OPERATIONALIZING THE SERVINGNESS FRAMEWORK:

METRICS FOR INSTITUTIONAL TRANSFORMATION AT HISPANIC-SERVING INSTITUTIONS

CONFERENCE PROCEEDINGS: MEASURING SUCCESS OF INSTITUTIONAL EFFORTS AT HISPANIC-SERVING INSTITUTIONS

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EXECUTIVE SUMMARY: METRICS TO ASSESS SERVINGNESS AT HISPANIC SERVING INSTITUTIONS

1.0 *INTRODUCTION*

Our project grew from the premise that to achieve servingness for diverse students at HSIs, as opposed to merely enrolling them, we need to reevaluate how we measure success. Our operationalization of the servingness framework (Garcia, Núñez, & Sansone, 2019) is built on an institutional transformation perspective framed by a critical and timely question: *How do we measure progress toward becoming an institution that serves the racially, ethnically, and economically diverse set of students at Hispanic-Serving Institutions?* By institutional transformation, we mean those practices, processes, and regulations/policies that change and disrupt the status quo leading to the outcome of servingness. Two important dimensions of the framework that we operationalize in these concept papers are: **1.** structures for serving (tangible organizational structures), and **2.** indicators of serving (measurable outcomes and experiences).

The collaborative and informative group discussions resulted in this set of concept papers and metrics to gauge the institutional success of Hispanic-Serving Institutions (HSIs). Specifically, to assess the degree to which the institution is serving racially, ethnically, and economically diverse students, the concept papers focus on the structures that support institutional success:
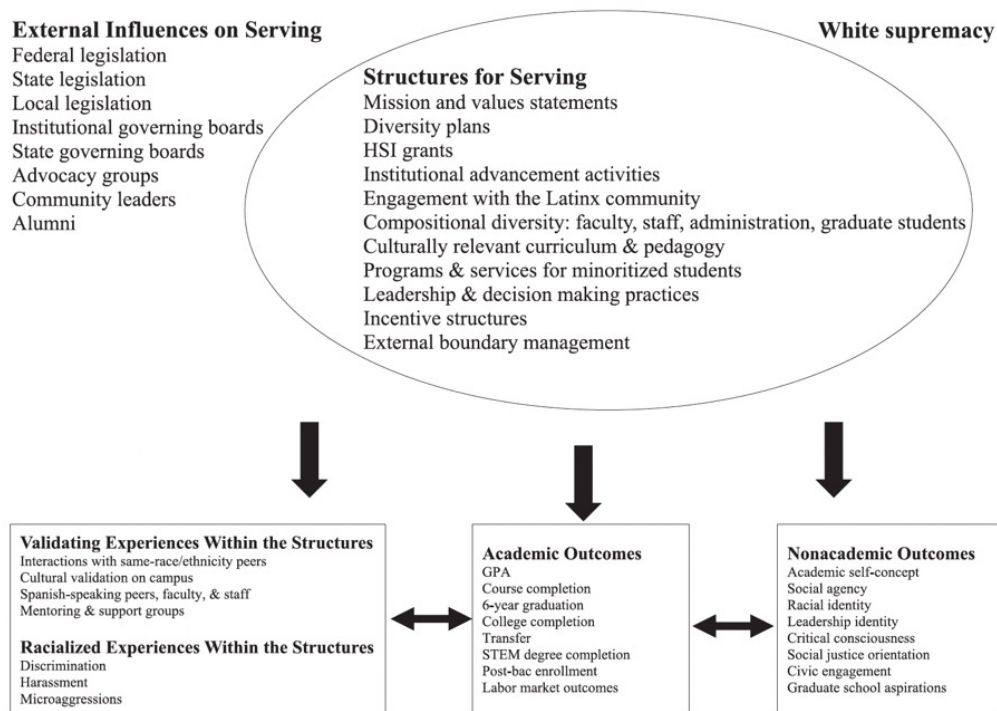
- **INSTITUTIONAL SUCCESS;**
- **FACULTY SUCCESS;**
- **STUDENT SUCCESS;**
- **COMMUNITY ENGAGEMENT;**
- **RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITY.**

We use the term Latinx throughout as a compromise across project participants and we acknowledge that the term is contested.

