Learning to Improve: An Assessment of an Institution of Higher Education Across the Dimensions of the Learning Organization

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Executive Summary

Savannah State University faces several financial and operational challenges and is looking to improve its capacity to react to those challenges and to define and achieve its goals. The literature suggests that adopting the practices of a learning organization can help the university achieve its vision and be more effective in addressing issues. This study aims to determine to what extent the university embraces the practices of a learning organization and illuminate how the experiences of employees within the institution differ. The paper also outlines how practitioners might use this information to drive improvement.

A survey was distributed to measure the perceptions of full-time employees on the learning culture of the institution. Statistical analyses revealed that the organization has substantial scope for improvement as a learning organization and that the employees' experiences differ significantly in many ways between groups.

The employees' perception was that SSU forsakes practices and beliefs congruent with the measures of a learning organization more often than not. These perceptions were not homogenous, however. Organizational structures were associated with significant differences in the perceptions of employees. Furthermore, the job role of employees was also associated with significant differences.

Based on these findings, recommendations are made for the university to engage in sensemaking to understand itself and be positioned to design interventions that can successfully bring about positive change. I outline a framework for an intervention that capitalizes on the information provided by this study informed by the principles of the learning organization. Finally, I propose a recursive measurement and sensemaking process to create an ongoing commitment to learning and improvement.

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Introduction

Description of Savannah State University

Savannah State University (SSU) is a historically black university (HBCU) located in Savannah, GA. SSU is a member of the University System of Georgia (USG) and is classified as a "state university." It is one of 26 higher education institutions (HEI) in the USG and one of nine state universities ("USG Facts," n.d.).

SSU has faced several challenges in recent years. Although enrollment in HBCUs nationwide has been decreasing (U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, n.d.), SSU has recognized a markedly more drastic decline as enrollments have fallen over 30% from Fall 2016 to Fall 2019 (University System of Georgia, n.d.). Furthermore, the six-year graduation rate in 2018 at SSU (27.7%) was considerably lower than the US average of public four-year institutions (55.5%) and public four-year HBCUs (32.7%) (U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, n.d.).

In addition to enrollment struggles, the university also has dealt with leadership dissatisfaction (Catanese, 2018) and turnover (Catanese, 2018; Meyer, 2019;

"Savannah State University starts next chapter with new Interim President," 2019). The institution also has faced campus safety issues (WTOC News, 2019a) and employee layoffs (WTOC News, 2019b). Moreover, SSU is facing further budget reductions, low employee morale, and several internal organization challenges.

Problem of Practice

The university is looking to improve its ability to react to internal and external pressures and develop the capacity to define and achieve organizational goals. Given the institution's numerous and varying challenges, the interaction between them, and the presence of unknown root causes, it is difficult to determine where and how the university should exert effort. Peter Senge (1990/2006) wrote in *The Fifth Discipline*,

> *Opting for "symptomatic solutions" is enticing. Apparent improvement is achieved. Pressures, either external or internal, to do something about a vexing problem are relieved. But easing a problem symptom also reduces any perceived need to find more fundamental solutions (p. 105).*

The institution is aware of some of its symptoms but has little information about

how the organization itself does, or might, respond to challenges, how the university might nurture that capacity, and where it is most capable of improvement. To increase the university's ability to create the desired results, it is essential to understand the current capacities, limitations, areas of strategic advantage, and areas of strategic leverage (O'Neil, 2003; Senge, 1990/2006).

Succinctly, the problem of practice is that the university does not have the information to diagnose its current situation to respond to future concerns more effectively. To develop a cohesive vision, improve operational and financial performance, and maximize potential, the institution must begin to understand itself better.

Literature Review

It is important to note that the organization is looking to improve its capacity to perform, not merely triage a current issue. The desire is to generate that capacity so that SSU might tackle any of its current pressures or to be more able to address goals or pressures that do not yet exist. The literature suggests that the pursuit of becoming a *learning organization* can help create an organization that continually improves and has the capacity to transform itself (Watkins & Marsick, 1993, 1996).

What is a Learning Organization?

In his seminal work, *The Fifth Discipline*, Peter Senge (1990/2006) defined learning organizations.

[Learning organizations are] organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together (p. 3).

Other definitions have been developed by scholars (see Table 1) such that no single description is concurred upon in the literature. While each definition has similar themes and constructs, more sub-

structures or characteristics provide further delineation (see Table 2).

Given the vagueness and complexity

(Örtenblad, 2013, pp. 72–73), as well as the varying definitions (Jamali, 2008) of the learning organization, it might be prudent to first conceptualize the understanding of the learning organization as an endeavor in ontology rather than epistemology, despite many underlying studies being more epistemological. Örtenblad et al. (2013) noted:

All organizations - regardless of context - are considered to be in need of adopting the learning organization approach (p. 36).

What exactly that approach is, or how it should be understood, is determined by context and viewpoint. Distilling that context and viewpoint, as well as the very definition of a learning organization, is both incumbent upon and an imperative for each individual organization (Örtenblad, 2004). Becoming a learning organization is a fluid concept determined by the needs, desires, and situation of any organization. It is not a prescription, but the pursuit of a never-ending journey (Watkins & Golembiewski, 1995, p. 99)

Watkins and Marsick (2019) defined the difference between the learning organization and the concept of

organizational learning:

The distinction [between the learning organization and organizational learning] rests in the holy grail of intentional efforts to design practices, systems, mechanisms, and policies that support learning that is shared and leveraged to build collective capacity to act in concert toward goal achievement.

Consequently, the conception of the learning organization might be recognized as a subset of organizational learning; the purposive design of actions and systems to support organizational learning in driving outcomes.

Some higher education scholars have argued that the learning organization is a management fad (Kezar, 2005), and such fads can run the risk of centralization of power among top-level managers (2019). Leaders define system goals and facilitate structures congruent with those goals (Caldwell, 2012). Despite these concerns of the learning organization as far back as 2005, a study by Hoe (2019) found that the number of published works on the concept by scientific researchers is increasing.

Garrick and Rhodes (2019) contend that the learning organization can be used as a tool to suppress employees and shape behavior toward the desires of management. Countercriticisms argue, however, that such critiques are aimed at all training and development activities being tools of management, but the learning organization, instead, is not a collection of development activities, but a drive of culture change toward greater transparency, non-hierarchical dialogue, and a focus on learning at all levels, including management. Recognizing

contextual complexity, championing inclusivity, and focusing on "power-with" rather than "power-over" is central to learning organization theory (Watkins & Marsick, 2019).

Vince (2018) suggested that the learning organization should be viewed as a paradox, asserting that:

The learning organization concept reflects a moment in the past that is gone, when learning was a particularly resonant buzzword in management and organization studies. It also reflects an idea that should never go away, that organizations must find ways to support and perpetuate learning as a basis for growth, innovation and change (p.274).

Vince (2018) describes how scholars describe the need for learning organizations to be entirely collaborative, but lived experience recognizes that competitiveness is the other side of the same coin that cannot be disregarded. We collaborate with and compete with the same people for resources, attention, promotion, and recognition.

This paradox perspective does not mean the learning organization concept should be disregarded. In fact, it should be embraced as representative of the complexity and dualism of human and organizational interaction. Marsick and Watkins (2019) state that:

When conceptualized as underlying principles, processes, and dynamics— rather than a fixed set of practices— the learning organization concept is still relevant in today's environment.

Table 1. Sample definitions of the learning organization

Author	Definition of the learning organization
Senge (1990/2006)	An organization where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn
Pedler, Burgone and Boydell (1991)	An organization that facilitates learning for all its members and consciously transforms itself and its context
Garvin (1993)	An organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights
Nevis, DiBella and Gould (1995)	An organization that has woven a continuous and enhanced capacity to learn, adapt and change. Its values, policies, practices, systems, and structures support and accelerate learning for all employees
Gephart, Marsick, Van Buren, Spiro and Senge (1996)	An organization in which learning processes are analyzed, monitored, developed, managed, and aligned with improvement and innovation goals
Goh (1998)	Organizations that support strategic drivers necessary to build learning
Dowd (1999)	A group of people dedicated to learning and improving forever
Watkins and Marsick (1993, 1996)	An organization characterized by continuous learning for continuous improvement, and by the capacity to transform itself
Grieg, Geroy and Wright (2000)	An organization that constantly improves results based on increased performance made possible because it is growing more adroit
Rowden (2001)	An organization in which everyone is engaged in solving problems, enabling the organization to continuously experiment, change, and improve, and increasing its capacity to grow, learn, and achieve its purpose
Lewis (2002)	An organization in which employees are continually acquiring and sharing new knowledge and are willing to apply that knowledge in making decisions or performing their work
Armstrong and Foley (2003)	A learning organization has appropriate cultural facets (visions, values, assumptions and behaviors) that support a learning environment; processes that foster people's learning and development by identifying their learning needs and facilitating learning; and structural facets that enable learning activities to be supported and implemented in the workplace
James (2003)	An L-form is more than adaptive; it is transformational. Thus, it engages everyone in the exploration, exploitation, and transfer of knowledge, increasing the collective learning throughout the organization and the capacity to create its future
Moilanen (2005)	A learning organization is a consciously managed organization with learning as a vital component in its values, visions, and goals as well as in its everyday operations and their assessment

Note. Adapted from Jamali (2008) and Perfetti (2015)

Table 2. Characteristics of learning organizations by author

Author	Identified characteristics
Senge (1990/2006)	Systems thinking, mental models, personal mastery, shared vision, team learning
Pedler et al. (1991)	A learning approach to strategy, participative policy-making, informating, formative accounting and control, internal exchange, reward flexibility, enabling structures, workers as environmental scanners, inter-company learning, learning climate, self-development opportunities
Garvin (1993)	Systematic problem solving, experimentation, learning from past experiences, learning from others, transferring knowledge
Marsick and Watkins (1993, 1996)	Continuous learning, dialogue and inquiry, team learning, embedded system, empowerment, connecting the organization to its environment, strategic leadership
Gardiner and Whiting (1997)	Self-development, learning strategy, learning climate Participation in policy-making, use of information, empowerment, leadership and structure, links with external environment
Tannenbaum (1997)	Learning opportunities, tolerance of mistakes, high-performance expectations, openness to new ideas, policies and practices support training, awareness of big picture, satisfaction with development
Goh (1998)	Clarity of purpose and mission, leadership commitment and empowerment, experimentation and rewards, transfer of knowledge, teamwork and group problem solving
Griego et al. (2000)	Training and education, rewards and recognition, information flow, individual and team development, vision, and strategy

Note. Adapted from Jamali (2008) and Perfetti (2015)

The Dimensions of Learning Organizations Questionnaire

It is the opinion of Marsick and Watkins (1999) that:

Organizations need to develop the capacity to diagnose their learning orientations, and, when necessary, to add to their repertoire of learning responses or to change them (p. 211).

One such method of diagnosis is the Dimensions of Learning Organizations Questionnaire (DLOQ) (Marsick & Watkins, 2003).

The DLOQ was developed in response to the literature's shortcomings to provide mechanisms to implement changes to become a learning organization. There was also a lack of resources to help organizations diagnose their status to facilitate change (Marsick & Watkins, 2003). The model was rooted in a cultural perspective of organizational learning, pulling from the works of Schein (1996) and Argyris and Schön (1996). The model's application emphasizes diagnosis rather than prescription and building capacities to create organization-deep changes instead of one-off fixes (Watkins & Kim, 2018).

The DLOQ has been used extensively in the literature (Watkins, 2017), with significant positive correlations between the dimensions of a learning organization

and organizational performance (see K. Kim, 2016; Watkins, 2017; Watkins & Kim, 2018). Further, the tool has been studied for construct validation (Yang, Watkins, & Marsick, 2004; Yu, 2014), though the interpretation of some results has been questioned (Weldy, 2010). It has been used across many different organizational settings (Akram, Watkins, & Sajid, 2013; McHargue, 2003; Stothard, Talbot, Drobnjak, & Fischer, 2013), including higher education (Kumar & Idris, 2006; Perfetti, 2015; Voolaid, 2017) as well as in resource-limited organizations (Somerville, 2004).

The theoretical framework of the learning organization, as measured by the DLOQ, is based upon seven action imperatives (identified in Table 3) nested within four organizational levels (Marsick & Watkins, 2003; Watkins & Marsick, 1993, 1996).

Turner, Baker, and Kellner (2018) posit that the dimensions of the DLOQ framework fall into two categories of building capacity in people and building or modifying structure.

Table 3. Watkins and Marsick's dimensions of a learning organization

Org. Level	Dimension	Definition
Individual	Create continuous learning opportunities (CL)	Learning is designed into work so people can learn on the job; opportunities are provided for ongoing education and growth
Individual	Promote inquiry and dialogue (DI)	People express their views and listen and inquire into the views of others; questioning, feedback, and experimentation are supported
Teams	Encourage collaboration and team learning (TL)	Work is designed to encourage groups to access different modes of thinking, groups learn and work together, and collaboration is valued and rewarded
Organizational	Establish systems to capture and share learning (ES)	Both high- and low-technology systems to share learning are created and integrated with work, access is provided, and systems are maintained
Organizational	Empower people toward a collective vision (EP)	People are involved in setting, owning, and implementing joint visions; responsibility is distributed close to decision making so people are motivated to learn what they are held accountable for
Global	Connect the organization to its environment (SC)	People are helped to see the impact of their work on the entire enterprise, to think systemically; people scan the environment and use information to adjust work practices; and the organization is linked to its community
Global	Provide strategic leadership for learning (SL)	Leaders model, champion, and support learning; leadership uses learning strategically for business results

Note. Adapted from Marsick (2013)

Institutions of Higher Education and the Learning Organization

The body of empirical research on organizational learning, specifically in the context of HEIs, is lacking (Dee & Leišytė, 2016). Örtenblad and Koris (2014) found that the literature was not particularly cumulative and relied on a limited set of conceptual models. Furthermore, much of the research is from the functionalist paradigm. Functionalism assumes that the learning organization approach can be used as a tool to enhance efficiency and effectiveness. This approach can have the capacity to foster incremental and transformational change, improve data for decision making, improve practice through new knowledge, and promote consensus. It can also help address desires for accountability, effectiveness, and revenue generation. However, the dearth of other paradigms, such as interpretive or critical, within the HEI literature on organizational learning could limit the ways practitioners apply the construct in universities (Dee & Leišytė, 2016). While this paper, too, is from the functionalist paradigm, the conceptualization of organizational learning in its application in the SSU context ought to be an essential consideration in understanding and unraveling the findings and appreciating the situative environment in which the findings reside. For example, exploring the concept of inquiry and dialogue through the lens of a critical paradigm might uncover more in-depth understandings of conditions of oppression that inform intra-personal and inter-personal obstacles to effective dialogue. Still further, an interpretive paradigm might be used to understand how different meanings and interpretations of the environment between units inform teamwork and collaboration. The underlying structure of the DLOQ

(questions about specific actions that occur in organizations) and the conceptualization of the learning organization by Watkins and Marsick (2003; 1996) are argued to be functionalist (Dee & Leišytė, 2016) and rooted in other functionalist works such as Argyris and Schön's (1978) research on action science (Beyerlein, Dirani, & Xie, 2017) and action learning (Pedler et al., 1991). However, Marsick and Watkins (1999) emphasize in *Facilitating Learning Organizations* the importance of contextual understanding and thus does not preclude alternative paradigms from further informing the overall picture. Consequently, the conceptualization of the learning organization and how it might be understood in any given context is not a replacement for alternative understandings, nor is it all-encompassing or prescriptive. In fact, the authors espouse that the DLOQ and corresponding framework is merely a first step in beginning to understand an organization.

The higher education industry, it has been argued, has cultures, practices, and structures that can make the learning organization concept challenging to implement. Dill (2013) found that universities did not possess many processes or systems to encourage knowledge transfer within the organization and suggested that faculty's autonomy and specialization often hindered collaboration. Senge (2000) posited that faculty might repudiate ideas associated with the learning organization because they could perceive them as too corporate.

There tends to be a strongly individualistic culture in academia (Dearlove, 2002; Woodfield & Kennie, 2008), contributing to siloism and an institutional inability to coalesce around common goals. Many universities eschew social learning and learning to improve the institution in

practice, despite espousing its importance as an ideal (Bess & Dee, 2014; Dee & Leišytė, 2016; Kezar, 2005; White & Weathersby, 2005). Faculty, administrators, and external stakeholders often differ in their interests and expectations of the university, resulting in a lack of consensus on priorities (Cohen & March, 1974). The academy often embraces autonomy, self-interest, and competition (White & Weathersby, 2005).

This faculty autonomy frequently means a strong orientation to their respective academic disciplines rather than the institution, further separating silos and reducing collaboration, shared goals, and efforts toward an institutional vision. Outside of teaching and research, faculty are rarely recognized for furthering institutional objectives in performance reviews (Westerheijden, Epping, Faber, Leisyte, & de Weert, 2013). Karsten, Voncken, and Voorthuis (2000) opined that experienced educators often believe that asking for assistance is seen as a sign of incompetence.

The normative structures of universities are rigidly hierarchical (White & Weathersby, 2005), impeding collaboration and teamwork. Employees often do not have a common understanding of the university's mission or objectives (Senge, 2000) and, in fact, often adopt competing goals within the university or their individual departments (Bess & Dee, 2014; White & Weathersby, 2005). Department dynamics can differ substantially, particularly affecting how the entire organization might develop into a learning organization (Gentle & Clifton, 2017). Some authors suggest that universities' structure can create the false notion that the real world is also divided into fragmented parts, creating challenges in implementing a common understanding of its vision (Bui & Baruch, 2012; Vo, Chae,

& Olson, 2006). Albrecht, Burandt, and Schaltegger (2007) point out that universities appear unable to establish internal networks or respond appropriately to external demands to question whether universities even can become learning organizations. A university's ability to embrace the learning organization concept depends on *how* it creates and organizes knowledge and practices, utilizes employee skills, and maximizes learning throughout the organization (Abu-Tineh, 2011; Senge, 1990/2006).

Despite these challenges, scholars still argue that HEIs can benefit from implementing learning organization theory into their organizations (Dee & Leišytė, 2016; Gentle & Clifton, 2017; Senge, 2000, 1990/2006). Already-existing practices such as accreditation, assessment, governance committees, professional development workshops, and cross-functional teams can be reconceptualized as spaces for organizational learning (Dee & Leišytė, 2016; Dill, 1999).

Embracing organizational learning can encourage faculty and administrators to consider broader concepts such as coherence of the overall curriculum or general sense of community that might not have been considered within their mental models (Ramaley & Holland, 2005; Senge, 1990/2006). If faculty can become more engaged cross-departmentally, they could share in innovations and engage in reflective practice to enhance organizational effectiveness (Dee & Leišytė, 2016).

Interventions in Developing a Learning Organization

One size does not fit all in building a learning organization. There is no standard set of prescriptions that an organization can adopt to achieve its goals. Instead,

iterative diagnosis, change, and learning from change should be an ongoing philosophy of those institutions that embody the principles of the learning organization (Marsick, Watkins, & Smith, 2019).

In determining how to proceed with interventions, practitioners should be sensitive to the business situation's unique features and organizational context at hand. They should begin with a pressing challenge as a logical starting point (Marsick et al., 2019). This logical starting point may or may not be the ultimate focus of the intervention as root causes. A deeper understanding of the context drives a deeper understanding of the problem. Instead, it serves as a nucleation point in understanding the institution and its challenges and capacities for beneficial change. Such intervention opportunities are often best created using action-research (Argyris & Schön, 1978; Lewin, 1946) and involve multiple stakeholders. These opportunities drive motivation and commitment because they usually represent issues that are simultaneously personal and organizational. Further, action-research supports participative engagement and increases the likelihood of diverse perspectives leading to new thinking and enhancing motivation and commitment (Marsick et al., 2019).

Kim and Marsick's (2013) *Using the DLOQ to support learning in Republic of Korea SMEs provides a*n example of a DLOQ-informed learning organization intervention. The article describes how the DLOQ was used to guide the development of an intervention to increase employee skills and capabilities. The DLOQ was used first to diagnose where needs might exist. From this information, purposive dialogue was undertaken to understand and contextualize where and how improvements might be fruitful. From this, an intervention was developed, informed by the dimensions of the learning organization, the results of the DLOQ survey, and the contextual information brought forward from purposive dialogue. The outcomes of the intervention were associated with knowledge gains, lessons learned on-the-job, and trademark registration increases (a desired outcome).

Within the education sector, King Smith, Watkins, and Han (2020) developed an intervention to redesign an existing quarterly meeting attended by principals and central office leaders. Insufficiencies identified by the DLOQ informed the redesign. The intervention resulted in a significantly positive difference in *establishing systems to capture and share learning* between pre and post-intervention respondents. Further, the authors concluded that the model was a useful guide to create a learning culture.

Farrar-Myers and Dunn (2010) found that engaging in extended dialogue with stakeholders drove the process in finding answers to shared problems. They also found that concerns of sub-cultures were heard and resulted in increased willingness by those sub-cultures to embrace change toward the goals sought by the university community, facilitating the institutionalization of a shared vision.

Conceptual Framework

This study's framework follows Marsick and Watkins' (1999) model outlined in *Facilitating Learning Organizations* (see Figure 1). It seeks to understand the perspectives of performance across the seven learning organization dimensions to design interventions that can improve that performance. The organization moves

towards continuous learning and transformation to achieve its aims and respond to pressures and opportunities more effectively. These perceptions were measured using an adapted version of the DLOQ, included in Appendix E.

This study's framework deviates from Marsick and Watkins' framework by adding organizational structure and job role components as variables affecting dimension performance. Most of the literature that uses this framework understands the dimensions to be independent variables and uses performance measures (such as financial or operational performance) as dependent variables. Instead, this study frames organizational structure and job roles as independent variables to understand their relationship with the dimensions as dependent variables.

Figure 1. Learning organization action imperatives
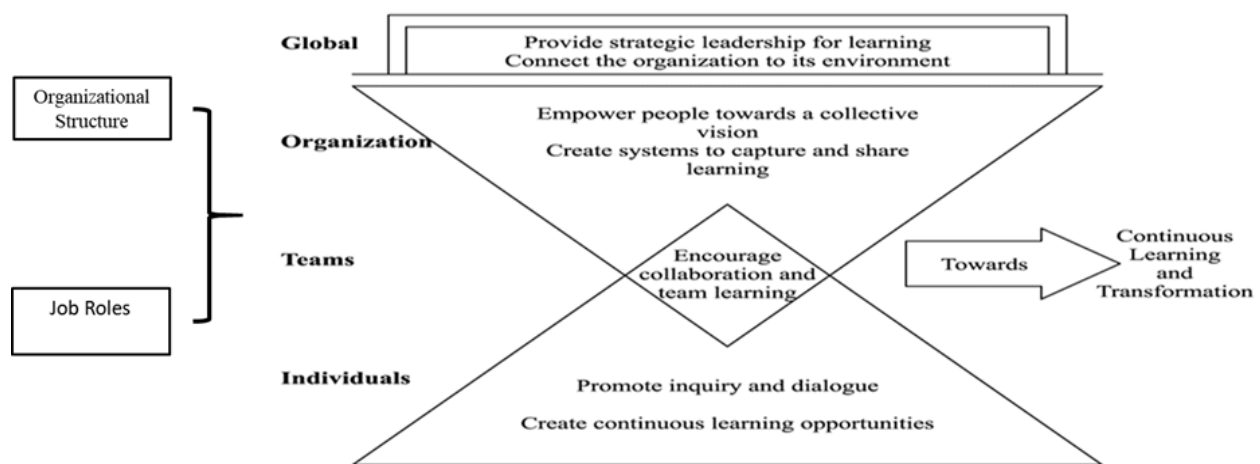
Adapted from Marsick & Watkins (1999).

Study Design

This exploratory study utilized a quantitative descriptive and correlational design. This approach allowed for the development of an understanding of SSU's current state as a learning organization and the extent to which the employees perceive the university's performance on each of the dimensions of the learning organization. In addition, the correlational components of the design allowed for an improved understanding of how job roles and university structure might impact the experience of employees. These new understandings can be used to drive future research or to frame or inform targeted interventions.

Data Collection

The source of information for this study was the *Dimensions of Learning Organization Questionnaire* (Marsick & Watkins, 2003; Watkins & Marsick, 1997). The survey was replicated with minor modifications (with permission) to fit the university vernacular. Also, demographic questions were added (see Appendix E).

