



Institutional Research Report

Date: May 20, 2024

Research Question:

Following changes to the Northwest Commission and Colleges and Universities (NWCCU) accreditation standards, regional and national peer comparisons are now required. Which institutions should be considered Lower Columbia College's regional and national peers?

Analysis:

"The Integrated Postsecondary Education Data System (IPEDS) is a system of interrelated surveys conducted annually by the U.S. Department of Education's National Center for Education Statistics (NCES). IPEDS gathers information from every college, university, and technical and vocational institution that participates in the federal student financial aid programs. [...] IPEDS provides basic data needed to describe — and analyze trends in — postsecondary education in the United States, in terms of the numbers of students enrolled, staff employed, dollars expended, and degrees earned. "¹

Although IPEDS is a comprehensive resource, the 2021 IPEDS contains data from over 6000 institutions, making it difficult to identify a handful of peers that would closely align with the characteristics of Lower Columbia College. First, a list of qualitative variables that best reflect unique attributes about LCC were selected to make sure that the institutions being compared against were in a similar category as LCC. Second, a quantitative criterion was establishing to make sure that LCC was compared against institutions of similar size (in terms of FTE). These criteria were selected based on research papers about forming and using peer groups based on various methodologies.^{2,3} All other institutions were filtered out due to being incompatible as a regional or national peer.

The categorical variables were identified as:

- | | |
|-----------------|---|
| 1) US Only | |
| 2) INSTCAT = 3 | Degree-granting, not primarily baccalaureate or above |
| 3) OPENADMP = 1 | Open admissions |
| 4) HBCU = 2 | Not classified as a Historically Black College and University |
| 5) TRIBAL = 2 | Not classified as a Tribal College and University |
| 6) F1CORREV > 0 | GASB Operating Institution (financial reporting standard) |
| 7) F1ENDMFT > 0 | Endowment per FTE exists |

The quantitative criterion was identified as:

- 1) 500 < FTE < 4000: 12-month FTE enrollment between 25% and 200% size of LCC

These criteria filtered the number of colleges from >6000 to 70 potential peers.



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Next, additional quantitative variables were selected to accurately represent comparable aspects of the institutions. The 14 variables chosen for this were:

1) UN DUP	Total 12-month unduplicated headcount
2) FTE12MN	12-month full-time equivalent enrollment
3) F1CORREV	Core revenues, total dollars (GASB)
4) F1TUFEP C	Tuition and Fees as percent of operational revenue
5) F1STAPPC	State Appropriations as a percent of operational revenue
6) F1COREXP	Total expenditures
7) F1INSTPC	Instructional costs as percent of expenditures
8) F1ENDMFT	Endowment per FTE
9) CINSOFF	In-state tuition (living off campus)
10)STUFACR	Student-to-faculty ratio
11)DVEF15 + DVEF16	Percent of undergraduate students over 25 (25-64 and 65+)
12)PCTENRWH	Percent of total enrollment that are White
13)PCTENRW	Percent of total enrollment that are women
14)FGRNT_P	Percent of full-time first-time undergrad awarded federal grant aid

This data was then normalized using z-score, a measurement of how many standard deviations away from the mean for each measurement. Using normalized values like z-scores allows for quantitative variables from vastly different scales to be evaluated against each other or combined together.

To find the closest peers, the Manhattan distance between the z-scores for LCC and each institution were calculated. In an ideal scenario, if a college shares identical characteristics of LCC then the “distance” from that college to LCC would be 0, a perfect match. Thus, trying to minimize this value would give colleges closest to LCC. Manhattan distance was selected instead of calculating Euclidean distance because it is considered more robust for high-dimensional data, mitigates the effects of outliers, and is more easily interpretable.

The institutions with the closest characteristics were then holistically evaluated based on the information posted on their website by verifying their program offerings and targeted demographic. Technical colleges were removed due to difference of focus on demographics and outcome pathways. The final result were 2 lists of the 8 institutions with the closest characteristics to LCC, separated by regional or national peer cohort. The full spreadsheet of data can be found at

<https://docs.google.com/spreadsheets/d/1ZXb84-XMADE6UQFdDtP8HCcu0sGsXqucGFRwEV-84Gw/edit#gid=198517142>



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Eight Closest Institutions for Regional (WA State) Peer Evaluation

IPEDS ID	Institution Name	State	AVG of z-score Δ
234845	Centralia College	WA	0.339
236975	Wenatchee Valley College	WA	0.619
236258	Peninsula College	WA	0.645
237039	Whatcom Community College	WA	0.663
234711	Big Bend Community College	WA	0.738
235334	Grays Harbor College	WA	0.742
236887	Walla Walla Community College	WA	0.752
236638	Skagit Valley College	WA	0.819

Eight Closest Institutions for National Peer Evaluation

IPEDS ID	Institution Name	State	AVG of z-score Δ
240693	Western Wyoming Community College	WY	0.507
135160	Florida Gateway College	FL	0.553
170444	Jackson College	MI	0.615
201973	Clark State College	OH	0.699
171483	Northwestern Michigan College	MI	0.722
136233	Northwest Florida State College	FL	0.760
134343	Gulf Coast State College	FL	0.773
223506	Brazosport College	TX	0.790

Data Sources:

1. National Center for Education Statistics. *About IPEDS*. <https://nces.ed.gov/ipeds/about-ipeds>
2. Luna, A. L. (2018 Fall). *Selecting Peer Institutions Using Cluster Analysis*. Austin Peay State University. https://www.apsu.edu/dsir/reports/apsu_white_paper_peer_final.pdf
3. McLaughlin, G., Howard, R., McLaughlin, J. (2011). *Forming and Using Peer Groups Based on Nearest Neighbors with IPEDS Data*. Education Resources Information Center. <https://files.eric.ed.gov/fulltext/ED531716.pdf>