2.0 *THE FRAMEWORK OF SERVINGNESS*

We operationalize the servingness framework so that institutions can assess where they are on the path toward serving and centering diverse students, especially in STEM. The servingness Framework below (see **FIGURE 1**) conceptualizes the parts of the university that will need to focus on the Latinx student population to move from enrolling to serving them. Garcia, Núñez, & Sansone (2019) developed this framework from a literature review of research about student success. The authors described the state of the research about the ways in which student outcomes are affected by institutional structures and external influences on serving, such as legislation, alumni, and advocacy groups.

FIGURE 1 · MULTIDIMENSIONAL CONCEPTUAL FRAMEWORK OF SERVINGNESS IN HSIS | *Garcia, Núñez, & Sansone, 2019*

External Influences on Serving
Federal legislation
State legislation
Local legislation
Institutional governing boards
State governing boards
Advocacy groups
Community leaders
Alumni

White supremacy

Structures for Serving
Mission and values statements
Diversity plans
HSI grants
Institutional advancement activities
Engagement with the Latinx community
Compositional diversity: faculty, staff, administration, graduate students
Culturally relevant curriculum & pedagogy
Programs & services for minoritized students
Leadership & decision making practices
Incentive structures
External boundary management

Validating Experiences Within the Structures
Interactions with same-race/ethnicity peers
Cultural validation on campus
Spanish-speaking peers, faculty, & staff
Mentoring & support groups

Racialized Experiences Within the Structures
Discrimination
Harassment
Microaggressions

Academic Outcomes
GPA
Course completion
6-year graduation
College completion
Transfer
STEM degree completion
Post-bac enrollment
Labor market outcomes

Nonacademic Outcomes
Academic self-concept
Social agency
Racial identity
Leadership identity
Critical consciousness
Social justice orientation
Civic engagement
Graduate school aspirations

We first consider what servingness would look like once achieved and consider how we would measure where an institution is on that path.

3.0 *CONCEPT PAPERS ON SERVINGNESS AT HSIS*

These concept papers are intended to serve as a resource to enable careful thinking regarding the intersection of these topics and servingness at HSIs. While we draw on existing literature and other resources to help inform our recommendations, these papers were not designed to provide comprehensive literature reviews. We propose that institutions can choose the factors relevant to their own profiles and contexts; they can also elect either static (existing features) or dynamic (trajectories) components relevant to their own institutional missions. Looking at the interaction of specific features, institutions may find that some of the structures and indicators are not applicable or feasible to their

contexts. They may also identify certain structures and indicators as aspirational and build them into longer-term institutional planning and goals.

The concept papers are written to assess servingness throughout an HSI; because most of the conference participants are STEM researchers and our funding is from the National Science Foundation, we identify areas for which separate or comparative analyses between STEM and non-STEM disciplines would be useful. Below we provide a review of metrics and indicators that we believe are critically important for institutional transformation of STEM at HSIs. The concept papers (CPs) take an expansive approach to assessing and monitoring change at the institutional level. Below is a summary of indicators specific to HSIs and STEM.

Students, faculty, and staff at HSIs make choices based upon their experiences interacting with institutional practices, processes, and policies in their departments and at the overall institutional level; some consider this institutional culture. The framework of servingness includes institution-wide structures that necessarily will undergo institutional change to achieve servingness at HSIs.

3.1 *INSTITUTIONAL SUCCESS*

Kezar and Eckel (2002) outline necessary components of successful institutional change that include the following: senior administration support, collaborative leadership, robust design, staff development (professional development), and visible action. Over the course of the last twenty years, systems thinking has added a focus on leverage points within the university organization that may lead to successful change. In this CP, we identify intersection points that would indicate successful change toward servingness are taking place: mission, hiring for mission, and incentivizing the attainment of mission.