The survey consisted of 43 six-point Likert-type questions ranging from "almost never" to "almost always," in addition to demographic questions, with multiple-choice options and an optional free-form input. The demographic questions asked

respondents in which division they primarily work, in which unit they primarily work, whether they are faculty or staff, their primary job role, gender, number of years employed at SSU, and whether or not they are a full-time employee.

An invitation to participate was sent to all university employees by the interim president (see Appendix G) in early spring 2020 with follow-up reminders from the president two and three weeks later. The survey remained open for a little over one month.

Comparison data that included mean response scores by dimension were taken from Watkins and Dirani's (Marsick & Watkins, 1999) paper, *A Meta-Analysis of the Dimensions of a Learning Organization Questionnaire: Looking Across Cultures, Ranks, and Industries.*

Analytical Procedures

The survey received 186 responses, of which three were excluded because the participants indicated that they were not full-time employees. One response was excluded as it did not contain any data. This left 182 complete or partially complete responses. Several respondents completed demographic information using the free form input rather than object selection. All these responses were re-coded to the correct object. As an example, a subject may have typed "Biology" into the Division section (rather than selecting "College of Science and Technology"). Each input discrepancy was reviewed and re-coded. All re-codings were completed with certainty; no discrepancies were unclear.

Research and Supporting Questions

RQ1: What are SSU employees' perceptions of the university's learning culture?

SQ1(a): Does the perception of employees of SSU vary between dimensions?

SQ1(b): Is the perception of employees different from the perceptions of participants in the comparison data?

SQ1(c): Is the rank-order of dimensions different from those in the comparison data?

RQ2: What are the differences in perception between groups derived from organizational structure?

SQ2(a): Is the perception of employees significantly different between academic colleges?

SQ2(b): Is the perception of employees significantly different between divisions?

SQ2(c): Is the perception of employees significantly different between the staff of Academic Affairs and those not in Academic Affairs?

RQ3: What are the differences in perception between groups derived from job role?

SQ3(a): Is the perception of employees significantly different between faculty and staff?

SQ3(b): Is the perception of employees significantly different between leadership and non-leadership?

RQ4: In what dimensions among which groups does SSU have the greatest potential for improvement?

SQ4(a): Is the rank-order of dimensions the same for all groups?

SQ4(b): What are the highest and lowest mean scores in dimensions amongst all the groups?

Sample Description and Analysis

Subject Selection and Sampling Procedure

This study employed a total population sampling procedure. The population under study was all full-time employees of SSU. Total population sampling was determined to be appropriate because of the manageable size of the population.

Sample Size

After data processing, a total of 182 responses from full-time employees were collected. The total population of full-time employees was 598 (U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, n.d.). The response rate was 30.4%. Demographic information, proportions, and response rates are outlined in Table 4. Proportions of other genders were treated as missing because the population data (U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, n.d.) only provided binary genders. Response proportions varied from population proportions by less than 11%.

Construct Validity and Internal Reliability

Confirmatory factor analysis (CFA) was used to validate the DLOQ in the SSU context. The results of the CFA showed that the dimensions of the DLOQ had adequate robust goodness-of-fit indices in the SSU sample (N=146, $\chi^2(839)=1309.151$, p<.001, χ^2/df=1.56, CFI=.969, TLI=.967, RMSEA=.062, SMSR=.051). Furthermore, each dimension showed acceptable Cronbach-alpha values (α= .88 – .93). Therefore, the null hypothesis was rejected, and the instrument was determined to have both construct validity and internal reliability in the SSU context.

Discussion

CFA was selected to assess the construct validity for the measurement of the dimensions of the learning organization and was used to verify the adequacy of the item to factor associations (Bollen, 1989; Thompson & Daniel, 1996; Yang et al., 2004). The construct validity and internal validity findings are consistent with the literature, including public and higher education settings. (Horváth, 2019; Yang et al., 2004).

Table 4. Population and sample demographic information

Employee Type	Gender	Pop. n	Sample n	Pop. Proportion	Sample Proportion	Prop. Diff.	Response Rate
Full-time employee	All	598	182				30.4%
Full-time employee	Female	321	103	53.7%	56.6%	2.9%	32.1%
Full-time employee	Male	277	66	46.3%	36.3%	-10%	23.8%
Faculty	All	195	72	32.6%	39.6%	7%	36.9%
Faculty	Female	90	33	46.2%	45.8%	-0.4%	36.7%
Faculty	Male	105	31	53.9%	43.1%	-10.8%	29.5%
Faculty	Other	0	8	0%	11.1%	11.1%	NA

Employee Type	Gender	Pop. n	Sample n	Pop. Proportion	Sample Proportion	Prop. Diff.	Response Rate
Staff	All	403	110	67.4%	60.4%	-7%	27.3%
Staff	Female	231	70	57.3%	63.6%	6.3%	30.3%
Staff	Male	172	35	42.7%	31.8%	-10.9%	20.3%
Staff	Other	0	5	0%	4.5%	4.5%	NA

Research Question 1

What are SSU employees' perceptions of the university's learning culture?

Supporting Question 1(a-c)

SQ1(a): Does the perception of employees of SSU vary between dimensions?

SQ1(b): Is the perception of employees different from the perceptions of participants in the comparison data?

SQ1(c): Is the rank-order of dimensions different from those in the comparison data?

Statistical Procedures
Summary statistics were generated detailing the number of observations, mean, standard deviation, median, interquartile range, standard error, and confidence interval for each dimension (continuous learning, inquiry and dialogue, team learning, establish systems to capture and share learning, empower people, connect the organization to its environment, and strategic leadership) and overall score.

A QQ-Plot was produced, and a Shapiro-Wilk test was run to determine the normality of distribution. A Kruskal-Wallis test and a supplementary analysis of variance (ANOVA) were generated.

A z-test was conducted for each dimension and the overall score as well as rank-order means, provided in Watkins and Dirani's (2013) article, *A Meta-Analysis of the Dimensions of a Learning Organization Questionnaire: Looking Across Cultures, Ranks, and Industries*.

Table 5. Description of variables for SQ1(a-c)

Variable	Description	Observation Elimination
Dimension (DV)	Each dimension score was derived from the mean of response values within that dimension. The overall score dimension is the mean of dimension means (Marsick and Watkins, 2003).	Observations with missing data were removed within each dimension analysis. Observations missing data in any dimension were removed for overall score analysis.
Dimension Name (IV)	Dimension of the learning organization	No elimination

Research Question 2

What are the differences in perception between groups derived from organizational structure?

Supporting Question 2(a-c)

SQ2(a): Is the perception of employees significantly different between academic colleges?

SQ2(b): Is the perception of employees significantly different between divisions?

SQ2(c): Is the perception of employees significantly different between the staff of Academic Affairs and those not in Academic Affairs?

Statistical Procedures
Summary statistics were generated detailing the number of observations, mean, standard deviation, median, interquartile range, standard error, and confidence interval for each dimension (continuous learning, inquiry and dialogue, team learning, establish systems to capture and share learning, empower people, connect the organization to its environment, and strategic leadership), and overall score, across each college, division, and Academic Affairs staff and non-Academic Affairs staff.

A QQ-Plot was produced, and a Shapiro-Wilk test was run for each DV to determine the normality of distribution. A Kruskal-Wallis test and a supplementary ANOVA were generated separately for each DV.

Table 6. Description of variables for SQ2(a-c)

Variable	Description	Observation Elimination
Dimension (DV)	Each dimension was derived from the mean of response values within that dimension. The overall score dimension is the mean of dimension means (Marsick and Watkins, 2003).	Observations with missing data were removed within each dimension analysis. Observations missing data in any dimension were removed for overall score analysis.
Unit (IV)	Unit describes the organizational unit in which the employee works.	Observations not in an academic college and observations with missing data in Unit were removed
Division (IV)	Division describes the division in which the employee primarily works (Academic Affairs, Athletics, Business and Financial Services, Enrollment Management, President's Office, Student Affairs, and University Advancement).	Observations missing data in Division were removed
AAF Staff or Non-AAF Staff (IV)	An additional variable derived from Division and Employee Type. AAF Staff=1, Non-AAF Staff=0.	Observations with Employee Type of "Faculty" were removed. Observations with missing data in either Division or Employee Type were removed.

Research Question 3

What are the differences in perception between groups derived from job role?

Supporting Question 3(a-b)

SQ3(a): Is the perception of employees significantly different between faculty and staff?

SQ3(b): Is the perception of employees significantly different between leadership and non-leadership?

Statistical Procedures

Summary statistics were generated detailing the number of observations, mean, standard deviation, median, interquartile range, standard error, and confidence interval for each dimension (continuous learning, inquiry and dialogue, team learning, establish systems to capture and share learning, empower people, connect the organization to its environment, and strategic leadership), and overall score, across each college and leadership or non-leadership.

A QQ-Plot was produced, and a Shapiro-Wilk test was run for each DV to determine the normality of distribution. A Kruskal-Wallis test and a supplementary ANOVA were generated separately for each DV.

Table 7. Description of variables for SQ3(a-b)

Variable	Description	Observation Elimination
Dimension (DV)	Each dimension was derived from the mean of response values within that dimension. The overall score dimension is the mean of dimension means (Marsick and Watkins, 2003).	Observations with missing data were removed within each dimension analysis. Observations missing data in any dimension were removed for overall score analysis.
Employee Type (IV)	Describes the type of employee (Faculty or Staff).	Observations with missing data for Employee Type were removed.
Leadership or Non-Leadership (IV)	Additional variable derived from Primary Role. Where Primary Role is "Administrator" or "Senior Management," then "Leadership." Otherwise, "Non-Leadership"	Observations with missing data in Primary Role were removed.

Research Question 4

In what dimensions among which groups does SSU have the greatest potential for improvement?

Supporting Question 4(a-b)

SQ4(a): Is the rank-order of dimensions the same for all groups?

SQ4(b): What are the highest and lowest mean scores in dimensions amongst all the groups?

Statistical Procedures

The rank-order of the mean scores for each DV was directly compared to the rank-order of the mean scores for each independent variable (IV) as well as mean scores in each dimension among groups.

Table 8. Description of variables for SQ4(a-b)

Variable	Description	Observation Elimination
Dimension (DV)	Each dimension was derived from the mean of response values within that dimension. The overall score dimension is the mean of dimension means (Marsick and Watkins, 2003).	Observations with missing data were removed within each dimension analysis. Observations missing data in any dimension were removed for overall score analysis.
Unit (IV)	Unit describes the organizational unit in which the employee works (College of Liberal Arts and Sciences (CLASS), College of Science and Technology (COST), College of Business Administration (COBA), and College of Teacher Education (COTE)).	Observations not in CLASS, COST, COBA, or COTE and observations with missing data in Unit were removed
Division (IV)	Division describes the division in which the employee primarily works (Academic Affairs, Athletics, Business and Financial Services, Enrollment Management, President's Office, Student Affairs, and University Advancement).	Observations missing data in Division were removed
AAF Staff or Non-AAF Staff (IV)	An additional variable derived from Division and Employee Type. AAF Staff=1, Non-AAF Staff=.	Observations with Employee Type of "Faculty" were removed. Observations with missing data in either Division or Employee Type were removed.
Employee Type (IV)	Describes the type of employee (Faculty or Staff).	Observations with missing data for Employee Type were removed.
Leadership or Non-Leadership (IV)	Additional variable derived from Primary Role. Where Primary Role is "Administrator" or "Senior Management," then "Leadership." Otherwise, "Non-Leadership"	Observations with missing data in Primary Role were removed.

Results and Discussion

Research Question 1

What are SSU employees' perceptions of the university's learning culture?

Summary

The purpose of this research question was to understand the profile of how SSU was positioned as a learning organization and to contextualize that profile among other

organizations and other HEIs. The main findings of this research question were:

The mean scores of the dimensions were significantly different from each other, though with a small effect size and tight range.

The biggest opportunities for improvement were in "systems to capture and share learning" and "empower people toward a collective vision."

The dimensions' means and overall scores were all significantly lower than other organizations.

SSU shares a commonality with other HEIs in that "systems to capture and share learning" was the lowest-ranked dimension, though the mean score for SSU was still significantly lower than others.

In some ways, the findings were consistent with the literature, specifically in terms of the areas of most strategic leverage. SSU employees' overall perceptions and perceptions within each dimension, however, were markedly different from many findings in the literature in that they were much lower than one would expect based on a survey of previous studies. This might indicate that SSU had all the struggles and constraints of HEIs, governmental institutions, and resource-limited institutions, but also had some unique challenges that positioned it as an organization that has a profound opportunity to improve as a learning organization.

Supporting Question 1(a)

How does the perception of employees vary between dimensions?

SQ1(a)$_0$: The perception of employees did not vary between dimensions

SQ1(a)$_1$: The perception of employees varied between dimensions

A QQ-Plot and a Shapiro-Wilk test (W=.982, p<.0001) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Kruskal-Wallis test was run. In addition, an ANOVA was run, yielding similar results (see Appendix D). Results of the Kruskal-Wallis test (H(6)=25.52, p=.0003, η^2=.016) produced a significant difference but a small effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected; employees' perception significantly varied between dimensions, though with a small effect size.

Discussion

Consistent with the literature, the experience of SSU employees on each of the dimensions yielded different results. This supports the idea that employee experience and organizational capacities varied between the measures. In *Facilitating Learning Organizations*, Marsick and Watkins (1999) discuss the importance of understanding the differences between dimensions. Understanding these differences provides organizations the opportunity to determine where they might have areas of strategic leverage and where they might have areas of strategic advantage.

While the SSU data showed a significant difference between dimensions, it is also important to note that the effect size was small. This means that the dimension had a small effect on the score; employee experience and perceptions of organizational capacities on the dimensions were not homogeneous, but the degree to which they affected the score was small. The data also showed that the range of medians was just 0.5 points (range of means was 0.47) on the six-point scale. This could indicate that the areas of

strategic leverage or advantage might have too little contrast to be helpful in improvement efforts (see Table 9). That is, the difference between SSU's strong points and weaker points was potentially too small to capitalize on strengths to triage weaknesses effectively. Having said that, it is essential to note that the dimension measures are composite scores of underlying questions - questions that, coupled with engaged discussion, could reveal strengths and weaknesses within the dimensions themselves (Marsick & Watkins, 1999); a tight range between SSU's average dimension values might indicate there could be difficulty in capitalizing on strengths to affect weaknesses, but by no means precludes it.

Further compounding potential limitations of capitalizing on strengths is that the median overall score was 2.825 (mean 2.91) and the highest median score was just 3.00 (mean 2.91); all were closer to "almost never" than "almost always."

These data indicate that SSU was struggling with the extent to which employees thought the university had embraced practices and beliefs congruent with effective learning organization praxis and theory (Marsick & Watkins, 1999).

However, knowledge of this information could "create a healthy dissatisfaction with the status quo" (Marsick & Watkins, 1999, p. 49). Lower scores mean more opportunities for improvement, and even small changes can lead to significant improvement. Employees recognizing these improvements and seeing how their work has been meaningful, can also improve satisfaction levels and motivation (Amabile & Kramer, 2011). Serendipitously, the survey question with the lowest overall score (and thus the greatest scope for improvement) was on the topic of employee morale.

The ranking of mean scores (see Table 10) showed that the lowest-ranked dimensions were both from the "organization" organizational level. This is unsurprising for a university. White and Weathersby (2005) assert that universities are often "rigidly hierarchical," and Watkins (2005) notes that the prevailing structures at universities can lead to a firmly entrenched culture. Such entrenched and siloed cultures can make it challenging to establish systems that can facilitate the sharing of learning and motivate people to interact with those systems (Sohail & Daud, 2009). Further, empowering people around a shared vision can be particularly difficult in universities because of the prevalence of this siloism; competing goals and values of entrenched cultures in divisions or departments can prevent alignment around a shared vision.

During an informal observation, a member of the system office of the USG held a meeting to discuss the academic outcomes of key courses during the first academic year. It is important to recognize that this kind of discussion was not a usual or established activity at SSU, but one instigated by a staff member at the system office. During this meeting, the topic of curricula redesign to improve the learning outcomes of students arose. Only after several minutes of discussion on how that might be achieved did a member of one department contribute that this process had already taken place for one of their courses with some promising effects. The faculty member added insight into what things were done and what they learned throughout the process. This redesign had happened more than a year ago, but none of the other faculty members from other departments were aware that it had happened, let alone what learning

occurred throughout the process.

This contextual example sheds light on the struggle of SSU to share learning throughout the university - a critical component of an effective learning organization (Marsick & Watkins, 1999). Another informal observation that underscores this phenomenon occurred when a staff member discussed her frustration that every simple action required multiple conversations with different stakeholders, "rediscovery" of process requirements and policy interpretations, and often resulted in different outcomes for the same types of actions. When asked if processes or systems were in place for information or guidance, she responded, "We don't have processes. We just have people." These frustrations and repetition of the same problems that occurred were symptomatic of a failure of systems to facilitate institutional knowledge retention and sharing.

Table 9. Summary statistics across dimensions

Dimension	n	mean	sd	median	iqr	se	ci
Continuous Learning	177	3.04	1.09	3	1.71	0.08	0.16
Inquiry and Dialogue	174	2.953	1.03	2.833	1.46	0.08	0.15
Collaboration and Team Learning	176	3.119	1.15	3	1.67	0.09	0.17
Systems to Capture and Share Learning	167	2.65	1.1	2.5	1.67	0.09	0.17
Empower People	170	2.756	1.09	2.667	1.5	0.08	0.17
Connect the Organization to its Environment	172	3.082	1.07	3	1.54	0.08	0.16
Strategic Leadership	169	3.025	1.17	3	1.67	0.09	0.18
Overall Score	150	2.91	1	2.825	1.4	0.1	0.2

Table 10. Mean rankings across dimensions

Organizational Level	Dimension	Rank	Mean
Team	Collaboration and Team Learning	1	3.119
Global	Connect the Organization to its Environment	2	3.082
Individual	Continuous Learning	3	3.04
Global	Strategic Leadership	4	3.025
Individual	Inquiry and Dialogue	5	2.953
Organization	Empower People	6	2.756
Organization	Systems to Capture and Share Learning	7	2.65
	Overall Score		2.91

Supporting Question 1(b)

Is the perception of employees different from the perceptions of participants in the comparison data?

SQ1(b)$_0$: The perception of employees of SSU was not different from the perceptions of participants in the comparison dataset (Watkins & Dirani, 2013).

SQ1(b)$_1$: The perception of employees of SSU is different from the perceptions of

participants in the comparison dataset (Watkins & Dirani, 2013).

Direct comparison of means between the SSU sample and the comparison samples provided in *A Meta-Analysis of the Dimensions of a Learning Organization Questionnaire: Looking Across Cultures, Ranks, and Industries* (Watkins & Dirani, 2013) showed that the mean scores for each dimension were substantially lower than those found in the comparison set (see Figure 2). A z-test for each dimension and the overall score showed that all dimensions and overall score were significantly lower than comparison scores (CL: $z=-12.59$, $p<.0001$; DI: $z=-13.28$, $p<.0001$, TL: $z=-9.74$, $p<.0001$; ES: $z=-16.39$, $p<.0001$, EP: $z=-14.37$, $p<.0001$; SC: $z=-13.20$, $p<.0001$; SL: $z=-13.38$, $p<.0001$; OS: $z=-16.00$, $p<.0001$). The null hypothesis was rejected.

Discussion

While internal comparisons are the most powerful for understanding and affecting the learning organization dimensions, a comparison with other organizations can help garner a perspective on where SSU is positioned compared to other organizations and how the variations between and within dimensions may be similar or different. (Watkins & O'Neil, 2013).

As shown in Figure 2, the SSU sample results are all substantially lower than those in the comparison dataset provided by Watkins and Dirani (2013). The differences in dimension means ranged from -0.85 to -1.41, with an average difference across all the dimensions of -1.12 for SSU. Critically, this difference of more than a full point on the six-point scale also represented a shift from each mean in the comparison dataset being closer to "almost always" than "almost never" to the reverse at SSU.

While the comparison dataset is a mixture of different industries and organizations and so may not be a truly representative comparison, Watkins and Dirani (Marsick & Watkins, 2003) also delineated results by country (Columbia, Korea, Malaysia, Lebanon, and the USA), organizational type (governmental and non-governmental). They also provided mean scores by dimension across 26 selected published studies. Not a single study or group comparison had lower results on any dimension, or overall, than SSU. Moreover, DLOQ studies in higher education also showed higher means across all dimensions (Ali, 2012; Horváth, 2019; Perfetti, 2015; Rus, Chirică, Raţiu, & Băban, 2014; Voolaid, 2017; Voolaid & Ehrlich, 2016; Yazici & Karabag, 2019).

SSU has scope for improvement across all the learning organization dimensions even compared with meta-analyses and within the industry. This means that SSU might have many strategic leverage opportunities, and implementing carefully executed interventions could yield substantial improvements.

Supporting Question 1(c)

Is the rank-order of dimensions different from those in the comparison data?

H1d$_0$: The rank-order of dimensions is the same as those in the comparison data

H1d$_1$: The rank-order of dimensions was not the same as those in the comparison data

The order of the set of ranks for the SSU sample data was not the same as the order of the set of ranks for the comparison data ($SSU_i \neq Comp_i$). Rankings are shown in Table 11.

Discussion

The absolute difference between the two sets of rankings was 54% of the maximum potential difference. While a comparison of

means helped to understand the degree to which SSU differs from the comparison data, a comparison of ranks helped to understand the challenges or potential strategic advantages from dimensions in a normalized manner. That is, it was possible to understand how the relative position of dimension scores differed from the comparison data.

These differences are illustrative of the importance of contextual understanding of SSU's particular situation. Remedies for performance on the dimensions are a function of the organization-specific context and capacities (Marsick & Watkins, 1999).

A review of studies of HEIs using the DLOQ did reveal, however, that a common finding among HEIs was that *establish systems to capture and share learning* was the lowest-ranked dimension (Horváth, 2019; Perfetti, 2015; Voolaid & Ehrlich, 2016; Yazici & Karabag, 2019). This may mean that industry-specific constraints play a role in this dimension, but that assessment ought to be made within the context of SSU and activities and structures at hand. Regardless, SSU's mean scores on each dimension were substantially lower than others, so improvement opportunities may still be obtainable.

Figure 2. Mean scores across dimensions between SSU and comparison data
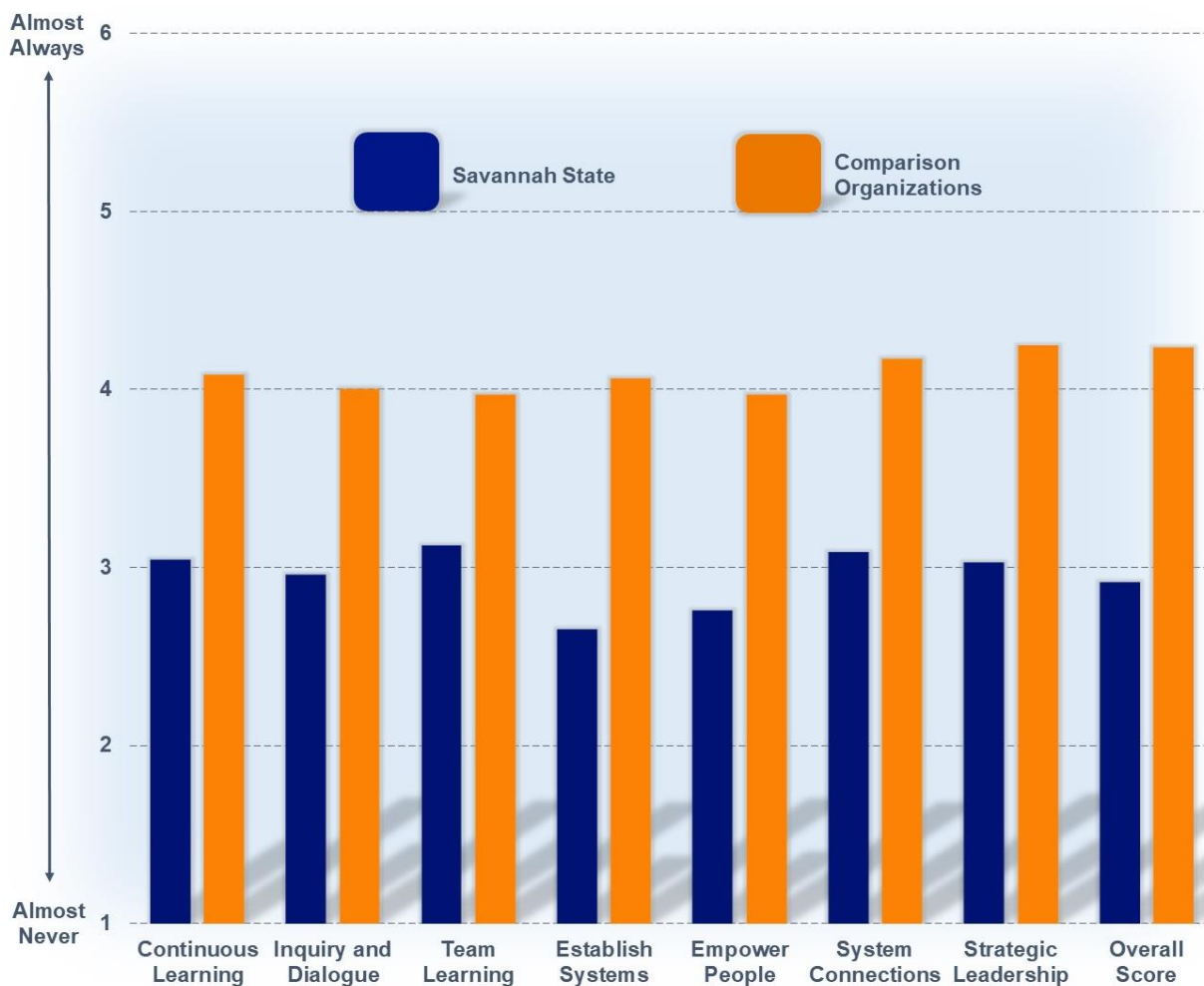
Table 11. Rankings of mean scores across dimensions between SSU and comparison data

Dimension	SSU	Comparison	SSU Rank	Comparison Rank
Team Learning	3.12	3.97	1	5
System Connections	3.08	4.17	2	2
Continuous Learning	3.04	4.08	3	3
Strategic Leadership	3.02	4.24	4	1
Inquiry and Dialogue	2.95	4	5	7
Empower People	2.76	3.97	6	5
Establish Systems for Learning	2.65	4.06	7	4

Research Question 2

What are the differences in perception between groups derived from organizational structure?

