNITY COLLEGE	13	0.4%
ORANGE COAST COLLEGE	13	0.4%
SOUTHERN UTAH UNIVERSITY	13	0.4%
ARIZONA STATE UNIVERSITY	12	0.4%
(NONE: BYU SL was last stop)	425	14.2%
(Other)	243	8.1%
Total	2994	100%

The researchers were surprised to learn that for 14.2% of the students the BYU Salt Lake Center was identified as the last institution attended. This is surprising and troubling since the mission of the BYU Salt Lake Center is to prepare students to transfer to another institution to ultimately earn a two- or four-year degree.

- For those students who transferred to another institution after enrolling at the BYU Salt Lake Center did they choose a private or public institution?

As revealed in Table 9, students who transferred to another institution from the privately-owned BYU Salt Lake Center were most likely (46.4%) to transfer to another private institution while 39.4% transferred to a public institution.

Table 9

*Private or Public Institutions Students Attended after Transferring from the BYU Salt Lake Center*

<u>College Type</u>	<u>Number of Students</u>	<u>Percent of Students</u>
Private	1388	46.4%
Public	1181	39.4%
(NONE: BYU Salt Lake Center was last stop)	425	14.2%
Total	2994	100%

- What was the student’s enrollment status while attending the BYU Salt Lake Center, before attending, and after attending the BYU Salt Lake Center?

The NSC was created to help financial institutions track and manage student loans, hence, there was a great need to monitor enrollment status at institutions since dropping below full-time or half-time status could trigger financial consequences. While knowing enrollment status at the BYU Salt Lake Center may arguably not be the most important part of this study the researchers decided to examine it anyway since the data is readily available. In Table 10, 41.3% all semesters attended by nonmatriculated students at the BYU Salt Lake Center met full-time status (12+ credit hours) as contrasted to 44.6% full-time in Table 11 for students before attending the Center and 51.9% for those attending another institution subsequent to the BYU Salt Lake Center (see Table 12).

Table 10

*Enrollment status while attending the BYU Salt Lake Center*

<u>Status</u>	<u>Number of Semesters</u>	<u>Percent of Semesters</u>
Full-time	2115	41.3%
Half-time	1919	37.5%
Less than half-time	981	19.2%
Three-quarter time	53	1%
Withdrew	51	1%

Table 11

*Enrollment Status before Attending the BYU Salt Lake Center*

<u>Status</u>	<u>Number of Semesters</u>	<u>Percent of Semesters</u>
Full-time	3674	44.6%
Half-time	2098	25.5%
Less than half-time	1691	20.5%
Unknown	512	6.2%
Withdrew	251	3%
Approved Leave of Absence	9	0.1%
Three-quarter time	2	0%

Table 12

*Enrollment Status After Leaving the BYU Salt Lake Center*

Status	Number of Semesters	Percent of Semesters
Full-time	13553	51.9%
Half-time	5274	20.2%
Unknown	3313	12.7%
Less than half time	2612	10%
Three-quarter time	732	2.8%
Withdrew	583	2.2%
Approved Leave of Absence	44	0.2%
Deceased	2	0%

- How many students took courses at the BYU Salt Lake Center AFTER they graduated with a four-year degree (post-baccalaureate)?

An unexpected finding of some interest and possible importance to the administrators and researchers at the BYU Salt Lake Center was the number of post-baccalaureate students 114 (3.8%) who enrolled at the BYU Salt Lake Center during this ten-year period. This is a group of students of which little is known. Who are they? What courses are they taking? For what reasons (e.g., medical school, other graduate schools, etc.)? This is another area which merits further research now made possible using the NSC data set.

The NSC data can tell you all sorts of things about where these students went.

## Conclusion

The nexus of new tools to manage “big data” and NSC’s very large and now-mature dataset of student enrollments from 3,600 higher education institutions has created a new research space for distance and continuing education researchers. One of the co-authors of this article who has worked as a distance education administrator for nearly 30 years—and been involved in applied research for many of those years—has never seen a treasure trove of data so relevant to this field.

This research has raised many questions along the way; it has also identified limitations with the data which should not deter further research and will be mitigated in the years to come. It has also positioned this Center with the benchmark data needed to do even more research in the future to better understand trends and changes. Most importantly, the findings from these kinds of studies and data-mining portend a new level of sophistication by administrators in strategic planning as they seek to recruit, reach, and retain a declining pool of students. A whole new vista has also opened for researchers and administrators as they consider the place their institution holds along the educational journey of the most mobile students ever. One can’t help but wonder why students came and then left one institution for another institution? What needs were not met at either institution? And what confounding variables must be filtered in trying to understand some of the causal factors?

More than anything else, this article is a call for others to join in this research effort. This NSC dataset is finally research-worthy and merits meta-analysis—which is made possible only after many more local studies are conducted. The researchers at the BYU Salt Lake Center don’t know all of the questions that remain to be asked. They also don’t know how best to use the findings to inform marketing, curriculum, service, and retention efforts at their institution but sense their application could be revolutionary to each.

Finally, this study, as much as it is a description of summary statistics, is also a reminder that each student is unique, and their educational journey singular, as they pursue some goal or end—possibly a two- or four-year degree. Each student record tells its own story and compels the researcher to consider not just numbers but real

students on their own educational journey. One cannot work with this data set too long without being drawn to examine the individual path of a particular student along their educational journey and what one's institution could have done better to help this student along the way. What is it that caused students to move around so much, take so long to graduate, or change their status (full-time/part-time)? How did it feel to finally earn a degree—or not? Understanding more of the story about the educational journey of students will empower administrators to better meet their needs and help them succeed.

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## References

Barneva, R. P., Bichindaritz, I., Brimkov, V. E., Carbonara, J., Dang, S., Gelsomini, F., ... & Walters, L. (2017). A Multifaceted Approach Towards Education in Data Analytics. In International Conference on Global Research and Education (pp. 307-314). Springer, Cham.

Brigham Young University. (2018). *Facts and Figures* [Web page]. Retrieved from <http://news.byu.edu/byu-numbers>.

Dynarski, S. M., Hemelt, S. W., & Hyman, J. M. (2015). The missing manual: Using national student clearinghouse data to track postsecondary outcomes. *Educational Evaluation and Policy Analysis*, 37(1), 79S. 10.3102/0162373715576078 Retrieved from <https://doi.org/10.3102/0162373715576078>

Jayaprakash, S. M., Moody, E. W., Lauría, E. J., Regan, J. R., & Baron, J. D. (2014). Early alert of academically at-risk students: An open source analytics initiative. *Journal of Learning Analytics*, 1(1), 6-47.

Marcus, J. (2017, August 8). Why men are the new college minority. *The Atlantic*. Retrieved from <https://www.theatlantic.com/education/archive/2017/08/why-men-are-the-new-college-minority/536103/>.

National Student Clearinghouse. (2017, October). *National Student Clearinghouse StudentTracker for colleges and universities file summary for Brigham Young University* (Submission ID No. 292417).

N.A, Digest of Education Statistics, 2016. (2016, October). Retrieved from [https://nces.ed.gov/programs/digest/d16/tables/dt16\\_326.10.asp](https://nces.ed.gov/programs/digest/d16/tables/dt16_326.10.asp)

Team RDC. R: A language and environment for statistical computing. Vienna, Austria: R Foundation for Statistical Computing; 2017. <https://www.R-project.org/>.

Williams, Peter, (2017) Assessing collaborative learning: big data, analytics and university futures, *Assessment & Evaluation in Higher Education*, 42:6, 978-989, DOI: 10.1080/02602938.2016.1216084

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