- INSTITUTIONAL MISSION AND VALUE STATEMENTS, AS WELL AS STEM UNIT STATEMENTS, SPECIFIC MENTION OF ENGAGING WITH AND SUPPORT FOR THE LATINX COMMUNITY INSIDE AND OUTSIDE THE INSTITUTION.
  - Academic program reviews (APR), especially in STEM units, focus on contributions to servingness for Latinx and other diverse students, faculty, and staff as well as direct assessment of diverse pedagogies, high impact practices found to support diverse students (see also Faculty and Student Success CPs and Community Engagement and Research CPs). At a minimum, program reviews in STEM should assess unit level use and success of these practices shown to support diverse students;
    - Additional data collection and analysis should be conducted on metrics for each of the student success CPs – Meeting basic student needs; Sense of belonging; and Reconsidering degree completion. Metrics within each category should be chosen that are most pertinent to the HSI;
    - We recommend assessing all Faculty Success metrics for all APRs to show change over time:
      - Compositional diversity for faculty;
      - Culturally relevant curriculum and pedagogy;
      - Professional development to prepare faculty for servingness;
      - Incentive structures (such as performance reviews specifically related to Latinx student success).
    - We recommend assessing research, scholarship, and creative activities metrics for APRs including and not limited to engaging students in culturally relevant

problem-solving by linking [scientific] inquiry with issues of concern to students' personal lives and the well-being of their communities.

- **COMPOSITIONAL DIVERSITY OF INSTITUTIONAL WORKFORCE (FACULTY, STAFF, AND STUDENT) AS WELL AS PROMOTION AND RETENTION RATES SHOULD BE ASSESSED**
  - Including student workers and contingent faculty which are often excluded from data collection and require visibility at HSIs to assess the degree to which the students have opportunity for on-campus employment;
  - STEM faculty and staff.

- **INSTITUTIONAL ADVANCEMENT ACTIVITIES SHOULD BE ASSESSED FOR THE WAYS THAT DEVELOPMENT PERSONNEL PRIORITIZE RELATIONSHIPS THAT ARE COMMUNITY-BASED AND EQUITY-RELATED WITH THE LATINX COMMUNITY**

- **RACIALIZED EXPERIENCES WITHIN THE STRUCTURES MUST BE MEASURED AND MADE VISIBLE ESPECIALLY IN FIELDS WHERE RESEARCH HAS SHOWN THE IMPACT ON STUDENT RETENTION LIKE IN STEM**

3.2 *FACULTY SUCCESS*

Professional development supports for faculty and accountability and incentivization measures are likely the most fundamental way for faculty to transform the ways that they interact with students to improve student success.

- **CULTURALLY RELEVANT CURRICULUM AND PEDAGOGY**
  - Indicators reflecting the extent to which STEM faculty participate in professional development for and use culturally relevant curriculum and pedagogy;
    - Assessment of student outcome improvements in STEM courses that use culturally relevant curriculum and pedagogy.

- **FACULTY ENGAGEMENT WITH THE LATINX COMMUNITY AND DIVERSE STUDENTS**
  - Number of students, with explicit accounting of Latinx and diverse students that each faculty member is actively mentoring/advising presented as absolute and percentage figures for STEM disciplines and changes over time;
  - Faculty actively involved with student mentorship, research mentorship, inclusion of students in service work, student organizations;
  - Assessment of faculty characteristics of those most involved with engagement.

- **INCENTIVE STRUCTURES (SUCH AS PERFORMANCE REVIEWS SPECIFICALLY RELATED TO LATINX STUDENT SUCCESS)**
  - Inclusion in faculty annual performance and/or selective salary review as well as promotion and tenure criteria participation in and use of culturally relevant curriculum and pedagogy;
  - Inclusion in faculty annual performance and/or selective salary review as well as promotion and tenure criteria effective faculty engagement with the Latinx community and diverse students;
  - Accountability (inclusion in performance reviews and salary increases) for unit level

leadership (e.g., chairs, heads, directors, deans) for supporting, seeding, and maintaining faculty use of culturally relevant curriculum and pedagogy and faculty engagement with the Latinx community and diverse students;

- Inclusion in faculty annual performance and/or selective salary review as well as promotion and tenure criteria broad contributions to diversity, equity, and inclusion; even work in this area not specifically focused on students will have tangible benefits to the campus environment and sense of belonging among all minoritized members of the community.