Summary

Organizational structures were associated with differences in perception or experiences of some or none of the learning organization's dimensions, and overall. The data indicate that significantly different relationships were some function of organizational structure (such as colleges or divisions). However, the effects of the organizational structure of Academic Affairs appeared to be mediated by the congruence of the job role of "staff." The findings showed that:

Employees in different academic colleges had significantly different perceptions or experiences in all dimensions, and overall.

The College of Liberal Arts and Social Sciences had a substantially different average perception from the other colleges across all dimensions. It was significantly so between itself and the College of Teacher Education and the College of Science and Technology on several dimensions.

Employees of different divisions had significantly different perceptions on some dimensions, but not others.

Effect sizes of those differences were either small or moderate.

Pairwise differences were sparse, but significant differences did exist as a function of the division.

Staff had no significantly different perception or experience within or not within Academic Affairs, suggesting that AAF's unique components compared to support divisions played little role in mediating staff experiences or perceptions.

Supporting Question 2(a)

Is the perception of employees different between academic colleges?

SQ2(a)$_0$: The perception of employees of SSU on each of the dimensions of the learning organization was not significantly different between academic colleges

SQ2(a)$_1$: The perception of employees of SSU on each of the dimensions of the learning organization is significantly different between academic colleges

Summary

Statistical analyses found a significant difference between colleges on every dimension and the overall score. Significant results and pairwise tests are summarized in Table 12. Mean scores by dimension for each college are displayed in Figure 3.

Discussion

The experience or perception of employees between the academic colleges of SSU was significantly different across all the learning organization dimensions and overall. Moreover, the effect of that difference was large across almost all the dimensions and overall. Notably, the College of Liberal Arts and Social Sciences recognized a substantial difference in mean scores from the other colleges. It was significantly different from other colleges on many of the dimensions.

While it was not possible from these data to determine whether the actual experience or merely the perception of difference was different between colleges, the marked difference was noteworthy and informative. To whatever degree the differences in perception are driven by actual differences in experience is, to a certain extent, irrelevant. Each dimension measured the extent to which employees believed the organization performed to create and maintain an environment congruent with the action imperatives of a learning organization. Even if actual experiences were homogeneous and only the perception of those experiences differed, the inferences for the university remain the same; progression toward the improvement vision of becoming more of a learning organization is contingent upon the employees recognizing and engaging in those activities and values (Watkins & Marsick, 1993).

These data suggest that some material difference exists between colleges such that employees within different organizational structures have a different experience or perception of SSU as a learning organization. This is important because it can inform practitioners of where there is scope for improvement between colleges and that any interventions should be tailored to stakeholders' different experiences or perceptions. What works for one may not work for all.

Common among all colleges (and the university overall) was that *systems to capture and share learning* was the lowest-ranked dimension. The confluence of perception in that regard may indicate an opportunity for shared improvement, but the specific perceptions of each college must be considered in the development of improvement measures; while the employees of each college have a shared deficit in *systems to capture and share learning*, how those systems interact with each college to drive improvement could be very different.

In a fictional illustrative example, College A might have some robust systems to share learning in research activities, but not curricula improvement. At the same time, College B might perform well in sharing learning from student retention efforts, but not faculty performance improvement measures. Overall, the data indicate that none of the colleges had a sufficient culture around creating systems to capture and share learning to create an overall perception of good performance in that dimension. The root causes, unit-specific factors, or institution-specific factors that do not support that culture may or may not be similar; there certainly exists some difference, but the degree to which macro-level deficiencies are a function of that difference is less clear. Furthermore, to make improvement more obtainable, it is

vital to situate it in the specific activities of people or groups (Marsick & Watkins, 1999); addressing micro-level (individual and departmental) opportunities could facilitate the creation of an environment that helps shift perceptions and performance at the meso (colleges) and macro-level (university) (Amabile & Kramer, 2011).

Table 12. Summary of significant findings across colleges

Organizational Level	Dimension	Colleges	CLASS-COST	CLASS-COTE
Individual	Continuous Learning	***(L)	***	*
Individual	Inquiry and Dialogue	***(L)	**	*
Teams	Collaboration and Team Learning	***(L)	***	
Organizational	Systems to Capture and Share Learning	*(M)		
Organizational	Empower People	**(L)	**	
Global	Connect the Organization to its Environment	***(L)	***	
Global	Strategic Leadership	***(L)	***	**
	Overall Score	***(L)	***	

Note: ****$p<.0001$, ***$p<.001$, **$p<.01$, *$p<.05$; Effect size: small=S, moderate=M, large=L

Figure 3. Mean scores by college across dimensions
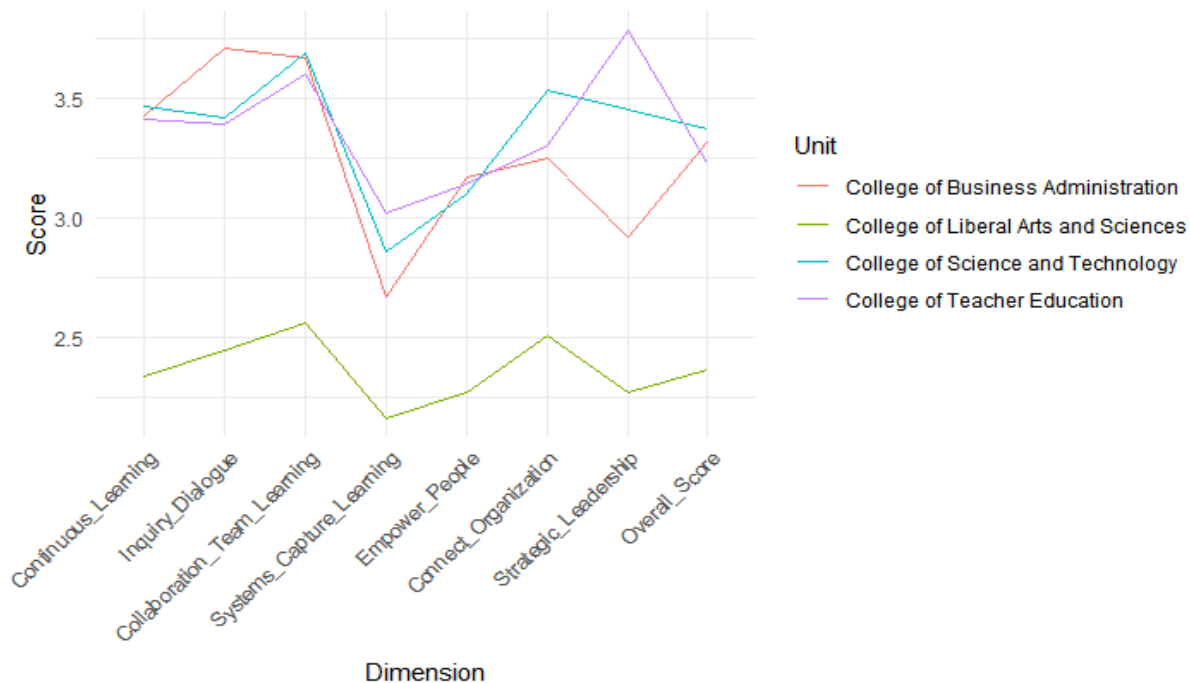
Supporting Question 2(b)

Is the perception of employees significantly different between divisions?

SQ2(b)$_0$: The perception of employees of SSU on the dimensions of the learning organization was not significantly different between divisions

SQ2(b)$_1$: The perception of employees of SSU on the dimensions of the learning organization is significantly different

between divisions

Summary

Statistical analyses found a significant difference between divisions on collaboration and team learning, systems to capture and share learning, empower people, and strategic leadership. Significant results and pairwise tests are summarized in Table 13. Mean scores for each college are displayed in Figure 4.

Discussion

While there was no significant difference in experience or perception between divisions overall, the significant differences on four of the seven dimensions provide further evidence of the heterogeneity of perception or experience between different organizational structures.

There may exist an opportunity for capturing and sharing learning from Student Affairs. There is some difference driving opinions on all the dimensions of the learning organizations on average, and significantly so in strategic leadership between Student Affairs (SA) and Academic Affairs (AAF) as well as SA and Business Services (BUS). There is a possibility that some activities or opportunities to share learning can capitalize on this area of (relative) strategic advantage to assist in seizing the opportunity of strategic leverage, at least in AAF and BUS.

The literature sparsely supports this heterogeneity of perception between divisional structures. Stothard, Talbot, Drobnjak, and Fischer (2013) studied the dimensions of the learning organization in the Australian military and found heterogeneous perceptions between divisional units. While certainly more regulated, the army shares some similarities with HEIs in the strictly divisionalized structure and entrenched hierarchy (Watkins, 2005; White & Weathersby, 2005).

Though the literature talks extensively on the effect of organizational structure on practices and cultures of HEIs (Antony, Krishan, Cullen, & Kumar, 2012; Areekkuzhiyil, 2016; Sohail, Daud, & Rajadurai, 2006; Watkins, 2005; White & Weathersby, 2005), there is little direct study of organizational structure in universities on the perceptions of the learning organization.

Table 13. Summary of significant findings across divisions

Organizational Level	Dimension	Divisions	Acad. Aff.-Stud.Aff.	Bus. Serv.-Stud. Aff.
Individual	Continuous Learning	ns		
Individual	Inquiry and Dialogue	ns		
Teams	Collaboration and Team Learning	*(S)		
Organizational	Systems to Capture and Share Learning	*(M)		
Organizational	Empower People	*(S)		
Global	Connect the Organization to its Environment	ns		
Global	Strategic Leadership	**(M)	*	*
	Overall Score	ns		

Note: ****$p<.0001$, ***$p<.001$, **$p<.01$, *$p<.05$; Effect size: small=S, moderate=M, large=L

Figure 4. Mean scores by division across dimensions
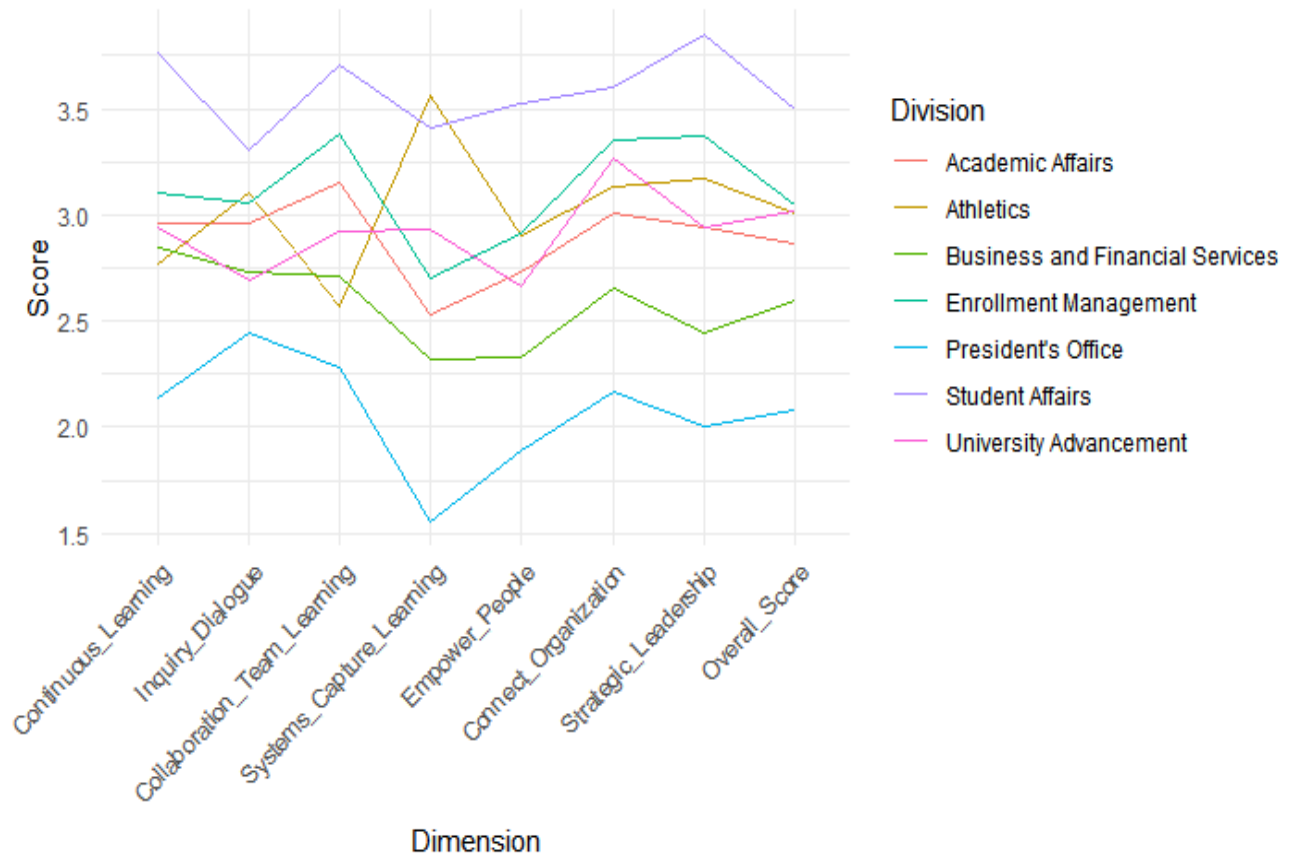
Supporting Question 2(c)

Does the perception of employees significantly differ between staff of Academic Affairs and non-Academic Affairs staff?

SQ2(c)$_0$: The perception of employees of SSU on each of the dimensions of the learning organization, and overall, was not significantly different between the staff of Academic Affairs and other divisions

SQ2(c)$_1$: The perception of employees of SSU on each of the dimensions of the learning organization, and overall, is significantly different between staff Academic Affairs and other divisions

Summary
Statistical analyses found no significant difference between AAF staff and non-AAF staff on any dimension or the overall score. Results are summarized in Table 14. Mean scores are displayed in Figure 5.

Discussion
This research question is important because the overall perception in higher education, and at SSU, is that the experiences, cultures, and activities within Academic Affairs are separate from other arms of the university. This perception is partially reinforced by the findings of supporting question 2(b), where at least on

the measure of strategic leadership, Academic Affairs is significantly different from Student Affairs. This supporting question straddles research questions 2 and 3 as it is only concerned with the perceptions of a specific job role (staff) within an organizational structure (Academic Affairs). Given that the job role of faculty rarely exists in divisions other than Academic Affairs, testing the perceptions of AAF and "not-AAF" within the only job role that exists substantially in both can shed light on the extent to which organizational structure has an impact on the perception of the dimensions of the learning organization for employees with the same job role. It was shown in research question 3 that at least some dimensions are perceived as significantly different (albeit with a small effect size) between faculty and staff. This question seeks to determine (at least for the perception of staff in AAF and not in AAF) whether that effect is mediated by organizational structure.

The findings showed no significant differences in the perception of the learning organization at SSU between the staff of Academic Affairs and those not in Academic Affairs. This provided some evidence that at least some of the difference between AAF and not-AAF is a function of job role rather than organizational structure. This finding was surprising because this might suggest that the real differences between the areas (faculty administrators, unit mission, educational focus, etc.) were not associated with a difference of experience or perception of the area's staff. This might indicate that systems, cultures, and activities permeate organizational structures when the job role (of staff) is aligned. Succinctly, staff in Academic Affairs had a similar experience or perspective of staff not working within the same structure.

Table 14. Summary of significant finding between AAF staff and non-AAF staff

Organizational Level	Dimension	Emp Type
Individual	Continuous Learning	ns
Individual	Inquiry and Dialogue	ns
Teams	Collaboration and Team Learning	ns
Organizational	Systems to Capture and Share Learning	ns
Organizational	Empower People	ns
Global	Connect the Organization to its Environment	ns
Global	Strategic Leadership	ns
	Overall Score	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05; Effect size: small=S, moderate=M, large=L

Figure 5. Mean scores by AAF staff and non-AAF staff across dimensions
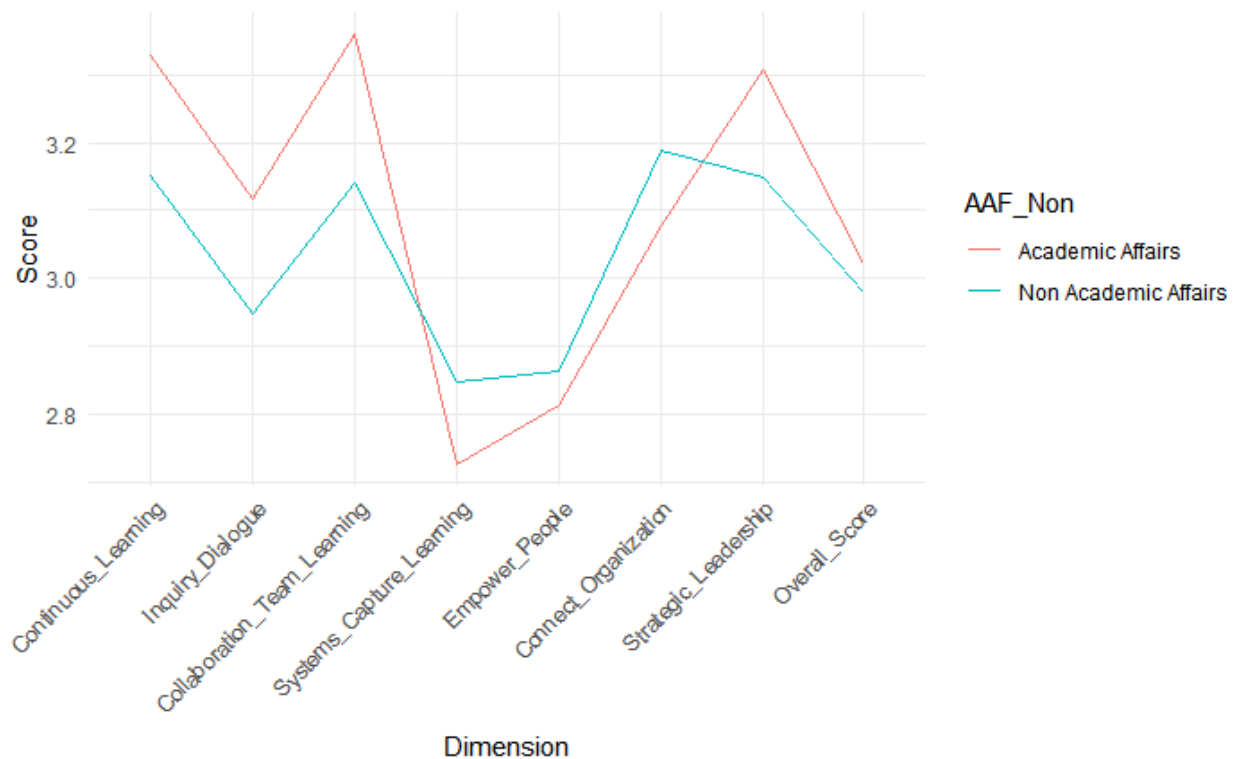
Research Question 3

What are the differences in perception between groups derived from job roles?

Summary

Job roles were associated with differences in perception or experience on some of the dimensions of the learning organization, but not overall. When differences were evident, the effect of those differences were small. Faculty and staff as well as leadership and "not leadership" experienced or perceived the university in different ways as a learning organization, but those differences were only in some dimensions and did not affect results substantially. Therefore, it is possible that while differences in job roles were associated with some shifts in perspective or opinion, the prevailing cultures and practices of the organization are also a significant factor. While interventions and improvement activities ought to be relevant and context-specific (Marsick & Watkins, 1999), these findings are powerful in that opportunities for improvement at SSU might be shared by the entire community and could more comprehensively be enveloped into the institutional values, practices, and culture.

Supporting Question 3(a)

Is the perception of employees significantly different between faculty and staff?

SQ3(a)$_0$: The perception of employees of SSU on the dimensions of the learning organization was not significantly different between faculty and staff

SQ3(a)$_1$: The perception of employees of SSU on the dimensions of the learning organization is significantly different between faculty and staff

Summary

Statistical analyses found a significant difference between faculty and staff for *continuous learning*, *systems to capture and share learning*, and *strategic leadership*, but not on any other dimension or the overall score. Significant results are summarized in Table 15. Mean scores by dimension for faculty and staff are displayed in Figure 6.

Discussion

The data indicated that experiences or perceptions between faculty and staff were not homogenous for *continuous learning*, *establish systems to capture and share learning* and *strategic leadership*. However, the effect sizes of those differences were small. Consistent with the findings of all employees, no mean value for any dimension or overall was closer to "almost always" than "almost never."

HEIs are highly stratified environments with employees often sorted into "castes" of faculty or staff (Florenthal & Tolstikov-Mast, 2012; Henderson, 2005). Therefore, it is interesting to recognize that while differences between these castes were associated with differences in *continuous learning*, *establish systems to capture and share learning* and *connect the organization to its environment*, the other dimensions, or overall, did not reveal such differences. Even when there were differences, it did not affect the results to a great degree. This, perhaps, could suggest that the experiences or perceptions of faculty and staff have some degree of overlap relating to their shared experiences of the university culture and activities and within their sub-cultures and communities. Given that the survey asked respondents for their perspective of the organization at large, these results supported the idea that while the effects of job role are associated with some differences, the practices and culture SSU permeate to some degree through role stratification.

The differences between faculty and staff on the dimensions could be informed, at least partially, by the groups' different work activities. Faculty learning incorporates activities, values, and foci unique to their function, such as research, pedagogy, and respective academic disciplines. Survey questions within *continuous learning*, for example, could represent very different things to faculty than staff. The questions of "At SSU, people can get money and other resources to support their learning" (faculty mean=2.57, staff mean=3.34) and "At SSU, people are given time to support their learning" (faculty mean=2.75, staff mean=3.48) could mean very different things to each group. Money and resources to support learning, to faculty, could represent time (in the form of course releases) to engage in more research activities, funding to support research projects, travel support for academic conferences, and more. To staff, understanding this question might be more limited to training opportunities or less frequent or substantial travel to conferences. The same considerations could equally apply to the second question. While the underlying basis of the questions, "do you get the things and time you need to learn?" was common between the groups, the actualization of those concepts was starkly different.

