

Amplifying the Signal: Exploring the Usefulness of Natural Language Processing to Inform Student Success Decision- Making

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Thank you to the Whole Team



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Purpose: Can we quickly analyze first-person narrative to inform student success practitioner-based decisions that close equity gaps within the term that data is collected?





TextRank

Revealed a consistent set of themes for all students

LIWC

Reveled emotional tone by percentage responses



Lost detail of the richness of first-person Voice in analysis

Difficult to disaggregate by identities and intersection of identities to inform just-in-time practitioner-based decision-making for specific students

Diverse FTIC students completing an end-of-term open-ended question via Qualtrics (Urban HSI FTIC class)

Pre-Covid (fall 2019)

> 1,400 diverse students

LIWC – Predominantly positive experience; lower affiliation

significantly correlated with lower GPA

TextRank – concerns about work, time, and academic achievement; gave us semantically most-representative sentences that supported LIWC findings and gave more detail about student experience

During Covid (fall 2020)

>1,900 diverse students

LIWC – Predominantly negative experience; lower affiliation

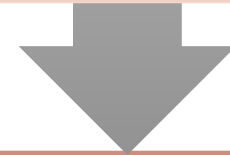
significantly correlated with lower GPA

TextRank – concerns about work; and gave us semantically most-representative sentences that supported LIWC findings and gave more detail about student experience

Discussion

Helpful for summative discussion

Perhaps because of the prompt and the data collection point in time

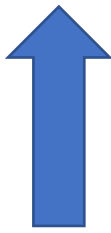


Much quicker analysis than hand-coding
IF you have the folx with the capacity to
conduct this analysis quickly



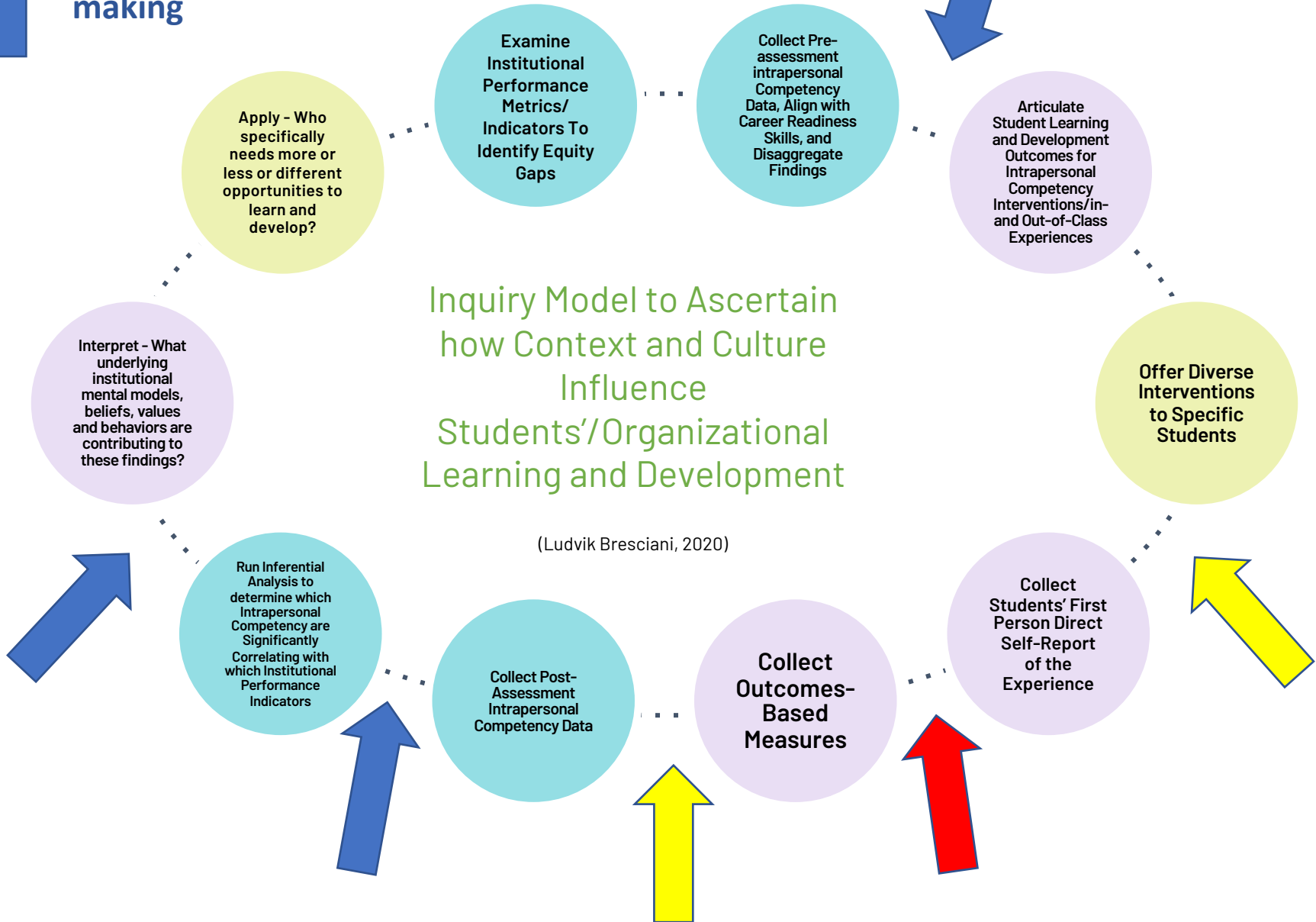
We are left with lots of questions

= Intended integration of first-person voice in evidence-based decision making



**Inquiry Model to Ascertain
how Context and Culture
Influence
Students'/Organizational
Learning and Development**

(Ludvik Bresciani, 2020)



Apply - Who specifically needs more or less or different opportunities to learn and develop?

Examine Institutional Performance Metrics/ Indicators To Identify Equity Gaps

Collect Pre-assessment intrapersonal Competency Data, Align with Career Readiness Skills, and Disaggregate Findings

Articulate Student Learning and Development Outcomes for Intrapersonal Competency Interventions/in- and Out-of-Class Experiences

Offer Diverse Interventions to Specific Students

Collect Students' First Person Direct Self-Report of the Experience

Collect Outcomes-Based Measures

Collect Post-Assessment Intrapersonal Competency Data

Run Inferential Analysis to determine which Intrapersonal Competency are Significantly Correlating with which Institutional Performance Indicators

Interpret - What underlying institutional mental models, beliefs, values and behaviors are contributing to these findings?

Immediate Questions

- How accessible are NLP tools to student success practitioners who seek to gain actionable insights and provide interventions informed by the findings?
- Which NLP tools can be quickly learned and used by practitioners?
- What does it look like to use these tools on student data collected during the term?

Immediate Questions, 2

- What NLP tools can remain trustworthy as we disaggregate data by identities?
- What better ways are there to collect and analyze first-person student narrative to close equity gaps?
- What else are we missing/should we be asking?



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