3.3   *STUDENT SUCCESS*

Traditional student success metrics tend to focus on four and six year graduation rates and first-year persistence. There are of course other indicators. Our conference goal was to identify metrics specific to the needs of diverse students at HSIs and related to servingness. Because of the heavy reliance on these indicators, we selected new ways to measure the degree to which institutions were incorporating servingness into student success. We developed three topics, Meeting Basic Student Needs, Sense of Belonging, and A Multi-Dimensional Revisioning of Degree Completion Metrics that when taken together, comprise one concept paper. We summarize each below.

3.3.1   *STUDENT SUCCESS: MEETING BASIC STUDENT NEEDS*

Duran & Núñez (2021) found that Latinx students are more likely than others to experience basic needs insecurities as well as feel a larger sense of stigma than other students when accessing resources at the institutional level. They also found that Latinx students responded more positively, despite the stigma, to resource offerings when there was a sense of care.

- We recommend two sets of metrics to assess: **1.** student demand for basic needs supports at HSIs and **2.** use of institutional supports for basic needs at HSIs. Over time, demand should decline and institutional support for basic needs increase;
- Insecurities include food, housing, transportation, mental and physical health, job or work, textbook and technology access;
- Additional indicators of institutional supports include student access to emergency grants for students; student contact information accuracy.

3.3.2   *STUDENT SUCCESS: SENSE OF BELONGING*

Hurtado and Carter (1997) and Maestas et al. (2007) define a sense of belonging as the psychological dimension of integration for Latinx student success. Hurtado and Ruiz (2015) encourage institutions to leverage cultural attributes of Latinx students to create that sense of belonging.

- Sense of belonging is discussed in Institutional Success, Faculty Success, and Community Engagement CPs;
- We recommend the use of existing student surveys to assess the degree to which students feel a sense of belonging at the institution, and especially within STEM units. In addition to our review of questions on major national surveys, we suggest questions specific to HSIs to

assess the degree to which the institution provides students with validating experiences and the extent to which students have racialized experiences;

- We recommend that data collection about racialized incidents should include specific location on campus, information about the individuals involved (e.g., student, administrative person, faculty) and the context (e.g., type of event; classroom or research setting; dormitory; social event; sporting event spectator or player). These details are necessary to evaluate the context (e.g., STEM class or social spaces like dormitories) in which the racialized experiences occur as means to improving the institutional response to eradicate future incidents.

3.3.3 A MULTI-DIMENSIONAL REVISIONING OF DEGREE COMPLETION METRICS

Although Black et al. (2015) describe traditional metrics of success as race neutral, we argue for the reframing of degree completion data collection because we view those traditional metrics, like four and six year graduations rates as not race neutral. A 2017 report from the American Council on Education (ACE) used National Student Clearinghouse Data that accounted for the movement of students. This report found that measuring graduation rates with data that account for multiple institutions (or "pulling

back the curtain," as the title of the report notes) considerably narrowed the differences in calculating graduation rates at MSIs and HSIs versus other institutions (Espinosa et al., 2017). This suggests to us that the standard metrics are not the best measure of Hispanic student success.

We suggest that a question that is better suited to the diverse student populations at HSIs is the following: *What factors affecting degree completion should be considered by HSIs striving for servingness? What metrics should be included in assessing degree attainment?*

WE OFFER A SET OF RECOMMENDATIONS THAT TAKE A BROAD VIEW OF DEGREE COMPLETION THAT ACCOUNT FOR THE CONTEXT OF DIVERSE STUDENTS AT HSIS:

- Students' goal upon entry should be included in the analysis;

- Completion metrics should be inclusive of certificates and degree-based co-curricular activities;

- Data should be presented by intersectional identities and presented for STEM and non-STEM programs;

- A time frame for completion should span multiple institutions and potential breaks in attendance that account for Latinx student realities:

  - Degree checks at the community college, undergraduate, and graduate levels should collect data on the number of institutions attended and breaks in continuous matriculation and incorporate those data into degree completion datasets.