Table 15. Summary of significant findings between faculty and staff

Organizational Level	Dimension	Emp Type
Individual	Continuous Learning	**(S)
Individual	Inquiry and Dialogue	ns
Teams	Collaboration and Team Learning	ns
Organizational	Systems to Capture and Share Learning	*(S)
Organizational	Empower People	ns
Global	Connect the Organization to its Environment	ns
Global	Strategic Leadership	**(S)
	Overall Score	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05; Effect size: small=S, moderate=M, large=L

Figure 6. Mean scores by faculty and staff across dimensions
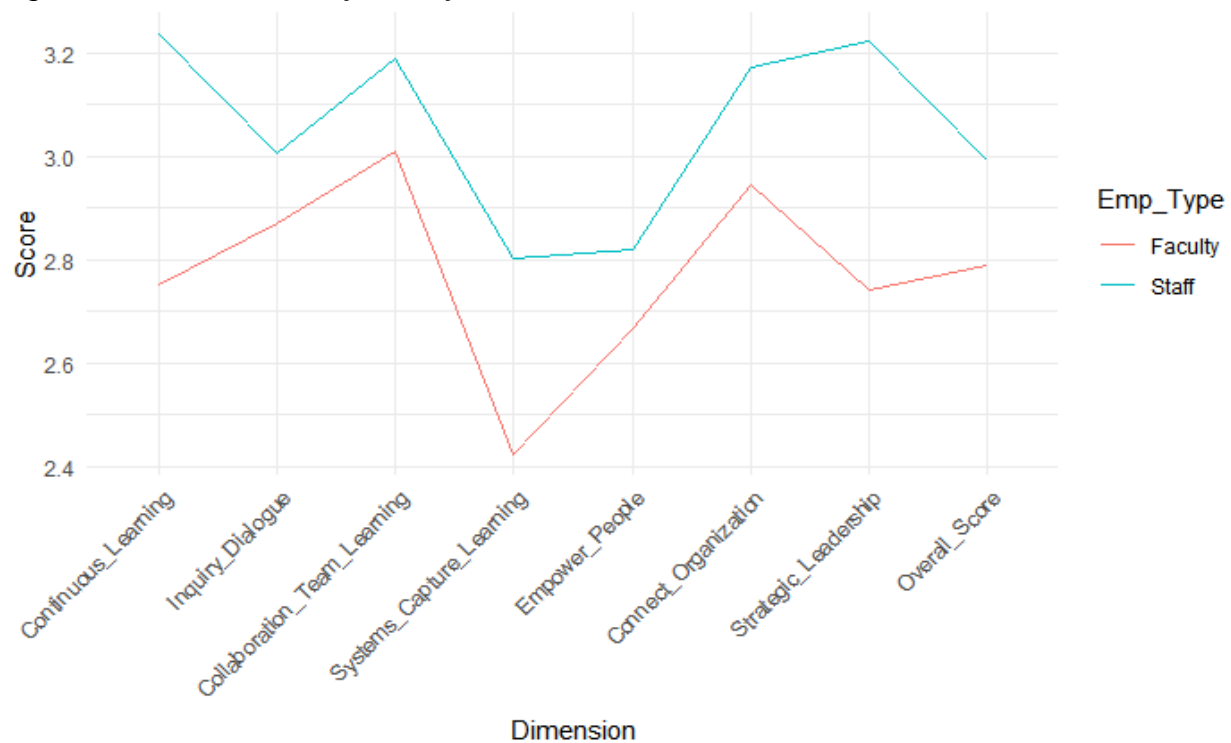
Supporting Question 3(b)

Is the perception of employees significantly different between leadership and non-leadership?

SQ3(b)$_0$: The perception of employees of SSU on the dimensions of the learning organization was not significantly different between leadership and non-leadership

SQ3(b)$_1$: The perception of employees of SSU on the dimensions of the learning organization is significantly different between leadership and non-leadership

Summary

Statistical analyses found a significant difference between faculty and staff on *establish systems to capture and share learning* and *empower people*, but not on any other dimension or the overall score. Significant results are summarized in Table 16. Mean scores by dimension for faculty and staff are displayed in Figure 7.

Discussion

Although with a small effect size, the only significant differences in perception or experience of the dimensions between leadership and non-leadership were in the organizational level of "organizational." Leadership was significantly different (lower) than non-leadership. This finding is interesting because these dimensions measure the areas that are the most within the scope of control and influence of leadership. While all dimensions can be influenced by leaders, and indeed all employees, leaders are more directly responsible for developing organizational capacities.

Particularly notable was that leadership perception or experience did not significantly differ on the global level from non-leadership. The global level measures the extent to which employees recognize the effect of their work on the organizational system as a whole and the interaction and acknowledgment of system processes that affect the entire organization. It also measures how people perceive that the organization is linked to its communities and how information from the overall environment is used to adjust work practices. Finally, it measures how leaders model and support learning and use learning to strategically meet organizational goals (Marsick & Watkins, 2003). The fact that leaders had less satisfaction with the organizational level but not significantly more or less satisfied with the higher-order global perspectives certainly warrants further study to unpack. It is possible that this finding suggests that leadership at SSU was more entrenched in the management of the organization (improving how we *do* things) than with the leadership of the organization (how we *define, align,* and *achieve* goals) (Bush, 2008; Cuban, 1988).

Table 16. Summary of significant findings between leadership and non-leadership

Organizational Level	Dimension	Emp Type
Individual	Continuous Learning	ns
Individual	Inquiry and Dialogue	ns
Teams	Collaboration and Team Learning	ns
Organizational	Systems to Capture and Share Learning	*(S)
Organizational	Empower People	*(S)
Global	Connect the Organization to its Environment	ns
Global	Strategic Leadership	ns
	Overall Score	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05; Effect size: small=S, moderate=M, large=L

Figure 7. Mean scores by leadership and non-leadership across dimensions
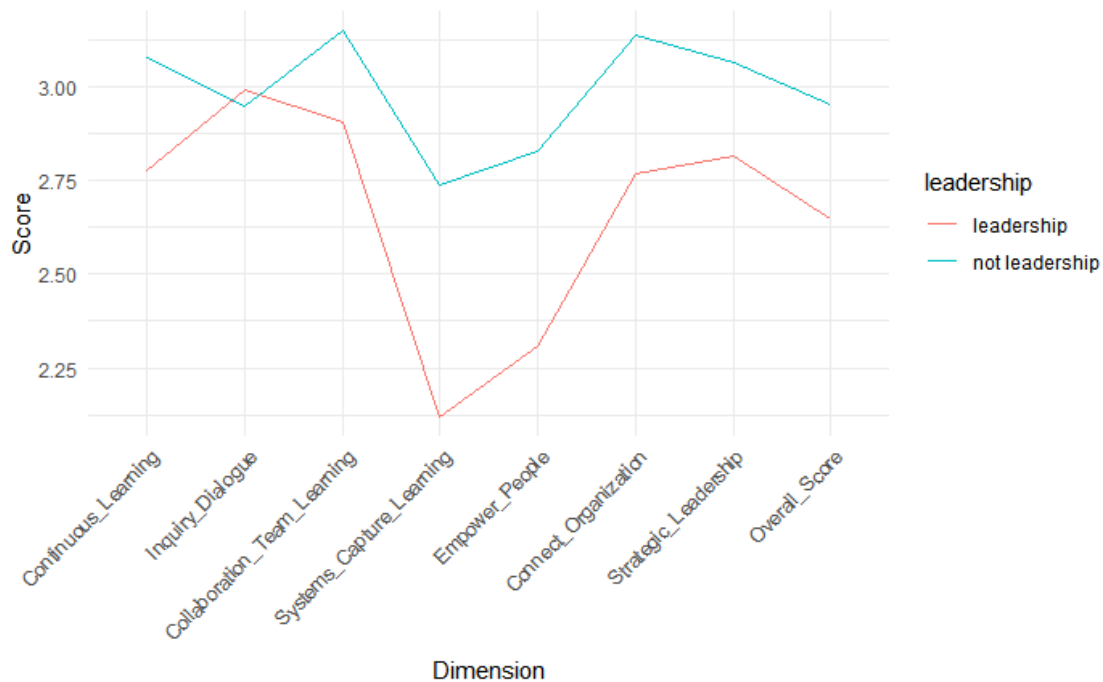
Research Question 4

In what dimensions among which groups does Savannah State University have the greatest potential for improvement?

Summary

The rank-order of dimensions were not the same for each group. *Establish systems to capture and share learning* and *empower people* were frequently among the lowest-ranked items across almost all the groups. This suggests that a common thread of areas of strategic leverage may exist throughout groups that could be part of a larger organization intervention. There is a widespread of highest-ranked values between groups. These group-specific advantages might have the potential to drive improvements in other groups.

Supporting Question 4(a)

Is the rank-order of dimensions the same for all groups?

SQ4(a)$_0$: Despite potentially significant differences between groups, the rank-order of dimensions is the same for all groups

SQ4(a)$_1$: The rank-order of dimensions was not the same for all groups

Summary

The rankings for each dimension within each group are shown in Table 17. The rankings of dimensions were not the same for all groups. The null hypothesis was, therefore, rejected. Within grouping categories, no two groups had the same ranking order of dimensions. The range of rankings across dimensions within categories showed homogeneity in several dimensions within some categories. Conversely, this analysis also showed several dimensions within categories where agreement between groups on the order of dimension was not as tight. The range of rankings across dimensions by category is shown in Table 18.

Discussion

The rank order of *establish systems to capture and share learning* and *empower people* was fairly consistently determined to be among the lowest-ranked dimensions (except for the Athletics division on *systems to capture and share learning*). There was a convergence of perception on several other variables within categories but less so across categories. This finding is powerful because not only were *empower people* and *establish systems to capture and share learning* the lowest scoring dimensions among all employees, but employees tend to share that

perspective regardless of membership of any grouping.

On the other hand, the range of rankings within categories showed numerous dimensions where the perception of the order was not commonly shared. While the range of ranking analysis was not sensitive to the significance of differences between groups like the previous analyses, it did show where general agreement or disagreement might exist regarding the ordering of dimensions' scope for improvement.

Table 17. Ranking across divisions within group

Research Question	Category	Group	CL	DI	TL	ES	EP	SC	SL
RQ2	AAF Staff/Not	AAF Staff	2	4	1	7	6	5	3
RQ2	AAF Staff/Not	Non-AAF Staff	2	5	4	7	6	1	3
RQ2	College	CLASS	4	3	1	7	6	2	5
RQ2	College	COBA	3	1	2	7	5	4	6
RQ2	College	COST	3	5	1	7	6	2	4
RQ2	College	COTE	3	4	2	7	6	5	1
RQ2	Division	Acad. Aff.	4	3	1	7	6	2	5
RQ2	Division	Advancement	2	6	5	4	7	1	3
RQ2	Division	Athletics	6	4	7	1	5	3	2
RQ2	Division	Bus. Services	1	2	3	7	6	4	5
RQ2	Division	Enrollment	4	5	1	7	6	3	2
RQ2	Division	Presid. Off.	4	1	2	7	6	3	5
RQ2	Division	Stud. Aff.	2	7	3	6	5	4	1
RQ3	Fac/Staff	Faculty	4	3	1	7	6	2	5
RQ3	Fac/Staff	Staff	1	5	3	7	6	4	2
RQ3	Lead/Not	Leadership	4	1	2	7	6	5	3
RQ3	Lead/Not	Not Lead.	3	5	1	7	6	2	4

Table 18. Range of rankings across divisions within categories

Category	CL	DI	TL	ES	EP	SC	SL
AAF Staff/Not	0	1	3	0	0	4	0
College	1	4	1	0	1	3	5
Division	5	6	6	6	2	3	4
Fac/Staff	3	2	2	0	0	2	3
Lead/Not	1	4	1	0	0	3	1

Supporting Question 4(b)

What are the highest and lowest mean scores in dimensions amongst all the groups?

The mean scores of dimensions by group are displayed in Table 19*.*

Discussion

Reviewing highs and lows within grouping categories can help organizations understand each grouping's overall profile and determine how relative advantages in some areas can be used to support areas of strategic leverage (Marsick & Watkins, 1999). Consistent with the ranking findings, *establish systems to capture and share learning* is the most common theme for the lowest score among groups, but the highest score shifts across different dimensions between groups.

Results Summary

The most important finding of the survey analysis was that Savannah State University has significant scope for improvement across all learning organization dimensions. As an institution, no mean score for any dimension was closer to "almost always" than "almost never." Further, when stratified by groups on organizational structure or job role, no group had an overall mean score that was closer to "almost always" than "almost never." Some specific dimensions within some groups crossed this threshold, but never by more than 0.35 points. SSU's dimension results were all lower than comparison data in the literature and lower than comparable HEI studies.

The perception of the employees of SSU was that SSU forsakes practices and beliefs congruent with the measures of a learning organization more often than not.

The experiences of employees were not homogenous, however.

Organizational structures were associated with significant differences in the perceptions or experiences of employees.

The degree to which those differences were significant, the dimensions in which they occurred, and the effect of those differences were all dependent upon the structural form analyzed.

Furthermore,

the job role of employees was associated with significant differences in the perceptions or experiences of employees.

However, the differences associated with job roles were less frequently significant, and when significant, they always had a small effect size. These differences are supported by the literature (Marsick & Watkins, 1999; Perfetti, 2015; Stothard et al., 2013). The importance of group-level analysis of differences to build an understanding of an organization's overall profile and facilitate organizational engagement in unpacking contextual factors that may explain those differences is emphasized by the DLOQ authors (Marsick & Watkins, 1999).

Table 19. Mean scores across divisions by group

Category	Group	CL n	CL mean	DI n	DI mean	TL n	TL mean	ES n	ES mean	EP n	EP mean	SC n	SC mean	SL n	SL mean
Ac.Staff/Not	AAF Staff	37	3.328	37	3.117	36	3.361(H)	34	2.725(L)	33	2.813	34	3.078	32	3.307
Ac.Staff/Not	Non-AAF Staff	66	3.152	64	2.948	67	3.142	63	2.847(L)	64	2.862	66	3.189(H)	64	3.148
College	CLASS	33	2.338	33	2.444	32	2.557(H)	32	2.161(L)	33	2.268	33	2.505	33	2.273
College	COBA	4	3.429	4	3.708(H)	4	3.667	4	2.667(L)	4	3.167	4	3.25	4	2.917
College	COST	36	3.464	34	3.422	33	3.692(H)	31	2.855(L)	32	3.104	32	3.536	33	3.455
College	COTE	8	3.411	9	3.389	8	3.604	8	3.021(L)	7	3.143	6	3.306	7	3.786(H)
Division	Acad. Aff.	108	2.946	106	2.956	104	3.147(H)	100	2.533(L)	102	2.727	102	3.005	101	2.939
Division	Advancement	12	2.94	12	2.694	13	2.923	12	2.931	12	2.667(L)	12	3.264(H)	11	2.939
Division	Athletics	5	2.771	5	3.1	5	2.567(L)	5	3.567(H)	5	2.9	5	3.133	5	3.167
Division	Bus. Serv.	18	2.841(H)	17	2.735	17	2.716	18	2.324(L)	17	2.333	17	2.657	17	2.441
Division	Enrollment	10	3.1	9	3.056	10	3.383(H)	10	2.7(L)	10	2.917	10	3.35	10	3.367
Division	Presid. Off.	3	2.143	3	2.444(H)	3	2.278	3	1.556(L)	3	1.889	3	2.167	3	2
Division	Stud. Aff.	19	3.759	18	3.306(L)	20	3.708	16	3.406	18	3.528	20	3.6	19	3.851(H)
Fac/Staff	Faculty	72	2.752	69	2.87	69	3.01(H)	67	2.423(L)	70	2.667	69	2.947	70	2.743
Fac/Staff	Staff	105	3.238(H)	105	3.008	107	3.19	100	2.802(L)	100	2.818	103	3.173	99	3.224
Lead/Not	Leadership	20	2.779	21	2.992(H)	21	2.905	21	2.119(L)	21	2.31	21	2.767	20	2.817
Lead/Not	Not Lead.	156	3.08	152	2.95	154	3.153(H)	145	2.738(L)	148	2.831	151	3.138	148	3.065

Note: Highest in group=H; lowest in group= L

Limitations

The study included internal validity limitations. Firstly, the survey, which was open to all full-time employees, had a response rate of 30.4%, meaning there was a non-response bias of 69.6%. This participation bias may have inflated the error rates and caused the sample of participants not to reflect the entire population's opinions accurately. Furthermore, the sample's representativeness may have been affected by demographic differences between respondents and the population, which was more than 10% for men.

The survey questions asked employees to provide their perception of nonspecific concepts such as "supporting learning," which may have been interpreted differently by different people, potentially resulting in survey bias. Further, responses to the survey may have been influenced by the employees' perspectives at that moment or in reaction to prevalent but transitive or recent activities. Observation bias may have been increased by the interaction of the institution's president inviting and reminding participants of the survey. If respondents believed that their responses might be identifiable, it might have affected their responses.

Measurement bias may also have occurred because of employees' desire to frame themselves or their communities or units in a certain way, particularly if they believed that the survey results might be used to make decisions that are beneficial or harmful to them in the future.

While the study is designed to be representative only of SSU, assumptions or use of the results of the study in a context beyond SSU are not generalizable. Furthermore, the study seeks to measure the organizational learning culture of SSU, but it does not include perspectives from stakeholders outside of full-time employees. These stakeholders include, but are not limited to, part-time employees, students, vendors, community members, and governing bodies.

Recommendations

Learning to Improve

The problem of practice addressed in this paper is that the university does not have the information to diagnose its current situation to respond to future situations more effectively. To develop a cohesive vision, improve operational and financial performance, and maximize potential, the institution must begin to understand itself better. The literature suggested that adopting the practices and beliefs associated with the learning organization can improve financial performance, knowledge performance, develop and achieve common goals, and respond to challenges (Marsick & Watkins, 1999; O'Neil, 2003; Senge, 1990/2006). This study showed that the employees of Savannah State University perceive that the university forsakes practices and beliefs congruent with the measures of a learning organization more often than not. This study also showed that organizational structure and job role are associated with significant differences in the perception of university performance as a learning

organization. Therefore, it can be concluded that SSU has room for improvement in becoming a learning organization, can improve its performance by adopting the principles of the learning organization, and the employees understand and experience the institution in different ways. The proposed intervention framework is drawn from these assertions.

Intervention Framework

This study's results and the rich data from its survey provide SSU with an invaluable tool to build its learning foundation. The framework extends from Marsick and Watkins' (1999) learning organization action imperatives framework by applying the same underlying principles from action learning (Pedler et al., 1991) and action science (Argyris & Schön, 1978) and positioning it within the SSU context and findings of this study on the perceptions of its employees. The framework is designed to represent an ongoing philosophy of understanding the organization and its experiences and perceptions to conceptualize ways to improve in a way that considers the overall system (Senge, 1990/2006) through the lens of the seven action imperatives (Marsick & Watkins, 1999). The following sections outline the initial step of building collective sensemaking and learning foundation, an example of a context-based intervention, and an iterative process of information feedback, understanding and reconceptualizing, acting, and measuring. The intervention framework is represented in Figure 8.

Figure 8. Intervention framework
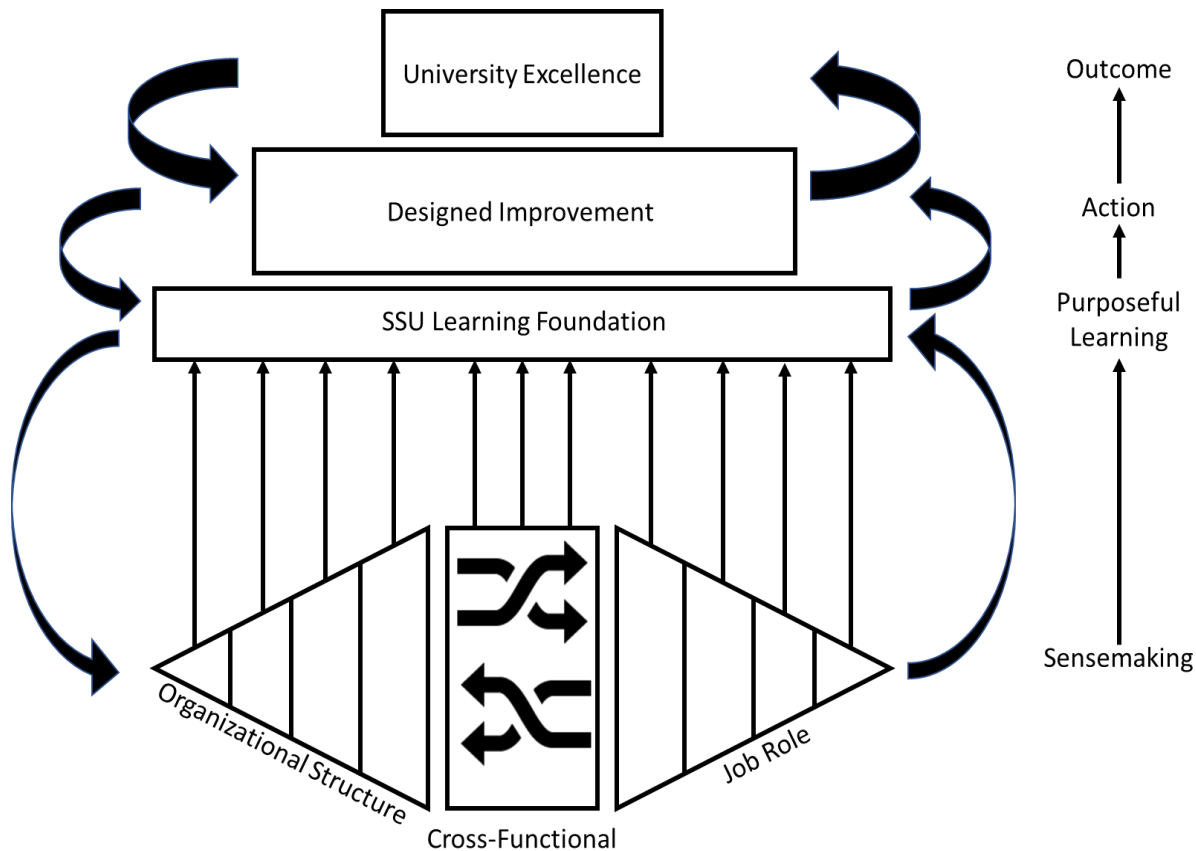
Initial Sensemaking

In *Facilitating Learning Organizations*, Marsick and Watkins (1999) discuss the importance of contextual application and understanding of organizations in achieving lasting and effective change. They term this process "sculpting."

The metaphor of sculpting can help to understand how companies design interventions that suit their specific local needs…Sculpting requires artistic judgment as well as rigorous knowledge and skill in order to make sense of the emergent design (p.17).

In addition, the results of this study underscore the importance of contextual appreciation and application as job roles and organizational structures are associated with differences in employee perception or experience. This initial sensemaking step is designed to encourage individual and organizational understanding of the university, its challenges and opportunities, and its intertwined systems that interact to produce outcomes. This process is driven by the lower portion of the framework shown in Figure 8.

Initial Sensemaking Process Guide

Figure 9. Organizational structure sensemaking
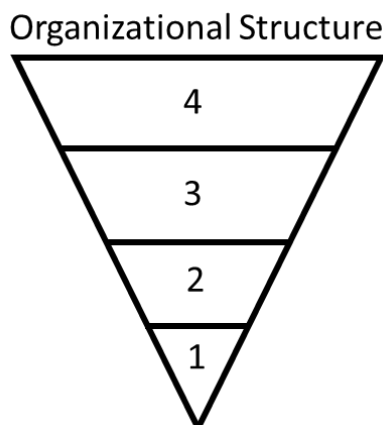
The process begins by allowing the organizational structure to rationalize and understand this study's findings and the survey results. In step 1, the president and cabinet meet to digest and discuss the results. Step 2 repeats the process, but with each cabinet member's division leaders. Step 3 continues down the hierarchy with departmental leaders. Step 4 is the functional employees of each department.

Figure 10. Cross-functional sensemaking
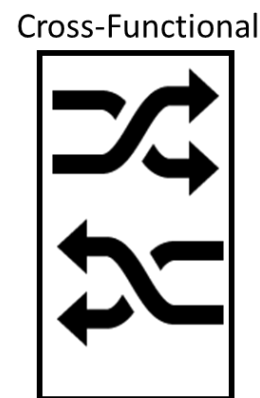
The cross-functional stage of the sensemaking process takes small groups of different types of employees from different areas of the institution. There should be as many small groups as is feasible for the institution.

Figure 11. Job role sensemaking
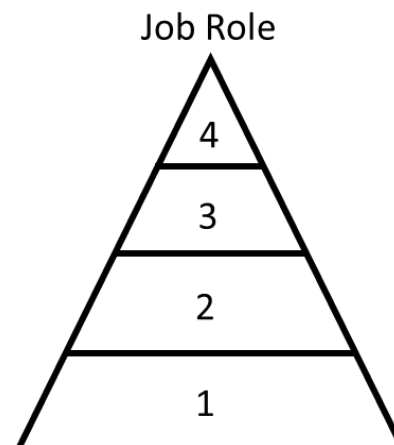
The final stage of sensemaking moves discussions back through the employees

by job type. In step 1, small groups of faculty from different departments and colleges and small groups of staff from different departments and divisions engage in dialogue. As with the cross-functional stage, this should be as many small groups as is feasible. Step 2 has small groups of managers from different

divisions dialogue. Step 3 continues with all division leaders before moving finally to step 4 back with the cabinet.

Table 20 outlines the activities and participants at each stage of the sensemaking process.

Table 20. Table of activities

Category	Step	Length	Leader	Participants
Org Structure	1	Half Day	President	Cabinet
Org Structure	2	Half Day	Cabinet member (VP)	Division Leaders (Deans, Assistant Vice Presidents, Upper Managers)
Org Structure	3	2 Hours	Division leader	Department leaders (Chairs, Managers)
Org Structure	4	2 Hours	Department leader	Department employees (faculty, staff)
Cross-functional		1-2 Hours	Facilitating Volunteer	Small groups of mixed employees
Job Role	1	1-2 Hours	Facilitating Volunteer from management	Small groups of faculty or functional staff - from different units/areas
Job Role	2	1-2 Hours	Facilitating Volunteer from upper management	Small groups of managers from different units/areas
Job Role	3	Half Day	Facilitating Volunteer from the cabinet	All division leaders (Deans, Assistant Vice Presidents, Upper Managers)
Job Role	4	Half Day	President	Cabinet

Sensemaking Activities

The workshops and meetings' activities use this study's findings and the results from the survey as a conversation starter to allow employees to critically analyze how the findings describe the organization, their units, their roles, and their experience. Employees can compare their views to others, interpret the meanings of

different results, hypothesize about underlying contributors to the results, and begin to unpack how they might address issues or capitalize on strengths. The meetings should be loosely structured to allow for free-flowing conversation and the sharing of learning and perspectives. The conversation prompts to stimulate discussion are:

- Where were the highest scores? What does this mean? How can this help us to improve more or improve other areas?
- Where were the lowest scores? What does this mean? How might we begin to improve this?
- In reviewing the responses to each question, which findings are interesting? How?
- How do these results overall, or any of the results, fit the picture of how things are at SSU? Does it support presumptions you already held? Does it challenge any of those presumptions?
- Can improvement in any of these areas help drive us where we want to go? What does that look like?
- What are the most feasible and important areas that we can start to improve on now? What might some of those actions look like?
- What aspects of your experience concerning these findings do you believe are unique or insufficiently recognized by others in the institution? Do others' activities and actions impact this?

Each conversation group should share similarities and have differences as they analyze subsets of the data relating to their areas and overall. As time allows or is opportune or relevant to any group (such as the half-day workshops at the upper levels), conversations and activities can become more in-depth or specific. For example, the cabinet discussion might drive detailed discussions in the next steps in rewriting the university strategic plan – asking of themselves, what are we learning from this data and these conversations? They might want to design that process to begin the strategic planning process. Alternatively, they might conclude that the results of the questions on morale are particularly important and start working on specific action steps to improve it. Context is vital here – it should not be presumed what activities or discussions will occur. Instead, they should grow from the process.

This process's flow is particularly important; many employees will participate in at least two conversations, some in more. The exchanges should, therefore, be able to build as the activities progress. Each conversation has a leader from the next group to bring their new learning from prior discussions into the next. To illustrate one path, the Provost will be a part of the cabinet-level workshop then lead a conversation with her deans and directors. Each of those deans and directors then leads the talks with the department chairs and managers. Each of those department chairs and managers then leads a conversation with their faculty and staff employees. These participants might engage in some of the cross-functional small groups, taking their prior learning and perspectives into the next meeting. Many faculty and staff employees will then take their learning to small groups of like employees from other areas, challenging, supporting, or adding to their assumptions and perspectives. Department chairs and managers will engage with chairs in other colleges and managers from other colleges and divisions, deans with other upper management from other divisions until the whole process then distills back to its original starting point of the cabinet carrying with it the perspectives and learning of the entire organization.

The output of each conversation should be distilled notes of the discussion. These notes can then be compiled to form the basis of data for building the SSU Learning Foundation (see Figure 12).

Figure 12. Building the learning

foundation
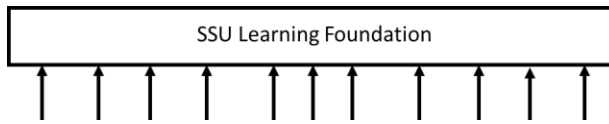
The SSU Learning Foundation represents the collective mental-models, shared learning, and action priorities of the entire community. From this foundation, all employees can contextualize future actions from their experience of the sensemaking process – acting as an implicit driver toward shared goals. More transactionally, this foundation and the supporting data from conversation notes can be used by employees throughout the organization to design interventions to drive improvement purposely. Not only can the foundation provide a more collectively informed perspective, but it can also act as a guide for bringing-in appropriate parties in intervention design as interactions throughout the organizations will be more communally recognized.

Intervention Theory

This process of sensemaking is designed to be a meta-construct in that the activity itself supports the development of the organization across all of the seven dimensions of the learning organization while providing organizational capacity to learn about itself to design new activities and mental models to improve performance on the dimensions.

The sensemaking process supports the learning organization dimensions in the following ways:

Create continuous learning opportunities

Discussions at every level open continuous learning opportunities by tethering employees from all around the institution with each other in dialogue. For example, an advisor might learn about pedagogical constraints in the curriculum that she hitherto believed to be nonsensical, which might reframe her understanding and, therefore, her interaction with students. Perhaps employees in business services that were previously frustrated that faculty violate travel policies or do not complete reimbursement processes correctly could learn from the perspectives of those faculty who themselves might be frustrated with burdensome bureaucracy. This shared learning can uncover opportunities to, for example, establish systems to capture and share learning about the travel reimbursement process to improve outcomes. This might lead to shifts in policy interpretation as business services staff recognize the imperative for faculty to perform some academic action that did not make sense to them and was thought to not be within policy because of a policy on the "clear benefit to the institution." On the other side, faculty might learn of audit requirements for certain types of documentation and become less frustrated and more informed about what and why items are needed. These examples, of course, are just two of a potentially unlimited number of learning opportunities that can drive improved performance.

Promote inquiry and dialogue

The process is, prima facie, a promotion of inquiry and dialogue. Further, it can serve as a seed to connect people to drive more inquiry and dialogue in other activities. The activity is designed to stimulate a cultural norm of interpersonal dependence and interaction. Many employees who might even have interacted in the past can now "put a name to a face" or be more aware of who can help them or with whom they might want to dialogue.

Encourage collaboration and team learning

Again, the process is self-evidently an encouragement of collaboration and team

learning. It also expands on the conceptualization of teams. Teams are often thought of in terms of the organizational hierarchy, but the sensemaking activities enable employees to recognize their membership in other groups and opportunities for collaboration with others– faculty outside of their discipline, staff throughout divisions, deans with other divisional leaders, and many more.

Establish systems to capture and share learning

The activity of participating in the process enables the sharing of learning. The collection of the output notes from each discussion and making those notes and thematic summaries of the notes available to the entire campus captures that learning for future sharing. The SSU Learning Foundation, if adopted and entrenched into the culture, can continue to be an invaluable system to tie activities to the understandings and goals of the entire organization.

Empower people towards a collective vision

The sensemaking activities are designed to connect employees to share their perspectives, mental-models, and ideas of future activities and directions. This process itself is empowering as it establishes an institutional commitment to participative action. Future interventions or directions will be borne from these inputs and will continue to be guided by the community. The SSU Learning Foundation will be a tool from which any employee can be empowered to act within their area to further the goals collectively produced. This shared learning can form a guiding light that is then contextualized and applied to be relevant and impactful to areas that can differ from one another.

Connect the organization to its environment

While the process is mainly inward-facing, it does allow employees to engage in systems-thinking to recognize how their actions and interaction affect others. This connection is vital in breaking down silos and preventing unintended consequences downstream or antagonistic outputs that detract from larger objectives.

Strategic Leadership

These conversations allow all employees to engage more deeply in strategic leadership by improving their understanding of system interrelationships and guiding principles when taking action. They provide a space for leaders to model the kind of thought and activities they want to instill in the organization, referentially in everyday activities by pointing to conversations, findings, and summary outputs and systematically by driving activities toward specific directions agreed upon by the community.

Context-Based Intervention

It is imperative to note that any interventions are seeded from the shared learning developed in creating the SSU Learning Foundation. The decision of what interventions, how they might be accomplished, measured, enacted, or adjusted ought to be contextually relevant. The establishment of the SSU Learning Foundation should empower people to act, on large and small scales, throughout the organization in ways that are beneficial to their areas and the organization. Therefore, we should not prescribe any specific intervention until that learning process is complete (and ongoing). However, to model what context-based interventions might look like, an illustrative example is necessary. In this illustrative

example, it is assumed that an outcome of the sensemaking process was that faculty and leadership lacked a cohesive impression of the overall profile of academic programs, faculty needs, student needs, and data to support it. While most employees could recognize specific things that needed improvement (a redesign of a certain course to improve pass rates, for example), there was not a collective understanding of how it all fits together, where pressure points existed, or where good performance could be capitalized on to further improvements elsewhere. To **connect the organization to its environment,** an intervention could be developed.

Department Profiles and Data Sharing

In this illustrative example, it is assumed that the sensemaking process revealed that while SSU had a significant amount of data that could support a more comprehensive impression of departments and programs, it was used to varying extents, was not uniformly available to similar employees in different areas and was used primarily to answer specific questions rather than to illuminate thematic or connected ideas or more comprehensive understanding.

To combat these shortcomings and **connect the organization to its environment** and **develop a system to capture and share learning,** a dashboard could be created to provide leaders and faculty with the information and the opportunity to share perspectives on that information. A call for information facilitated by department heads should informally survey the faculty and chairs to identify what information might be useful to know.

This example assumes that the call produced the following needs:

- Waitlist information to determine where students are not successfully getting the classes they need
- Information about course offerings including class sizes and fill rates to identify where slack capacity or lack of capacity might exist
- The reliance on part-time faculty by subject area to determine where faculty line allocations might be needed
- Failure rates of courses (the percentage of students that earn a "D," "F" or withdrew) to identify potential roadblocks to student success and retention
- Retention rates of students over time in different programs to recognize potential practices of successful programs and determine interventions for those that are struggling
- Graduation rates of programs for the same reasons as above
- The teaching productivity of faculty members to identify where inequities might exist or where potential capacity or constraints could be addressed
- The change in declared majors in each program over time to see which programs are growing and which are not

A dashboard providing all of this information could drive improvement by **connecting the organization to its environment** by showing the environmental outcomes of their activities and doing so in a way that can help employees engage in **collaboration and team learning** by collectively digesting the information in a more uniform way meaning they can all discuss activities in relation to the same information presented in the same way, facilitating communication and reducing information or interpretation disconnects. The dashboard would provide **continuous learning opportunities** as faculty are apprised of their work outcomes and understand their implications in the

university's success. It would **promote inquiry and dialogue** as information that was not previously available or discussed stimulates discussion in what the information means and how it can be affected. It would be itself a **system to capture and share learning** and stimulate less structured systems to share learning as departments react to the information and drive their own processes to share learning and develop interventions to affect the data. It could help to **empower people toward a collective vision** as the information provided came from the faculty as they identified needs. Finally, it would stimulate **strategic leadership**. It uncovers university opportunities and areas of advantage that leaders can use to model proactive behaviors to address shared goals and encourage others to do the same, ultimately shifting campus culture around these data.

The informal observation discussed earlier of a successful course redesign completed in a department, but the process or success was not shared with other departments provides an anchor to illustrate the potential benefits of such a dashboard. With shared information in a common language, courses with improved failure rates and courses with concerns with failure rates would be communally apparent. This would provide a mechanism for collaboration – because the outcomes are shared, so, too, can be the processes

to affect them.

Examples of what portions of this dashboard might look like are provided in Appendix H.

Intervention Theory

This example, and interventions to be developed by the university, is seeded from shared learning in the development of the SSU Learning Foundation. From here, an intervention was designed to drive improvements in the measures outlined in the dashboard. Each step from purposeful learning to action to outcome is developmental and reciprocal. As outcomes are or are not achieved as desired, this information can inform how to adjust the intervention design. In this case, it may be to add or change measures provided in the dashboard or change the way it is shared with the campus. So, too, can design elements help inform shortcomings of the SSU Learning Foundation; if intervention designers recognize where they need more information and perspectives of the university, they can develop mechanisms to add to the learning foundation. In the dashboard example, that learning foundation was added to by determining what data is important to faculty. The learning foundation should be continually improved and strengthened in this way. The intervention framework is illustrated in Figure 13.

Figure 13. Implementing interventions
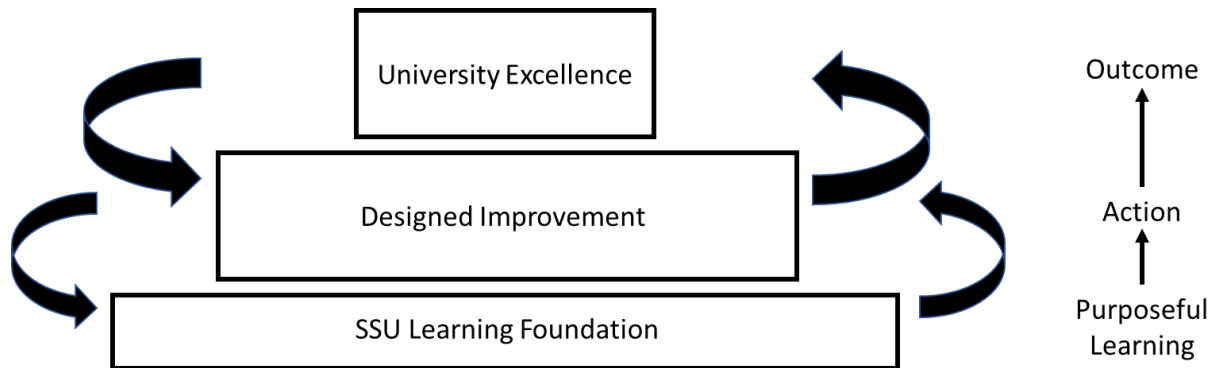
Ongoing Improvement

Finally, Savannah State University should tie all these activities together as an intervention of its own. Repeating the DLOQ survey annually and engaging in more sensemaking can help the university understand how its actions drive improvements in the dimensions. This would not only provide feedback as to the efficacy of interventions, but it would also afford the university the opportunity to continually develop its learning foundation and adopt the principles of a learning organization as an institutional ethos.

Conclusion

The results of this study provide Savannah State University with the opportunity to understand itself better and capitalize on its findings to drive improvement. If the university can adopt the principles of the learning organization, it can be better positioned to react to pressures and define and achieve its goals. Like the industry of higher education, and particularly HBCUs, the university will have more challenging times ahead as a decreasing number of high-school graduates nationwide is predicted, and economic challenges can threaten the level of state funding to universities.

These findings highlight the opportunities for improvement in becoming a learning organization for SSU. It also underscores the necessity of contextually understanding employees' perspectives as their experiences are not uniform, and so neither should their improvement activities be.

With earnest focus and a commitment to common goals and learning throughout the organization, SSU has the capacity to improve the outcomes that are currently pressuring it and can recognize gains to "tell them we are rising."

References

Abu-Tineh, A. M. (2011). Exploring the relationship between organizational learning and

    career resilience among faculty members at Qatar University. *International*

    Journal of Educational Management, *25*(6), 635–650.

Akram, M., Watkins, K. E., & Sajid, S. A. (2013). Comparing the learning culture of high

    and low performing high schools in Pakistan. *Literacy Information and Computer*

    Education Journal, *4*(2), 2022–2028.

Albrecht, P., Burandt, S., & Schaltegger, S. (2007). Do sustainability projects stimulate

    organizational learning in universities? *International Journal of Sustainability in*

    Higher Education, *8*(4), 403–415.

Ali, K. A. (2012). Academic staff's perceptions of characteristics of learning organization

    in a higher learning institution. *International Journal of Educational Management*,

    26(1), 55–82.

Amabile, T. M., & Kramer, S. J. (2011). The power of small wins. *Harvard Business*

    Review, *89*(5), 70–80.

Antony, J., Krishan, N., Cullen, D., & Kumar, M. (2012). Lean Six Sigma for higher

    education institutions (HEIs). *International Journal of Productivity and*

    Performance Management, *61*(8), 940–948.

Areekkuzhiyil, S. (2016). Organizational Culture as Determinant of Knowledge Sharing

    Practices of Teachers Working in Higher Education Sector. *Online Submission*,

    1(26), 24–30.

Argyris, C., & Schön, D. A. (1978). *Organizational Learning: A Theory of Action*

    Perspective (p. 352). Addison-Wesley Publishing Company.

Argyris, C., & Schön, D. A. (1996). *Organizational learning II: Theory, method and practice*. Reading, UK: Addison Wesley.

Armstrong, A. (2003). Foundations for a learning organization: organization learning mechanisms. *The Learning Organization*, *10*(2), 74–82.

Bess, J. L., & Dee, J. R. (2014). *Bridging the divide between faculty and administration: A guide to understanding conflict in the academy*. Routledge.

Beyerlein, M., Dirani, K. M., & Xie, L. (2017). A 30-year collaboration of Victoria Marsick and Karen Watkins: Learning in the workplace. In D. B. Szabla, W. A. Pasmore, M. A. Barnes, & A. N. Gipson (Eds.), *The Palgrave Handbook of Organizational Change Thinkers* (pp. 827–846). Cham: Springer International Publishing.

Birnbaum, R. (2001). *Total Quality management/continuous quality improvement Management Fads in higher Education*. San Francisco: Jossey-Bass.

Bollen, K. A. (1989). *Structural Equations with Latent Variables*. doi:10.1002/9781118619179

Bui, H. T. M., & Baruch, Y. (2012). Learning organizations in higher education: An empirical evaluation within an international context. *Management Learning*, *43*(5), 515–544.

Bush, T. (2008). From management to leadership: Semantic or meaningful change? *Educational Management Administration & Leadership*, *36*(2), 271–288.

Caldwell, R. (2012). Systems thinking, organizational change and agency: A practice theory critique of Senge's learning organization. *Journal of Change Management*, *12*(2), 145–164.

Catanese, R. (2018, May 22). Savannah State University faculty release scathing letter

targeting president. Retrieved December 1, 2019, from WTGS website:

https://fox28media.com/news/local/savannah-state-university-faculty-release-

scathing-letter-targeting-president

Cohen, M. D., & March, J. G. (1974). *Leadership and ambiguity: The American college

president.* Hightstown, New Jersey: McGraw-Hill.

Cuban, L. (1988). *The Managerial imperative and the practice of leadership in schools.*

Albany, NY: State University of New York Press.

Dearlove, J. (2002). A continuing role for academics: The governance of UK universities

in the post-Dearing era. *Higher Education Quarterly*, *56*(3), 257–275.

Dee, J. R., & Leišytė, L. (2016). Organizational learning in higher education institutions:

Theories, frameworks, and a potential research agenda. In M. B. Paulsen (Ed.),

Higher Education: Handbook of Theory and Research (pp. 275–348). Cham:

Springer International Publishing.

Dill, D. D. (1999). Academic accountability and university adaptation: The architecture of

an academic learning organization. *Higher Education*, *38*(2), 127–154.

Dowd, J. F. (1999). Learning organizations: An introduction. *Managed Care Quarterly*,

7(2), 43–50.

Farrar-Myers, V. A., & Dunn, D. (2010). Campus stories: Three case studies. Part A:

Institutionalizing pedagogical change--A case study in building a learning

organization. *New Directions for Teaching and Learning*.

Florenthal, B., & Tolstikov-Mast, Y. (2012). Organizational culture: Comparing faculty

and staff perspectives. *Journal of Higher Education Theory and Practice*, *12*(6),

81–90.

Gardiner, P. (1997). Success factors in learning organizations: an empirical study.

    Industrial and Commercial Training, *29*(2), 41–48.

Garrick, J., & Rhodes, C. (1998). Deconstructive organisational learning: the

    possibilities for a postmodern epistemology of practice. *Studies in the Education*

    of Adults, *30*(2), 172–183.

Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review*, *71*(4),

    78–91.

Gentle, P., & Clifton, L. (2017). How does leadership development help universities

    become learning organisations? *Learning Organization*, *24*(5), 278–285.

Gephart, M. A., Marsick, V. J., Van Buren, M. E., Spiro, M. S., & Senge, P. (1996).

    Learning organizations come alive. *Training & Development*, *50*(12), 34–46.

Goh, S. C. (1998). Toward a learning organization: The strategic building blocks. *SAM*

    Advanced Management Journal, *63*, 15–22.

Griego, O. V., Geroy, G. D., & Wright, P. C. (2000). Predictors of learning organizations:

    a human resource development practitioner's perspective. *The Learning*

    Organization, *7*(1), 5–12.

Henderson, N. (2005, June 20). A 'nonacademic' career in academe. *The Chronicle of*

    Higher Education. Retrieved from https://www.chronicle.com/article/a-

    nonacademic-career-in-academe/?cid=gen_sign_in

Hoe, S. L. (2019). The Topicality of the learning organization: Is the concept still

    relevant today? In A. R. Örtenblad (Ed.), *The Oxford Handbook of the Learning*

    Organization. Oxford University Press.

Horváth, L. (2019). *The Higher Education Institution as a Learning Organization* (Eötvös

Loránd University). Retrieved from

https://ppk.elte.hu/dstore/document/109/Horvath_Laszlo_tezisfuzet_angol.pdf

Jamali, D. (2008). Learning organizations: diagnosis and measurement in a developing

country context: The case of Lebanon. *The Learning Organization*, *15*(1), 58–74.

James, C. R. (2003). Designing learning organizations. *Organizational Dynamics*, *32*(1),

46–46.

Karsten, S., Voncken, E., & Voorthuis, M. (2000). Dutch primary schools and the

concept of the learning organization. *Learning Organization*, *7*(3), 145–156.

Kezar, A. (2005). What campuses need to know about organizational learning and the

learning organization. *New Directions for Higher Education*, *2005*(131), 7–22.

Kim, K. (2016). *The impact of learning organizations on knowledge performance,*

adaptive performance, and financial performance. University of Georgia.

Kim, Y.-S., & Marsick, V. J. (2013). Using the DLOQ to support learning in Republic of

Korea SMEs. *Advances in Developing Human Resources*, *15*(2), 207–221.

King Smith, A., Watkins, K. E., & Han, S. (2020). From silos to solutions: How one

district is building a culture of collaboration and learning between school

principals and central office leaders. *European Journal of Education*, *55*(1), 58–

75.

Kumar, N., & Idris, K. (2006). An examination of educational institutions' knowledge

performance: Analysis, implications and outlines for future research. *The*

Learning Organization, *13*(1), 96–116.

Lewin, K. (1946). Action research and minority problems. *Resolving social conflicts and*

field theory in social science., 143–152.

Lewis, D. (2002). Five years on – the organizational culture saga revisited. *Leadership & Organization Development Journal*, *23*(5), 280–287.

Marsick, V. J. (2013). The Dimensions of a Learning Organization Questionnaire (DLOQ): Introduction to the Special Issue examining DLOQ Use over a decade. *Advances in Developing Human Resources*, *15*(2), 127–132.

Marsick, V. J., & Watkins, K. E. (1999). *Facilitating Learning Organizations: Making Learning Count*. Gower Publishing, Ltd.

Marsick, V. J., & Watkins, K. E. (2003). Demonstrating the value of an organization's learning culture: The Dimensions of the Learning Organization Questionnaire. *Advances in Developing Human Resources*, *5*(2), 132–151.

Marsick, V. J., Watkins, K. E., & Smith, A. K. (2019). Interventions to Create a Learning Organization. In A. R. Örtenblad (Ed.), *The Oxford Handbook of the Learning Organization*. Oxford University Press.

McHargue, S. K. (2003). Learning for performance in nonprofit organizations. *Advances in Developing Human Resources*, *5*(2), 196–204.

Meyer, A. (2019). Savannah State names interim provost. Retrieved December 1, 2019, from Savannah Morning News website: https://www.savannahnow.com/news/20191002/savannah-state-names-interim-provost

Moilanen, R. (2005). Diagnosing and measuring learning organizations. *The Learning Organization*, *12*(1), 71–89.