It would also consider the extent to which institutions graduate and prepare paths to careers with family-sustaining wages and that are of service to students' home communities. We recommend that institutions and educational policy makers monitor and act on what these data reveal to account for and to honor the experiences of students whose paths to graduation are nonlinear -- and the institutions that serve them.

3.4 COMMUNITY ENGAGEMENT

Community engagement by institutions of higher education has shifted substantially over the past several decades from an earlier model of unidirectional knowledge dissemination and public service towards a more recent model of reciprocal and collaborative partnerships (Boyer, 1996; Spainer et al., 1999; Roper & Hirth, 2005). Franco et al. (2020) proposes a Latinx-informed framework for community engagement at HSIs that this CP extends while suggesting concrete areas to assess.

- **STUDENTS-FACING METRICS**
  - Liberatory student outcome (Garcia, 2020a and 2021) measures such as civic and political engagement as well as racial identity measures;
  - Sense of belonging especially important for STEM student (see Student Success CP);
  - Participation in community-engaged scholarship especially in STEM fields.

- **INSTITUTION-FACING METRICS**
  - Composition of Board of Trustees or Foundation Board to reflect engagement with Latinx local, regional, and national Latinx communities;
  - Foundation and development activity, fundraising areas focused on Latinx community;
  - Research and program collaborations with other IHEs benefiting Latinx community;
  - Carnegie Classification of Engaged Institution;
  - Incentive structures to encourage and reward faculty, students, and staff for community engagement in STEM and STEM education (see also Institutional CP).

- **COMMUNITY-FACING METRICS**
  - Co-creators with university leadership and faculty on programs and activities;
    - Set this as a pre-condition and collect information about reality;
  - Community needs reflected in university activities' Hispanic-serving community activities;
    - This requires assessment at the appropriate level (e.g., chancellor/president).

3.5 RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

Research, Scholarship, and Creative Activities (RSCA) at HSIs are significant in their role to create or contribute to intersectional and integrated science identities among students (Hurtado et al., 2017). The formation of STEM identities is critical to enrollment and persistence in STEM majors and subsequent entry into the STEM workforce, yet STEM identities are generally less accessible to URM and low-income students.

In this CP, we disrupt the explicit hierarchy of institutions (e.g., as indicated in rankings like those of *U.S. News and World Report*), as it relates to RSCA expenditures and infrastructure, while at the same time acknowledging how systemic racism and white supremacy has a) shaped the construction of what constitutes RSCA, and b) created a structural hierarchy resistant to disruption. Our model views the contributions of a 2-year college that engages students in project-based learning that develops leadership,

communication, identity, and an appetite for scholarship as equally as valid as the contribution of an R1, 4-year institution that may be able to engage in technical training on advanced instrumentation – if the engagement of Latinx students and minoritized communities is intentional and authentic. While this CP is about STEM activities, we broadened its applicability to the institutional level.

The model includes the following components with metrics. We include sample metrics here for each model component:

- **HSI GRANTS AND EXTERNAL BOUNDARY MANAGEMENT**
  - Assessment of research and sponsored projects infrastructure to support HSI grants;
  - Submission and award of Department of Education and National Science Foundation grants to support STEM at HSIs.
- **COMPOSITIONAL DIVERSITY AND INCENTIVE STRUCTURES FOR FACULTY RESEARCH TEAMS**
  - Use of inclusive committees and processes to choose/elect/nominate internal RSCA prizes, awards, and leadership roles;
  - Use of inclusive committees and processes to choose/elect/nominate faculty for external recognition, awards, fellowships, and other forms of recognition.
- **USE OF CULTURALLY RELEVANT CURRICULUM AND PEDAGOGY AS WELL AS AVAILABILITY OF UNDERGRADUATE RSCA OPPORTUNITIES;**
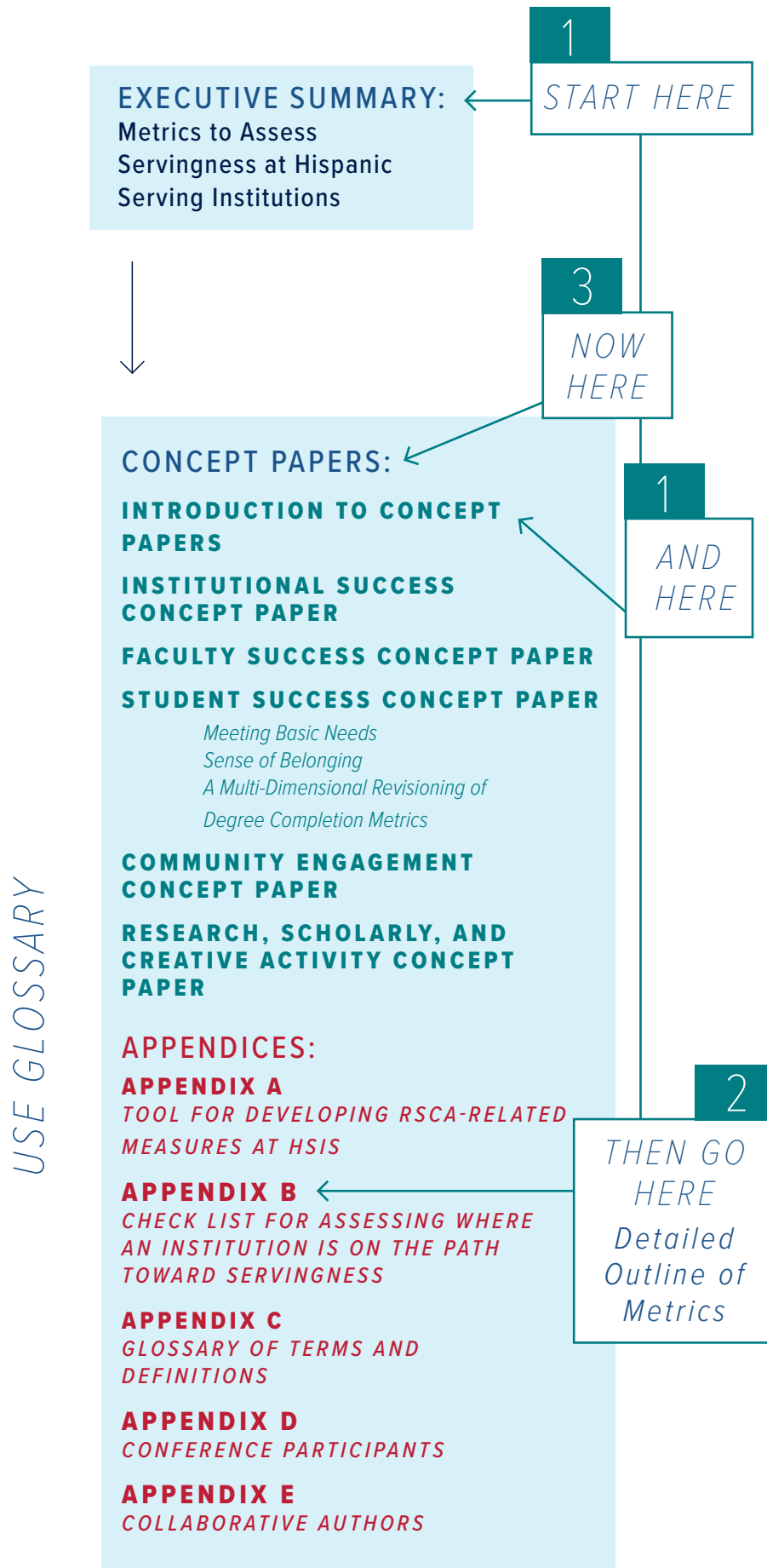- **ENGAGEMENT WITH LATINX COMMUNITY.**

APPENDIX A includes a tool for developing RSCA-related measures at HSIs.