Nevis, E. C., DiBella, A. J., & Gould, J. M. (1995). Understanding organizations as learning systems. *Sloan Management Review*, *36*(2), 73–85.

O'Neil, J. (2003). Participant's guide for interpreting results of the Dimensions of the

Learning Organization Questionnaire. *Advances in Developing Human*

Resources, *5*(2), 222–230.

Örtenblad, A. (2004). The learning organization: towards an integrated model. *The*

Learning Organization, *11*(2), 129–144.

Örtenblad, A. (2013). *Handbook of Research on the Learning Organization: Adaptation*

and Context. Edward Elgar Publishing.

Örtenblad, A., Fan, Z., Peng, C., Li, B., & Li, Z. (2013). Putting the learning organization

into context: contributions from previous works. In *Handbook of Research on the*

Learning Organization. Edward Elgar Publishing.

Örtenblad, A., & Koris, R. (2014). Is the learning organization idea relevant to higher

educational institutions? A literature review and a "multi-stakeholder contingency

approach." *International Journal of Educational Management*, *28*(2), 173–214.

Pedler, M., Burgoyne, J., & Boydell, T. (1991). *Towards the learning company: concepts*

and practices. McGraw-Hill.

Perfetti, H. F. (2015). *Dimensions of the learning organization and the financial,*

knowledge, and mission performance of community colleges: A quantitative

study (EdD; D. Blyler, Ed.). Northcentral University.

Ramaley, J. A., & Holland, B. A. (2005). Modeling learning: The role of leaders. *New*

Directions for Higher Education, *2005*(131), 75–86.

Rowden, R. W. (2001). The learning organization and strategic change. *SAM Advanced*

Management Journal, *66*(3), 11.

Rus, C. L., Chirică, S., Raţiu, L., & Băban, A. (2014). Learning organization and social

responsibility in Romanian higher education institutions. *Procedia - Social and Behavioral Sciences*, *142*, 146–153.

Savannah State University starts next chapter with new Interim President. (2019, July 1). Retrieved December 1, 2019, from WJCL website: https://www.wjcl.com/article/savannah-state-university-starts-next-chapter-with-new-interim-president/28253046

Schein, E. H. (1996). *Organizational learning: what is new?* Retrieved from https://dspace.mit.edu/bitstream/handle/1721.1/2628/SWP-3912-35650568.pdf

Senge, P. M. (2000). The academy as learning community: Contradiction in terms or realizable future. *Leading Academic Change: Essential Roles for Department Chairs*, 275–300.

Senge, P. M. (2006). *ThefFifth discipline: The art and practice of the learning organization*. Doubleday Publishing Group. (Original work published 1990)

Sohail, M. S., & Daud, S. (2009). Knowledge sharing in higher education institutions. *Vine*, *39*(2), 125–142.

Sohail, M. S., Daud, S., & Rajadurai, J. (2006). Restructuring a higher education institution. *International Journal of Educational Management*, *20*(4), 279–290.

Somerville, M. (2004). Applying the learning organisation concept in a resource squeezed service organisation. *Journal of Workplace Learning*, *16*(4), 237–248.

Stothard, C., Talbot, S., Drobnjak, M., & Fischer, T. (2013). Using the DLOQ in a military context: Culture trumps strategy. *Advances in Developing Human Resources*, *15*(2), 193–206.

Tannenbaum, S. I. (1997). Enhancing continuous learning: Diagnostic findings from

multiple companies. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in Alliance with the Society of Human Resources Management*, *36*(4), 437–452.

Thompson, B., & Daniel, L. G. (1996). Factor analytic evidence for the construct validity of scores: A historical overview and some guidelines. *Educational and Psychological Measurement*, *56*(2), 197–208.

Tomczak, M., & Tomczak, E. (2014). The need to report effect size estimates revisited. An overview of some recommended measures of effect size. *Trends in Sport Sciences*, *21*(1).

Turner, J. R., Baker, R., & Kellner, F. (2018). Theoretical literature review: Tracing the life Cycle of a theory and Its verified and falsified statements. *Human Resource Development Review*, *17*(1), 34–61.

University System of Georgia. (n.d.). USG by the Numbers. Retrieved December 1, 2019, from https://www.usg.edu/research/usgbythenumbers/

U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (n.d.). *IPEDS Data Center* [Data set]. Retrieved from http://nces.ed.gov/ipeds/

USG Facts. (n.d.). Retrieved December 1, 2019, from University System of Georgia website: https://www.usg.edu/news/usgfacts

Vince, R. (2018). The learning organization as paradox. *The Learning Organization*, *25*(4), 273–280.

Vo, H. V., Chae, B., & Olson, D. L. (2006). Integrating systems thinking into IS education. *Systems Research and Behavioral Science: The Official Journal of*

the International Federation for Systems Research, *23*(1), 107–121.

Voolaid, K. (2017). Organizational learning of higher education institutions: the case of Estonia. *The Learning Organization*, *24*(5), 340–354.

Voolaid, K., & Ehrlich, Ü. (2016). Learning University Versus Entrepreneurial University: The Case of Tallinn University of Technology, Estonia. *International Conference on Intellectual Capital and Knowledge Management and Organisational Learning*, 259. Academic Conferences International Limited.

Watkins, K. E. (2005). What Would be different if higher educational institutions were learning organizations? *Advances in Developing Human Resources*, *7*(3), 414–421.

Watkins, K. E. (2017). Defining and creating organizational knowledge performance. *Educar*, *53*(1), 211–226.

Watkins, K. E., & Dirani, K. M. (2013). A meta-analysis of the Dimensions of a Learning Organization Questionnaire: Looking across cultures, ranks, and industries. *Advances in Developing Human Resources*, *15*(2), 148–162.

Watkins, K. E., & Golembiewski, R. T. (1995). Rethinking organization development for the learning organization. *The International Journal of Organizational Analysis*, *3*(1), 86–101.

Watkins, K. E., & Kim, K. (2018). Current status and promising directions for research on the learning organization. *Human Resource Development Quarterly*, *29*(1), 15–29.

Watkins, K. E., & Marsick, V. J. (1993). *Sculpting the learning organization: Lessons in the art and science of systemic change. First Edition*. San Francisco, CA:

Jossey-Bass.

Watkins, K. E., & Marsick, V. J. (1996). In action: Creating the learning organization. *Alexandria VA: American Society for Training and Development.*

Watkins, K. E., & Marsick, V. J. (1997). Dimensions of the learning organization questionnaire. *Warwick, RI: Partners for the Learning Organization.*

Watkins, K. E., & Marsick, V. J. (2019). Conceptualizing an organization that learns. In A. R. Örtenblad (Ed.), *The Oxford Handbook of the Learning Organization.* Oxford University Press.

Watkins, K. E., & O'Neil, J. (2013). The Dimensions of the Learning Organization Questionnaire (the DLOQ): A Nontechnical Manual. *Advances in Developing Human Resources, 15*(2), 133–147.

Weldy, T. G. (2010). The learning organization: variations at different organizational levels. *The Learning Organization, 17*(5), 455–470.

Westerheijden, D. F., Epping, E., Faber, M., Leisyte, L., & de Weert, E. (2013). Stakeholders and quality assurance. *Journal of the European Higher Education Area, 2013*(4), 71–86.

White, J., & Weathersby, R. (2005). Can universities become true learning organizations? *The Learning Organization, 12*(3), 292–298.

Woodfield, S., & Kennie, T. (2008). 'teamwork' or 'working as a team'? The theory and practice of top team working in UK higher education. *Higher Education Quarterly, 62*(4), 397–415.

WTOC News. (2019a, May 8). Suspect in custody after student shot at Savannah State housing facility. Retrieved December 1, 2019, from https://www.wtoc.com

website: https://www.wtoc.com/2019/05/07/police-respond-reports-shooting-
university-commons/

WTOC News. (2019b, May 16). 30 Savannah State University employees laid off.
Retrieved December 1, 2019, from https://www.wtoc.com website:
https://www.wtoc.com/2019/05/16/savannah-state-university-employees-laid-off/

Yang, B., Watkins, K. E., & Marsick, V. J. (2004). The construct of the learning
organization: Dimensions, measurement, and validation. *Human Resource
Development Quarterly*, *15*(1), 31–55.

Yazici, S., & Karabag, A. (2019, November 18). *Organizational culture, learning
organization and innovation in German higher education institutions*. Retrieved
from https://papers.ssrn.com/abstract=3489080

Yu, K. P. (2014). Learning organization and innovative behavior: The mediating effect of
work engagement (J. Kim, Trans.). *European Journal of Training and
Development*, *38*(1/2), 75–94.

Appendix A

Detailed Findings for Supporting Question 2(a)

Continuous Learning

Summary statistics and distribution of Continuous Learning (CL) scores across colleges are shown in Table 21 and Figure 14, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.964, p=.024) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Kruskal-Wallis test was run. Results of the Kruskal-Wallis test (H(3)=21.98, p<0.0001, η^2=.247) produced a significant difference and large effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on CL varies between colleges. Pairwise estimates of CL between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed a Bonferroni-adjusted significant difference between the College of Liberal Arts and Sciences (CLASS) and the College of Science and Technology (COST) (*p*=.0001) with an estimated difference in location parameters of -1.29 on the 6-point scale. It also revealed a Bonferroni-adjusted significant difference between the College of Liberal Arts and Sciences (CLASS) and the College of Teacher Education (COTE) (*p*=.019) with an estimated difference in location parameters of -1.29 on the 6-point scale.

Table 21. Summary statistics of CL across colleges

Unit	n	mean	sd	median	iqr	se	ci
College of Business Administration	4	3.429	0.816	3.643	0.786	0.408	1.299
College of Liberal Arts and Sciences	33	2.338	1.119	2	1.286	0.195	0.397
College of Science and Technology	36	3.464	1.001	3.643	1.536	0.167	0.339
College of Teacher Education	8	3.411	0.698	3.357	0.5	0.247	0.583

Figure 14. Distribution of scores of CL across colleges
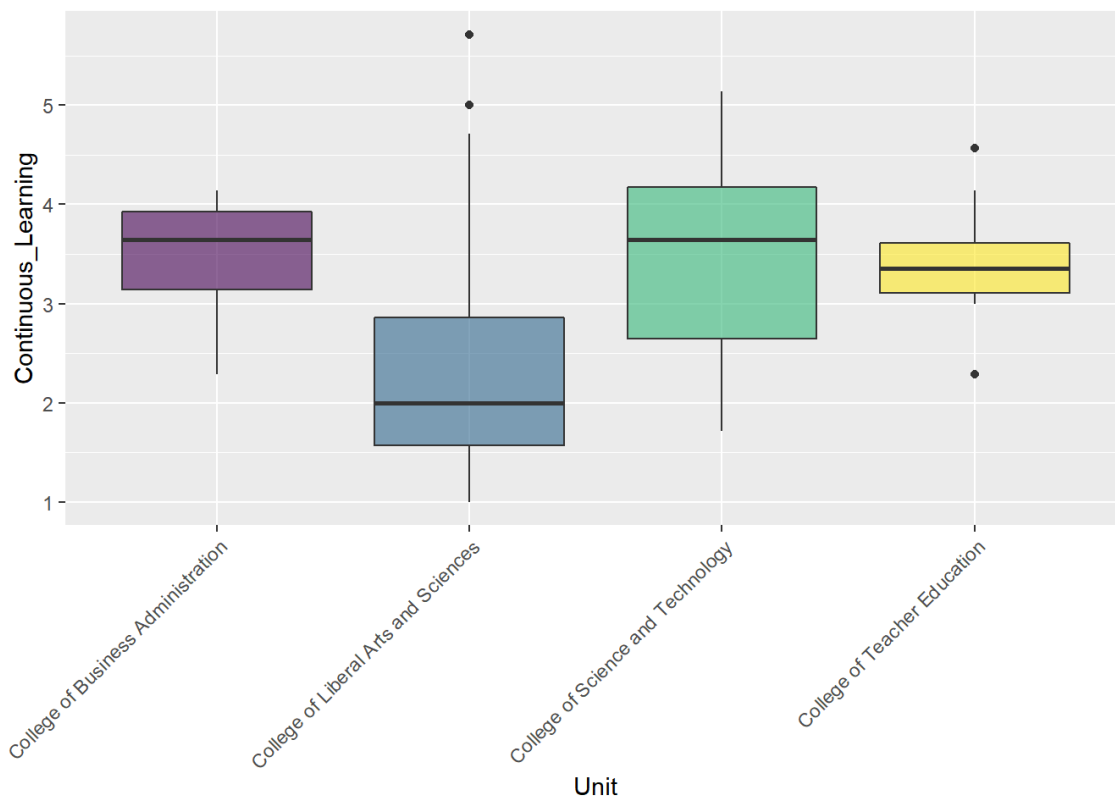
Inquiry and Dialogue

Summary statistics and distribution of the Inquiry and Dialogue (DI) scores across colleges are shown in Table 22 and Figure 15, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.957, p=.0009) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Kruskal-Wallis test was run. Results of the Kruskal-Wallis test (H(3)=17.03, p=.0007, η^2=.185) produced a significant difference and large effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on DI varies between colleges. Pairwise estimates of DI between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed a Bonferroni-adjusted significant difference between CLASS and COST (*p*=.001) with an estimated difference in location parameters of -1.00 on the 6-point scale. It also revealed a Bonferroni-adjusted significant difference between CLASS and COTE (*p*=.047) with an estimated difference in location parameters of -1.00 on the 6-point scale.

Table 22. Summary statistics of DI across colleges

Unit	n	mean	sd	median	iqr	se	ci
College of Business Administration	4	3.708	1.21	4	0.96	0.61	1.93
College of Liberal Arts and Sciences	33	2.444	0.98	2.333	1.17	0.17	0.35

Unit	n	mean	sd	median	iqr	se	ci
College of Science and Technology	34	3.422	1	3.25	1.5	0.17	0.35
College of Teacher Education	9	3.389	0.94	3.167	1.33	0.31	0.72

Figure 15. Distribution of scores of DI across colleges
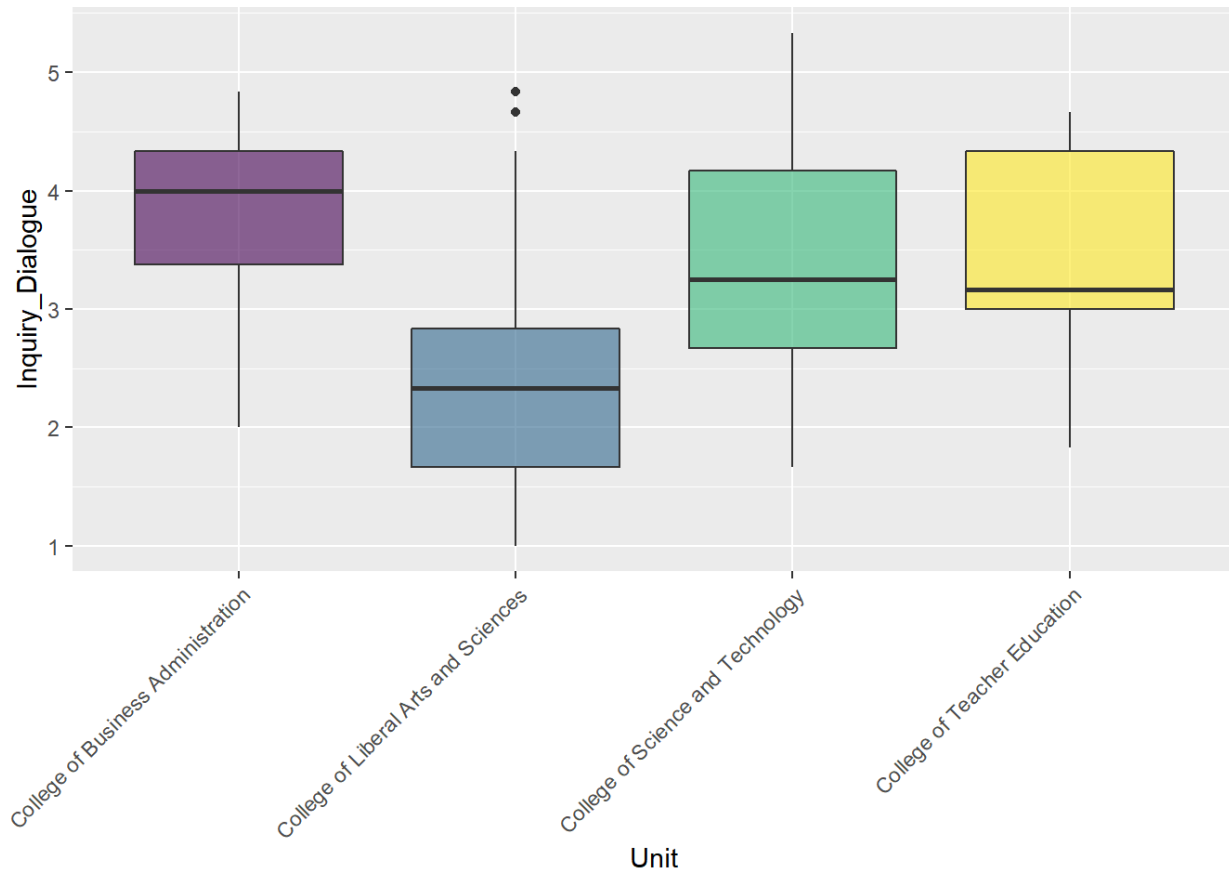
Collaboration and Team Learning

Summary statistics and distribution of the Collaboration and Team Learning (TL) scores across colleges are shown in Table 23 and Figure 16, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.977, p=.181) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Kruskal-Wallis test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Kruskal-Wallis test (H(3)=17.38, p=.0006, η^2=.197) produced a significant difference and large effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on TL varies between colleges. Pairwise estimates of TL between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed a Bonferroni-adjusted significant difference between the CLASS and COST (*p*=.0007) with an estimated difference in location parameters of -1.17 on the 6-point scale.

Table 23. Summary statistics of TL across colleges

Unit	n	mean	sd	median	iqr	se	ci
College of Business Administration	4	3.667	1.21	3.917	1.08	0.61	1.93
College of Liberal Arts and Sciences	32	2.557	1.13	2.667	1.67	0.2	0.41
College of Science and Technology	33	3.692	1.01	3.667	1.33	0.18	0.36
College of Teacher Education	8	3.604	0.91	3.917	1.13	0.32	0.76

Figure 16. Distribution of scores of TL across colleges
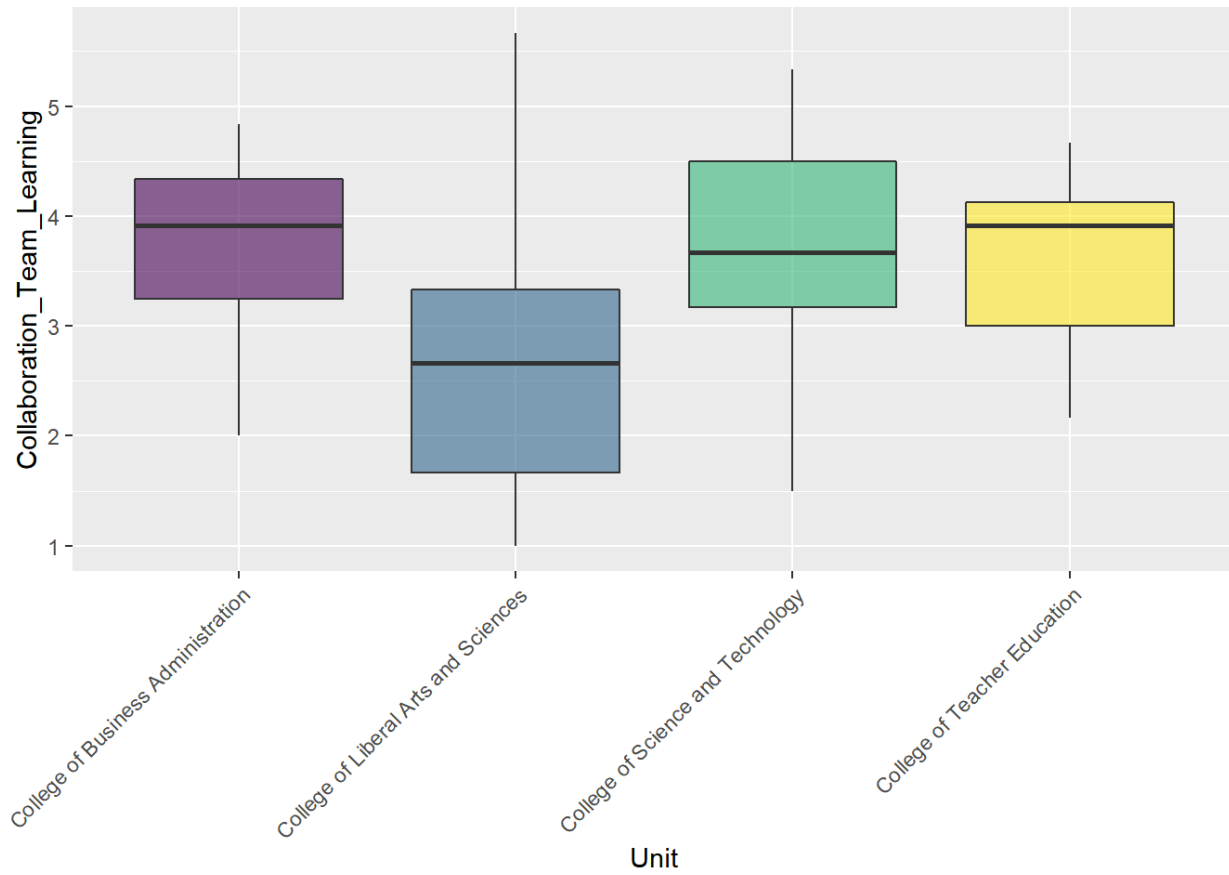
Systems to Capture and Share Learning

*Summary statistics and distribution of the Systems to Capture and Share Learning (ES) scores across colleges is shown in **Error! Reference source not found.** and*
Figure 17, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.948, p=.004) of the distribution found that the data was not normally distributed. Consequently, a Kruskal-Wallis test was run. Results of the Kruskal-Wallis test (H(3)=8.43, p=.0379, η^2=.076) produced a significant difference and moderate effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on ES varies between colleges. Pairwise estimates of ES between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates did not reveal any Bonferroni-adjusted significance between pairs of colleges.

Table 24. Summary statistics of ES across colleges

Unit	n	mean	sd	median	iqr	se	ci
College of Business Administration	4	2.667	1.255	2.667	1.25	0.63	1.996
College of Liberal Arts and Sciences	32	2.161	1.077	2	1.5	0.19	0.388
College of Science and Technology	31	2.855	1.03	2.667	1.42	0.19	0.378
College of Teacher Education	8	3.021	1.063	3	1.42	0.38	0.889

Figure 17. Distribution of scores of ES across colleges
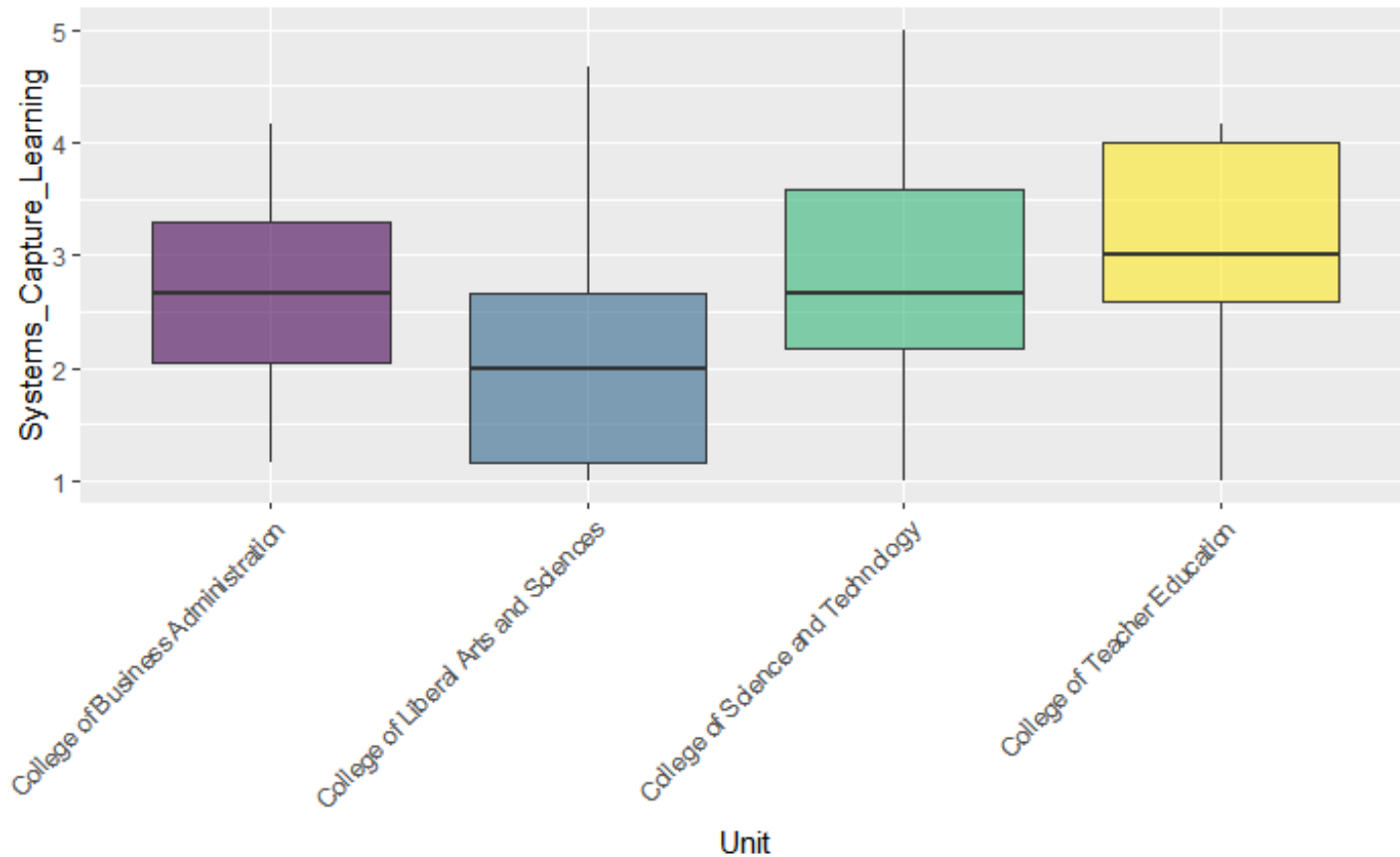
Empower People

Summary statistics and distribution of the Empower People (EP) scores across colleges are shown in Table 25 and Figure 18, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.978, p=.2) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Kruskal-Wallis test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Kruskal-Wallis test (H(3)=14.65, p=.0021, η^2=.162) produced a significant difference and large effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on EP varies between colleges. Pairwise estimates of EP between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed a Bonferroni-adjusted significant difference between the CLASS and COST (p=.004) with an estimated difference in location parameters of -0.833 on the 6-point scale.

Table 25. Summary statistics of EP across colleges

Unit	n	mean	sd	median	iqr	se	ci
College of Business Administration	4	3.167	0.81	3.417	0.58	0.4	1.28
College of Liberal Arts and Sciences	33	2.268	0.91	2.167	1.17	0.16	0.32
College of Science and Technology	32	3.104	0.94	3	1.42	0.17	0.34
College of Teacher Education	7	3.143	0.83	3	0.75	0.31	0.77

Figure 18. Distribution of scores of EP across colleges

Connect the Organization to its Environment

Summary statistics and distribution of the Connect the Organization to its Environment (SC) scores across colleges are shown in Table 26 and Figure 19, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.978, p=.208) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Kruskal-Wallis test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Kruskal-Wallis test (H(3)=17.79, p=.0004, η^2=..208) produced a significant difference and large effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on SC varies between colleges. Pairwise estimates of SC between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed a Bonferroni-adjusted significant difference between the CLASS and COST (*p*=.0003) with an estimated difference in location parameters of -1.167 on the 6-point scale.

Table 26. Summary statistics of SC across colleges

Unit	n	mean	sd	median	iqr	se	ci
College of Business Administration	4	3.25	0.69	3.333	0.42	0.34	1.09
College of Liberal Arts and Sciences	33	2.505	0.98	2.167	0.83	0.17	0.35
College of Science and Technology	32	3.536	0.91	3.583	1.38	0.16	0.33
College of Teacher Education	6	3.306	1.02	3.25	0.88	0.42	1.08

Figure 19. Distribution of scores of SC across colleges
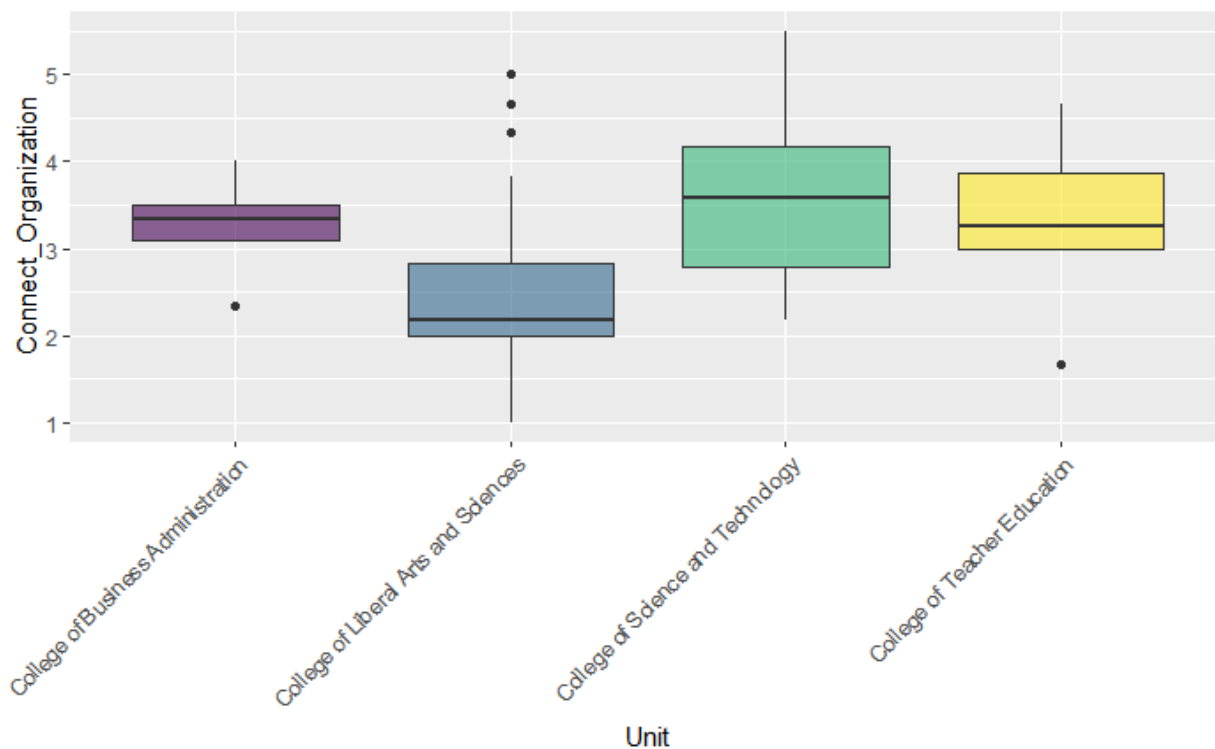
Strategic Leadership

Summary statistics and distribution of the Strategic Leadership (SL) scores across colleges are shown in Table 27 and Figure 20, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.95, p=.004) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Kruskal-Wallis test was run. Results of the Kruskal-Wallis test (H(3)=21.67, p<0.0001, η^2=.256) produced a significant difference and large effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on CL varies between colleges. Pairwise estimates of CL between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed a Bonferroni-adjusted significant difference between CLASS and COST (p=.0003) with an estimated difference in location parameters of -1.17 on the 6-point scale. It also revealed a Bonferroni-adjusted significant difference between CLASS and COTE (p=.007) with an estimated difference in location parameters of -1.67 on the 6-point scale.

Table 27. Summary statistics of SL across colleges

Unit	n	mean	sd	median	iqr	se	ci
College of Business Administration	4	2.917	0.908	3.167	1	0.454	1.444
College of Liberal Arts and Sciences	33	2.273	1.094	2.167	1.167	0.191	0.388
College of Science and Technology	33	3.455	1.114	3.167	1.833	0.194	0.395
College of Teacher Education	7	3.786	0.832	3.833	1.333	0.314	0.769

Figure 20. Distribution of scores of SL across colleges
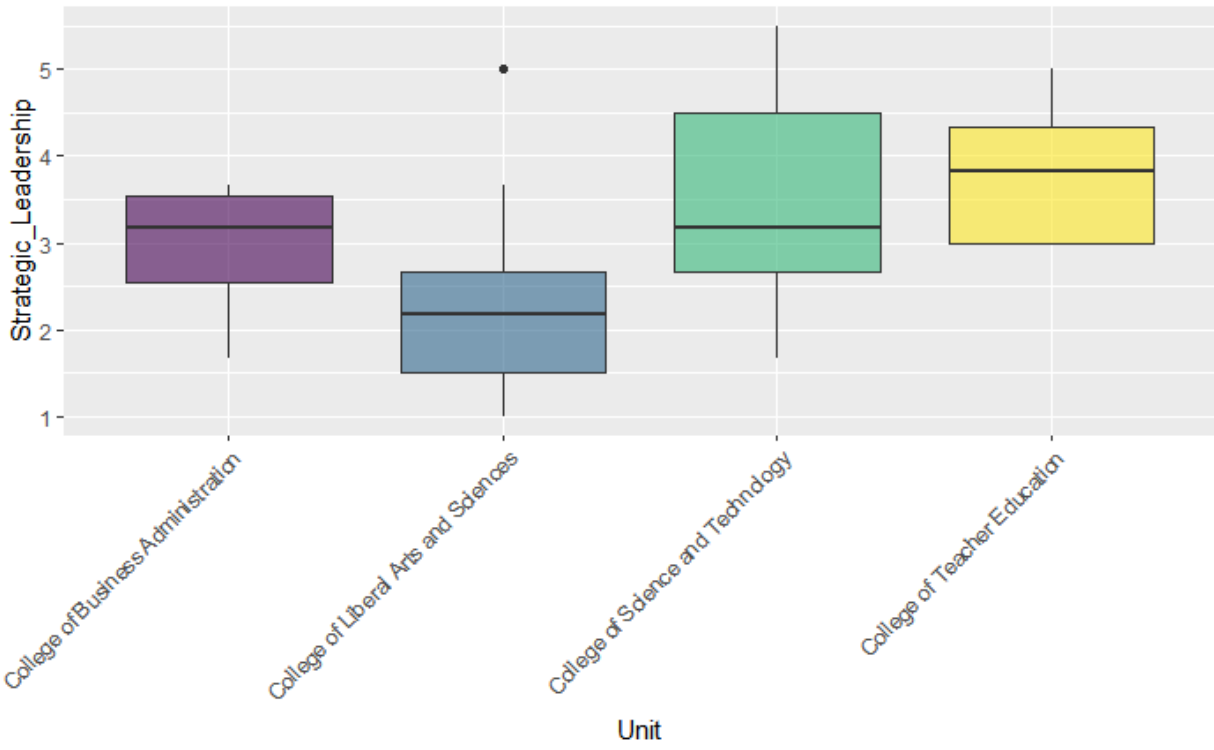
Overall Score

Summary statistics and distribution of the Overall Score (OS) across colleges are shown in Table 28 and

College of Business Administration	**4**	**3.314**	**0.96**	**3.524**	**0.6**	**0.48**	**1.53**
College of Liberal Arts and Sciences	31	2.367	0.92	2.333	0.95	0.17	0.34
College of Science and Technology	27	3.37	0.82	3.325	1.39	0.16	0.32
College of Teacher Education	6	3.233	0.88	3.218	0.77	0.36	0.93

Figure 21, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.975, p=.198) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Kruskal-Wallis test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Kruskal-Wallis test (H(3)=18.29, p=.0004, η^2=.239) produced a significant difference and large effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on OS varies between colleges. Pairwise estimates of OS between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed a Bonferroni-adjusted significant difference between CLASS and COST (*p*=.0001) with an estimated difference in location parameters of -1.079 on the 6-point scale.

Table 28. Summary statistics of OS across colleges

Unit	n	mean	sd	median	iqr	se	ci
College of Business Administration	4	3.314	0.96	3.524	0.6	0.48	1.53
College of Liberal Arts and Sciences	31	2.367	0.92	2.333	0.95	0.17	0.34
College of Science and Technology	27	3.37	0.82	3.325	1.39	0.16	0.32
College of Teacher Education	6	3.233	0.88	3.218	0.77	0.36	0.93

Figure 21. Distribution of scores of OS across colleges
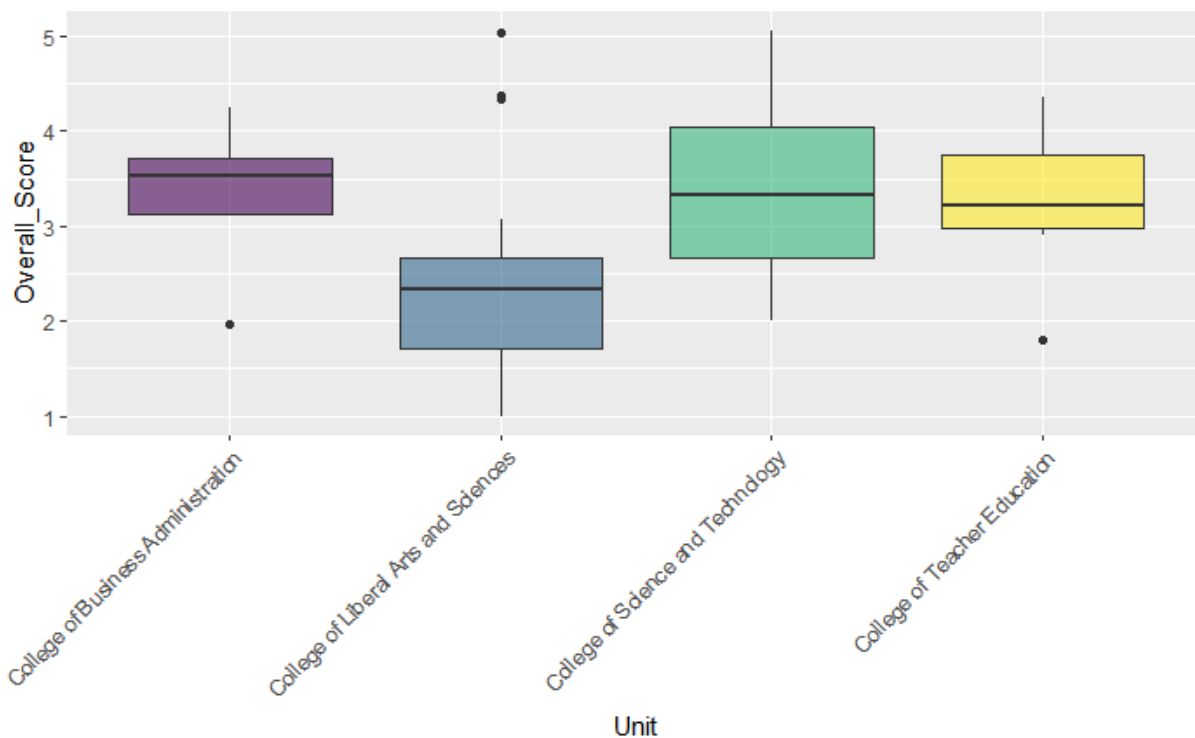
## Detailed Findings for Supporting Question 2(b)

Continuous Learning

Summary statistics and distribution of the Continuous Learning (CL) scores across divisions are shown in Table 29 and Figure 22, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.98, p=.011) of the distribution found that the data was not normally distributed. Additionally, an ANOVA was run, yielding similar results (see Appendix D). Consequently, the nonparametric Kruskal-Wallis test was run. Results of the Kruskal-Wallis test (H(6)=11.66, p=.0701) found no significant difference between divisions in CL. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on CL did not vary between divisions. Pairwise estimates of CL between divisions (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed no Bonferroni-adjusted significant differences between any pairs of *divisions.*

Table 29. Summary statistics of CL across divisions

Division	n	mean	sd	median	iqr	se	ci
Academic Affairs	108	2.964	1.061	3	1.75	0.102	0.202
Athletics	5	2.771	1.244	2	1.571	0.556	1.544
Business and Financial Services	18	2.841	1.255	2.571	1.679	0.296	0.624
Enrollment Management	10	3.1	0.65	3.214	0.857	0.205	0.465

President's Office	3	2.143	0.756	2.429	0.714	0.436	1.878
Student Affairs	19	3.759	0.931	3.429	1.143	0.214	0.449
University Advancement	12	2.94	1.188	2.786	1.893	0.343	0.755

Figure 22. Distribution of scores of CL across divisions

Inquiry and Dialogue

Summary statistics and distribution of the Inquiry and Dialogue (DI) scores across divisions are shown in Table 30 and Figure 23, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.975, p=.004) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Kruskal-Wallis test was run. Additionally, an ANOVA was run, yielding similar results (see Appendix D). Results of the Kruskal-Wallis test (H(6)=5.201, p=.518) found no significant difference between divisions in DI. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on DI did not vary between divisions. Pairwise estimates of DI between divisions (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed no Bonferroni-adjusted significant differences between any pairs of divisions.

Table 30. Summary statistics of DI across divisions

Division	n	mean	sd	median	iqr	se	ci
Academic Affairs	106	2.956	1.038	3	1.583	0.101	0.2
Athletics	5	3.1	1.437	2.167	2.5	0.642	1.784
Business and Financial Services	17	2.735	1.243	2.667	1.5	0.302	0.639
Enrollment Management	9	3.056	0.656	3	0.667	0.219	0.504
President's Office	3	2.444	0.585	2.5	0.583	0.338	1.454
Student Affairs	18	3.306	0.811	3.167	1.292	0.191	0.403
University Advancement	12	2.694	1.255	2.5	1.917	0.362	0.797

Figure 23. Distribution of scores of DI across divisions
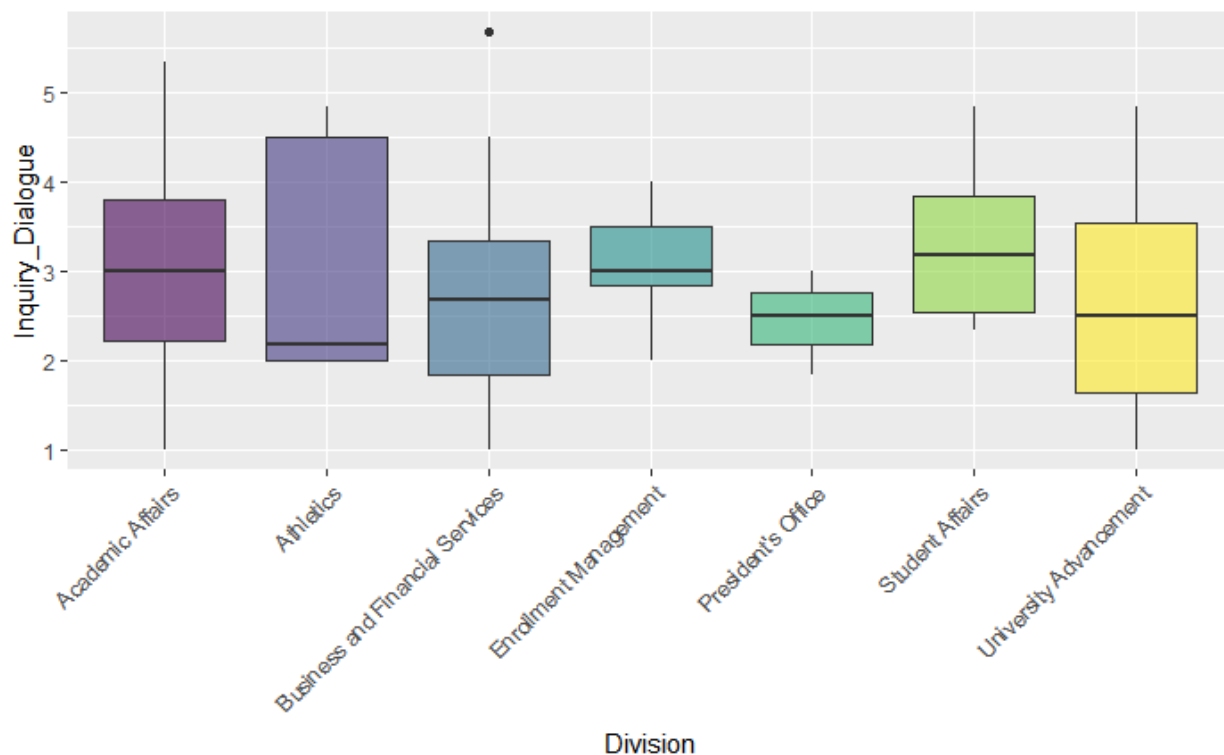
Collaboration and Team Learning

Summary statistics and distribution of the Collaboration and Team Learning (TL) scores across divisions is shown in Table 31 and Figure 24, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.978, p=.016) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Kruskal-Wallis test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Kruskal-Wallis test (H(6)=12.91, p=.0445, η^2=.042) produced a significant difference but small effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on TL varies between divisions, though with a small effect size. Pairwise estimates of TL between divisions (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed no Bonferroni-adjusted significant differences between pairs of divisions.

Table 31. Summary statistics of TL across divisions

| Division	n	mean	sd	median	iqr	se	ci
Academic Affairs	104	3.147	1.115	3.167	1.542	0.109	0.217
Athletics	5	2.567	1.316	1.833	2.5	0.588	1.633
Business and Financial Services	17	2.716	1.455	2.5	1.833	0.353	0.748
Enrollment Management	10	3.383	0.828	3.417	0.917	0.262	0.592
President's Office	3	2.278	0.255	2.333	0.25	0.147	0.632
Student Affairs	20	3.708	0.86	3.333	1.5	0.192	0.402
University Advancement	13	2.923	1.387	2.5	1.833	0.385	0.838

Figure 24. Distribution of scores of TL across divisions
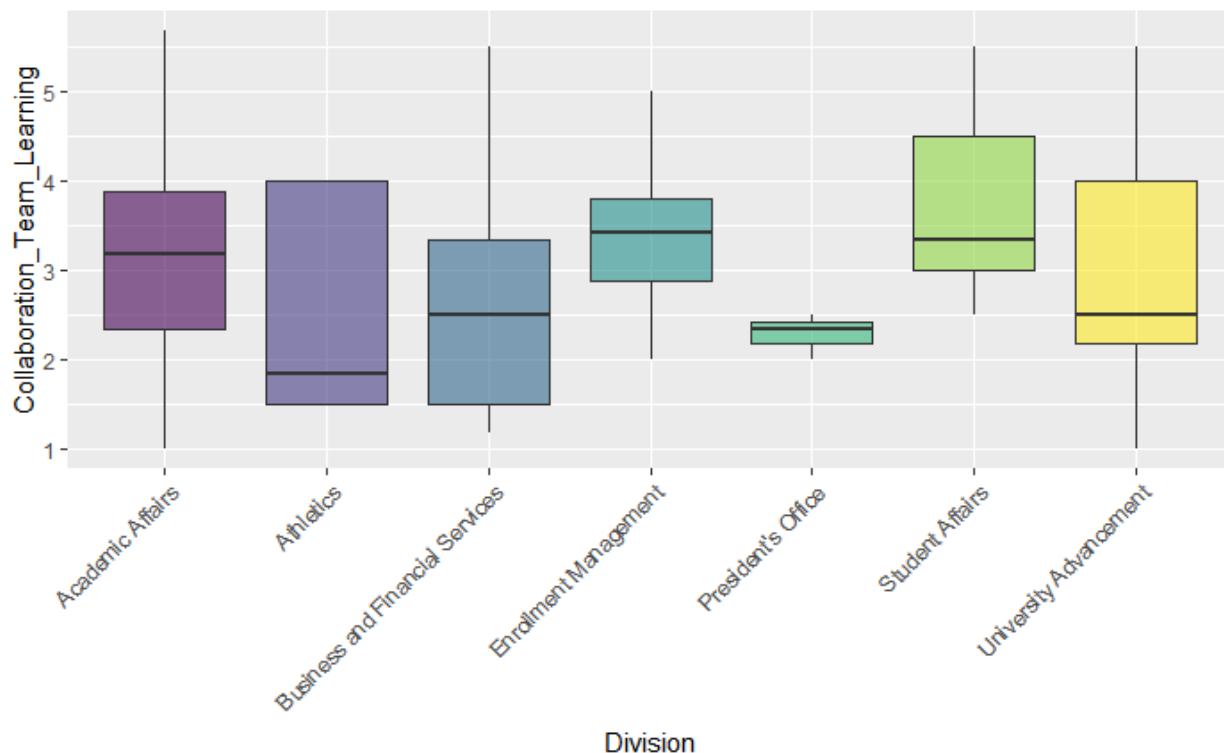
Systems to Capture and Share Learning

Summary statistics and distribution of the Systems to Capture and Share Learning (ES) scores across divisions is shown in Table 32 and Figure 25, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.966, p=.001) of the distribution found that the data was not normally distributed. Consequently, a Kruskal-Wallis test was run. Additionally, an ANOVA was run, yielding similar results (see Appendix D). Results of the Kruskal-Wallis test (H(6)=16.69, p=.0105, η^2=.068) produced a significant difference and moderate effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on ES varies between divisions. Pairwise estimates of ES between divisions (with Bonferroni correction) are provided in Appendix C. Pairwise estimates did not reveal any Bonferroni-adjusted significance between pairs of divisions.