3.6 *USING THE CONCEPT PAPERS*

FIGURE 2- GRAPHIC OF PROCEEDINGS on the next page is a graphic that outlines the structure of this report and how one might use the concept papers to develop your own assessment plan. The graphic explains where you might start and how you might get the most of reading the report.

We expect that a diverse institutional audience will read and use the concept papers to shape a self-study of its institution's path toward servingness. As such, each collaborative writing team was asked to use the framework of servingness to identify the structures for serving that would need to change along with the institutional practices, processes, and policies to generate servingness. They were also asked to imagine what success or servingness at HSIs looks like at an institutional level. Because of the significant diversity of institutional types and locations on the continuum of change, our collaborative writing teams identified metrics that should be measured and suggested other possible measures. Institutions will want to choose metrics and indicators that best suit their context, needs, and goals.

FIGURE 2 · GRAPHIC OF PROCEEDINGS

1

START HERE

EXECUTIVE SUMMARY:
Metrics to Assess
Servingness at Hispanic
Serving Institutions

3

NOW HERE

CONCEPT PAPERS:

INTRODUCTION TO CONCEPT PAPERS

1

AND HERE

INSTITUTIONAL SUCCESS CONCEPT PAPER

FACULTY SUCCESS CONCEPT PAPER

STUDENT SUCCESS CONCEPT PAPER

Meeting Basic Needs
Sense of Belonging
A Multi-Dimensional Revisioning of
Degree Completion Metrics

COMMUNITY ENGAGEMENT CONCEPT PAPER

RESEARCH, SCHOLARLY, AND CREATIVE ACTIVITY CONCEPT PAPER

APPENDICES:

APPENDIX A
TOOL FOR DEVELOPING RSCA-RELATED MEASURES AT HSIS

2

THEN GO HERE
Detailed Outline of Metrics

APPENDIX B
CHECK LIST FOR ASSESSING WHERE AN INSTITUTION IS ON THE PATH TOWARD SERVINGNESS

APPENDIX C
GLOSSARY OF TERMS AND DEFINITIONS

APPENDIX D
CONFERENCE PARTICIPANTS

APPENDIX E
COLLABORATIVE AUTHORS

USE GLOSSARY

APPENDICES are included to assist in the development of information and data collection for baseline measures. A check list for selecting groups of measures and indicators is included as well as a glossary of terms and definitions.

THE EXECUTIVE SUMMARY: METRICS TO ASSESS SERVINGNESS AT HISPANIC SERVING INSTI-TUTIONS AND THE INTRODUCTION TO THE CONCEPT PAPERS top the graphical representation of the report in **FIGURE 2** on the previous page. We suggest starting your read with these two sections and possibly looking over **APPENDIX B** *CHECK LIST: ASSESSING WHERE AN INSTITUTION IS ON THE PATH TOWARD SERVINGNESS*. The Check List is an outline of the various steps and items to do discussed in each concept paper. We then suggest either reading the concept papers in order or going to the topic which is most salient for your institution.

The appendices amplify material in the concept papers. **APPENDIX A**, *TOOL FOR DEVELOPING RSCA-RELATED MEASURES AT HSIS* helps readers of the Research, Scholarly, and Creative Activity Concept Paper assess their own context and plan activities. **APPENDIX B**, *CHECK LIST FOR AS-SESSING WHERE AN INSTITUTION IS ON THE PATH TOWARD SERVINGNESS* is a summary of the totality of aspects of the institution which we recommend assessing in order to achieve institutional transformation and servingness. **APPENDIX C**, *GLOSSARY OF TERMS AND DEFINITIONS* will be of use to all readers in that acronyms are spelled out and key terms are defined. The final two appen-dices, **APPENDIX D**, *CONFERENCE PARTICIPANTS* and **APPENDIX E**, *COLLABORATIVE AU-THORS*, provide information on the original participants in our discussion and then the slightly smaller group who authored, edited, and queried the material in the concept papers.