Table 32. Summary statistics of ES across divisions

Division	n	mean	sd	median	iqr	se	ci
Academic Affairs	100	2.533	1.063	2.333	1.833	0.106	0.211
Athletics	5	3.567	1.058	3.833	0.833	0.473	1.314
Business and Financial Services	18	2.324	1.143	2	1.292	0.269	0.568
Enrollment Management	10	2.7	0.554	2.833	0.833	0.175	0.397
President's Office	3	1.556	0.694	1.333	0.667	0.401	1.724
Student Affairs	16	3.406	1.265	3.333	1.917	0.316	0.674
University Advancement	12	2.931	0.963	2.5	0.75	0.278	0.612

Figure 25. Distribution of scores of ES across divisions
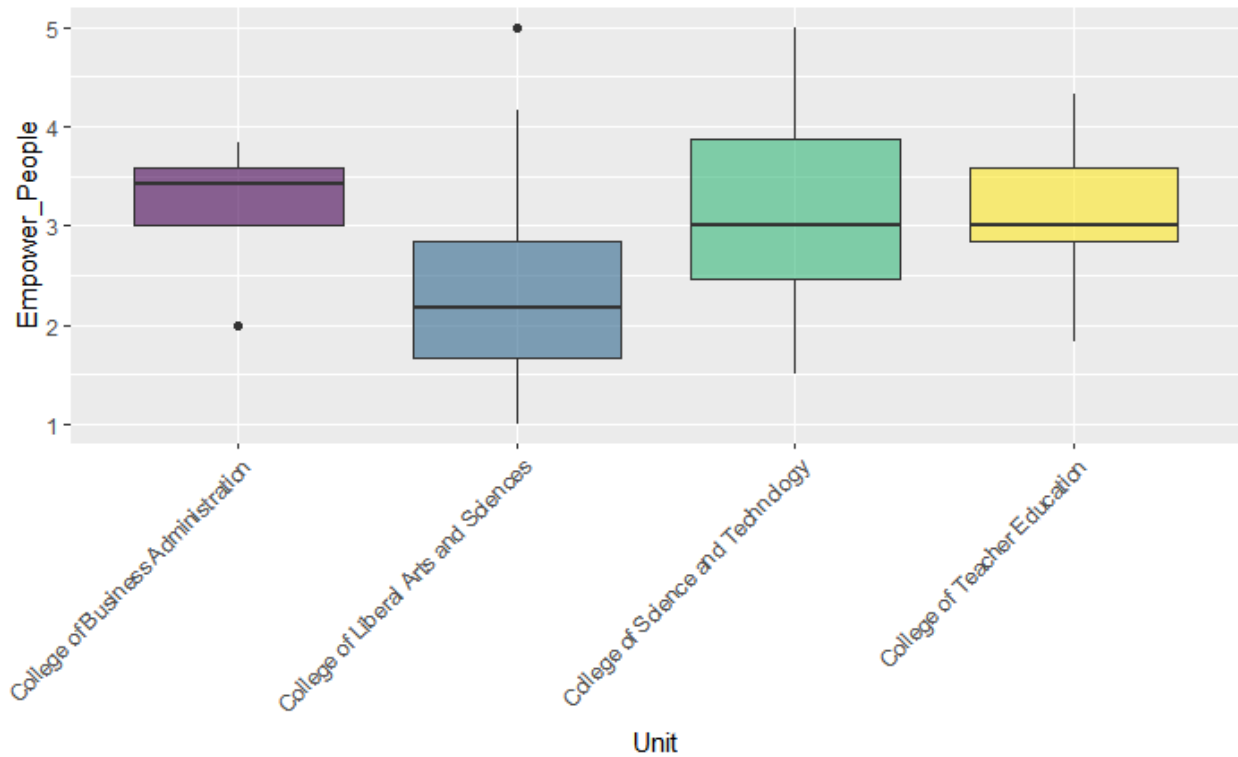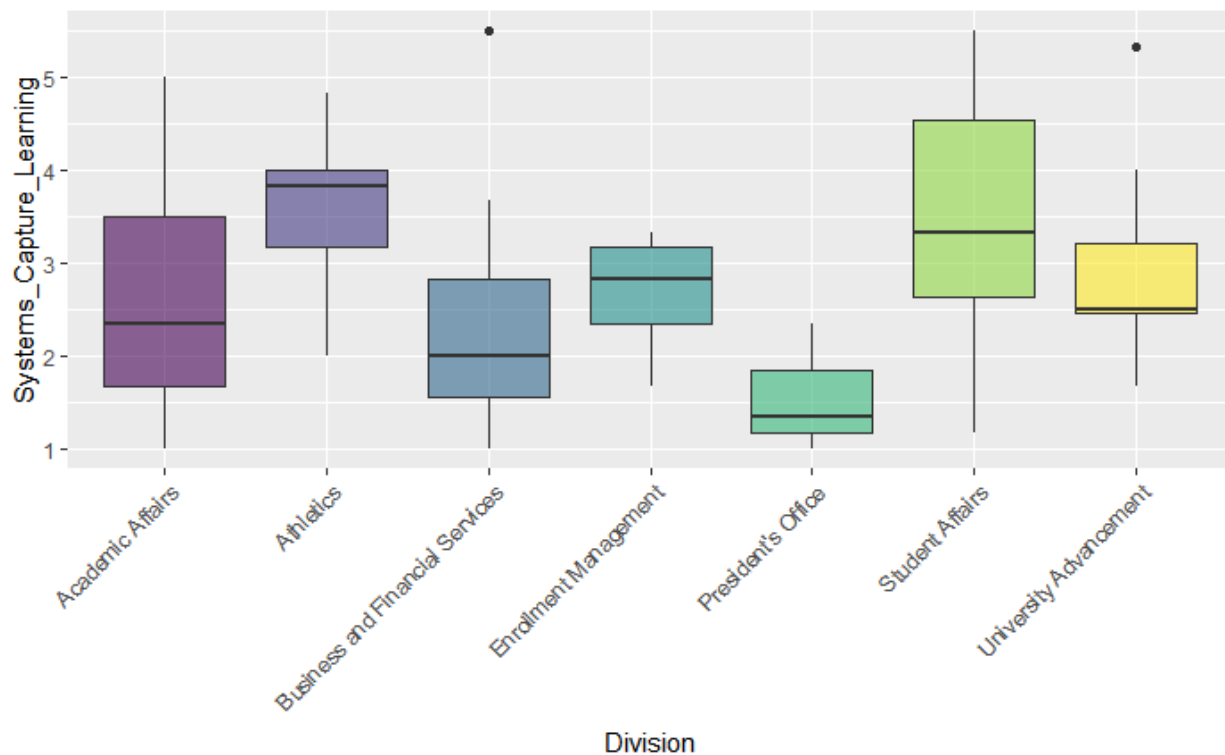
Empower People

Summary statistics and distribution of the Empower People (EP) scores across divisions are shown in Table 33 and Figure 26, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.975, p=.004) of the distribution found that the data was not normally distributed. Consequently, a Kruskal-Wallis test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Kruskal-Wallis test (H(6)=15.27, p=.0183, η^2=.058) produced a significant difference but small effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on EP varies between divisions. Pairwise estimates of EP between divisions (with Bonferroni correction) are provided in Appendix C. Pairwise estimates did not reveal any Bonferroni-adjusted significant differences between pairs of divisions.

Table 33. Summary statistics of EP across divisions

Division	n	mean	sd	median	iqr	se	ci
Academic Affairs	102	2.727	0.947	2.667	1.292	0.094	0.186
Athletics	5	2.9	1.636	2	2.667	0.731	2.031
Business and Financial Services	17	2.333	1.296	2.167	1.5	0.314	0.667
Enrollment Management	10	2.917	0.746	3.083	1.25	0.236	0.534
President's Office	3	1.889	0.631	2.167	0.583	0.364	1.567
Student Affairs	18	3.528	1.034	3.583	1.708	0.244	0.514
University Advancement	12	2.667	1.573	2.333	2	0.454	1

*Figure 26. Distribution of scores of EP across divisions*
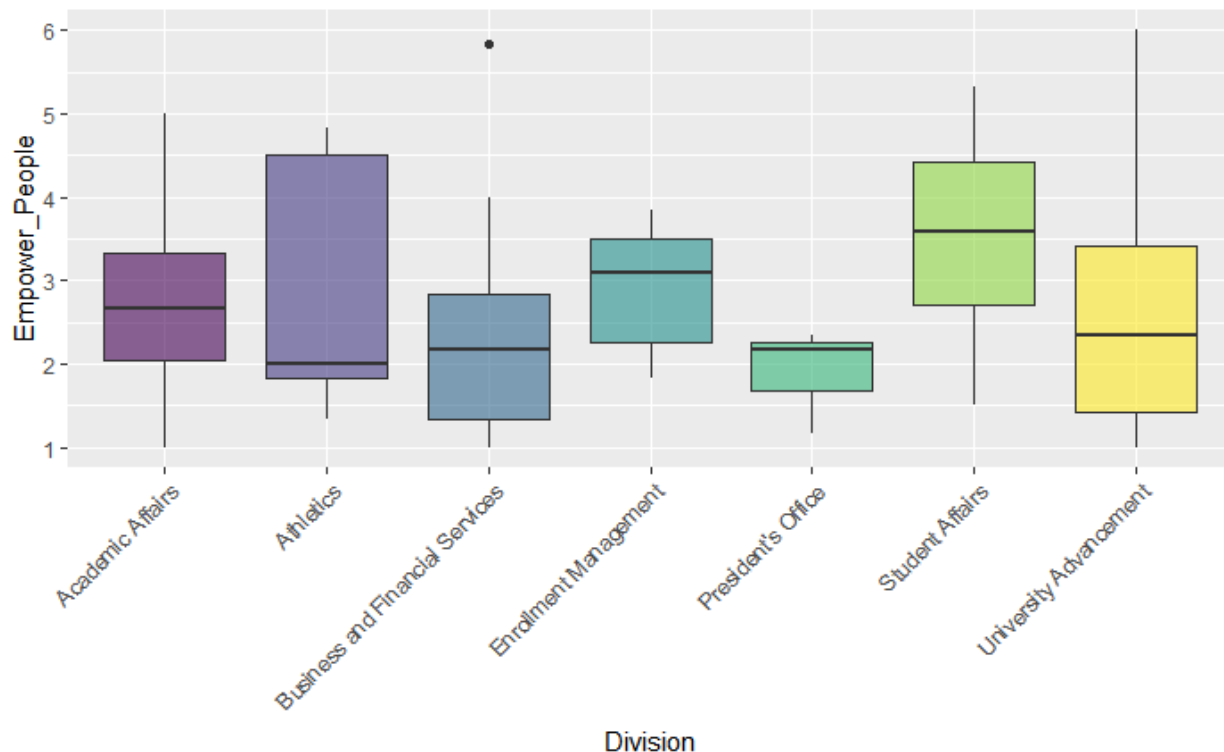
Connect the Organization to its Environment

Summary statistics and distribution of the Connect the Organization to its Environment (SC) scores across divisions is shown in Table 34 and Figure 27, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.986, p=.092) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Kruskal-Wallis test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Kruskal-Wallis test (H(6)=9.76, p=.135) found no significant difference between divisions in SC. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on SC did not vary between divisions. Pairwise estimates of SC between divisions (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed no Bonferroni-adjusted significant differences between any pairs of divisions.

Table 34. Summary statistics of SC across divisions

Division	n	mean	sd	median	iqr	se	ci
Academic Affairs	102	3.005	0.994	3	1.583	0.098	0.195
Athletics	5	3.133	1.361	2.667	2.5	0.609	1.69
Business and Financial Services	17	2.657	0.992	2.833	1.5	0.241	0.51
Enrollment Management	10	3.35	0.921	3.5	1.375	0.291	0.659
President's Office	3	2.167	0.882	2.5	0.833	0.509	2.191
Student Affairs	20	3.6	1.077	3.583	1.667	0.241	0.504
University Advancement	12	3.264	1.498	3.167	1.542	0.433	0.952

*Figure 27. Distribution of scores of SC across divisions*
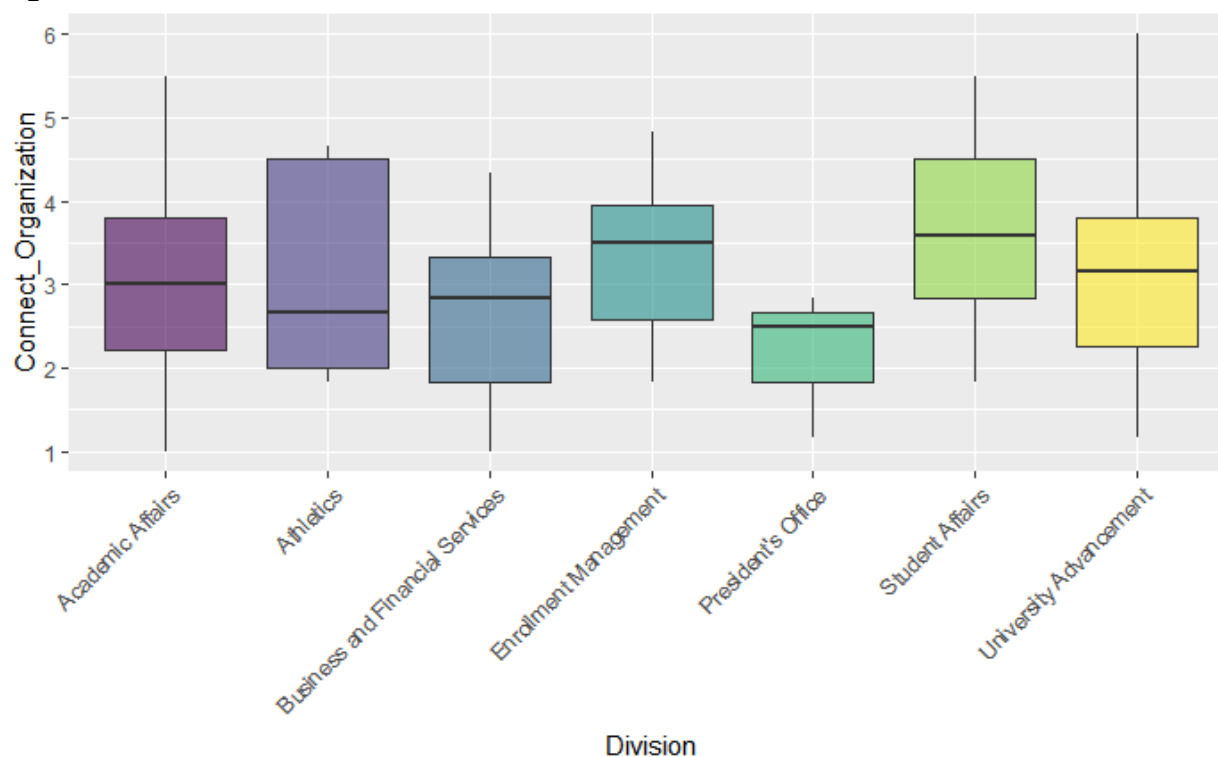
Strategic Leadership

Summary statistics and distribution of the Strategic Leadership (SL) scores across divisions is shown in Table 35 and Figure 28, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.972, p=.002) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Kruskal-Wallis test was run. Additionally, an ANOVA was run, yielding similar results (see Appendix D). Results of the Kruskal-Wallis test (H(6)=18.32, p<0.00548, η^2=.077) produced a significant difference and moderate effect size (Tomczak & Tomczak, 2014). The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on SL varies between divisions. Pairwise estimates of SL between colleges (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed a Bonferroni-adjusted significant difference between Academic Affairs and Student Affairs (*p*=.035) with an estimated difference in location parameters of -1.00 on the 6-point scale. It also revealed a Bonferroni-adjusted significant difference between Business and Financial Services and Student Affairs (*p*=.032) with an estimated difference in location parameters of -1.50 on the 6-point scale.

Table 35. Summary statistics of SL across divisions

Division	n	mean	sd	median	iqr	se	ci
Academic Affairs	101	2.939	1.157	3	1.667	0.115	0.228
Athletics	5	3.167	1.196	2.833	2	0.535	1.485
Business and Financial Services	17	2.441	1.195	2	1.5	0.29	0.614

Division	n	mean	sd	median	iqr	se	ci
Enrollment Management	10	3.367	0.661	3.25	0.708	0.209	0.473
President's Office	3	2	0.882	2.333	0.833	0.509	2.191
Student Affairs	19	3.851	0.978	3.833	1.25	0.224	0.471
University Advancement	11	2.939	1.281	3	1.25	0.386	0.86

Figure 28. Distribution of scores of SL across divisions
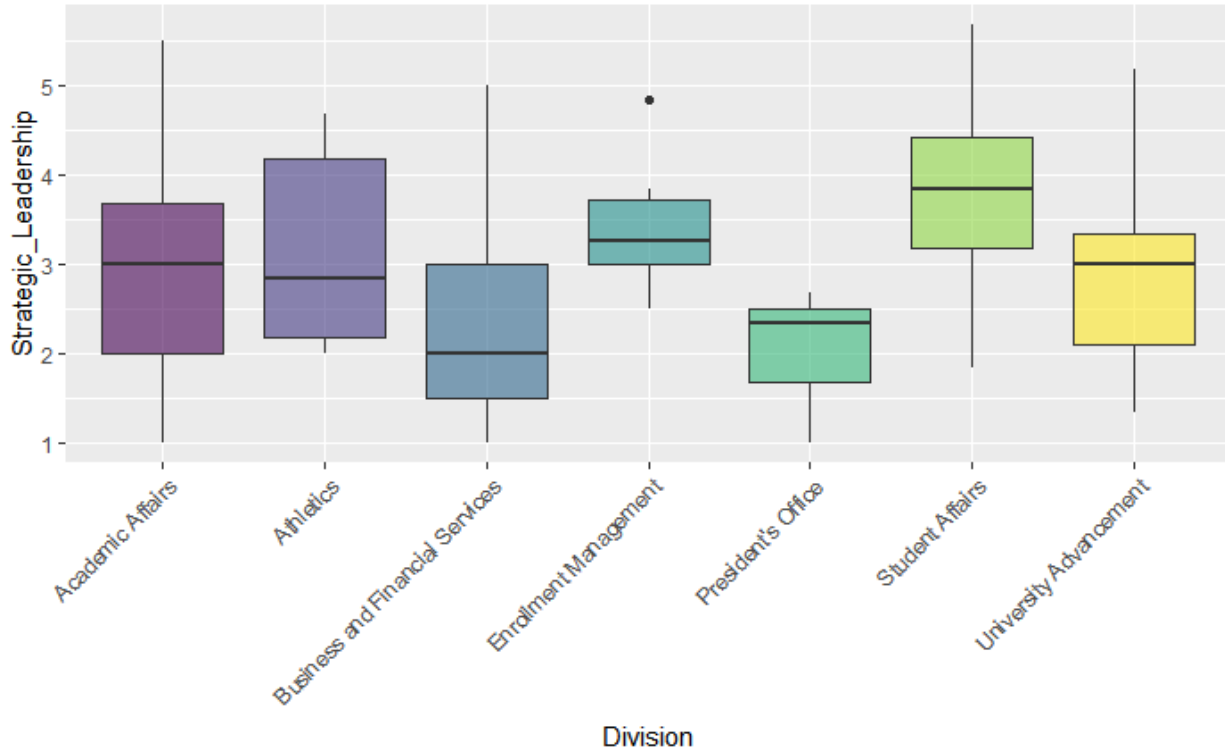
Overall Score
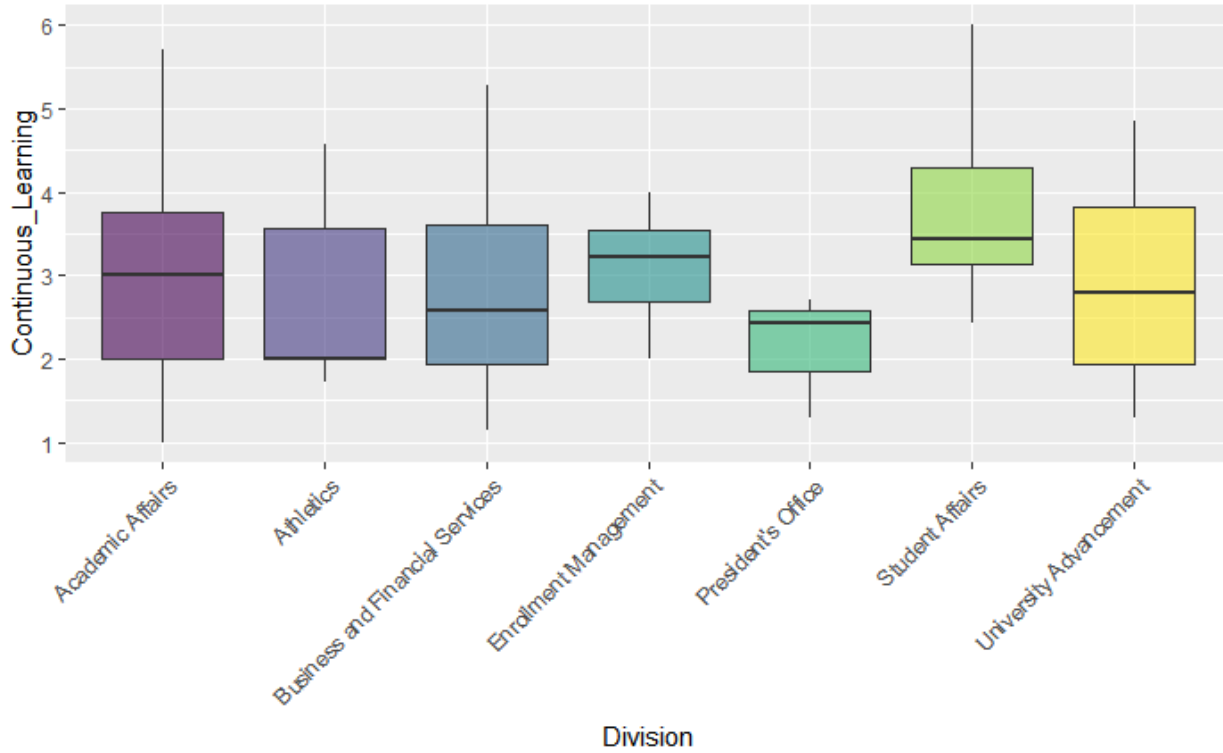
Summary statistics and distribution of the Overall Score (OS) across divisions is shown in Table 36 and Figure 29, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.978, p=.018) of the distribution found that the data was not normally distributed. Consequently, a Kruskal-Wallis test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Kruskal-Wallis test (H(6)=10.62, p=.101) found no significant difference between divisions in OS. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on OS did not vary between divisions. Pairwise estimates of OS between divisions (with Bonferroni correction) are provided in Appendix C. Pairwise estimates revealed no Bonferroni-adjusted significant differences between any pairs of divisions.

Table 36. Summary statistics of OS across divisions

Division	n	mean	sd	median	iqr	se	ci
Academic Affairs	92	2.868	0.916	2.819	1.243	0.096	0.19
Athletics	5	3.006	1.263	2.147	2.179	0.565	1.568
Business and Financial Services	15	2.601	1.055	2.258	1.399	0.272	0.584
Enrollment Management	9	3.043	0.562	3	0.774	0.187	0.432
President's Office	3	2.079	0.371	2.127	0.369	0.214	0.922
Student Affairs	14	3.496	0.937	3.413	1.449	0.25	0.541
University Advancement	11	3.021	1.19	2.556	1.738	0.359	0.799

Figure 29. Distribution of scores of OS across divisions
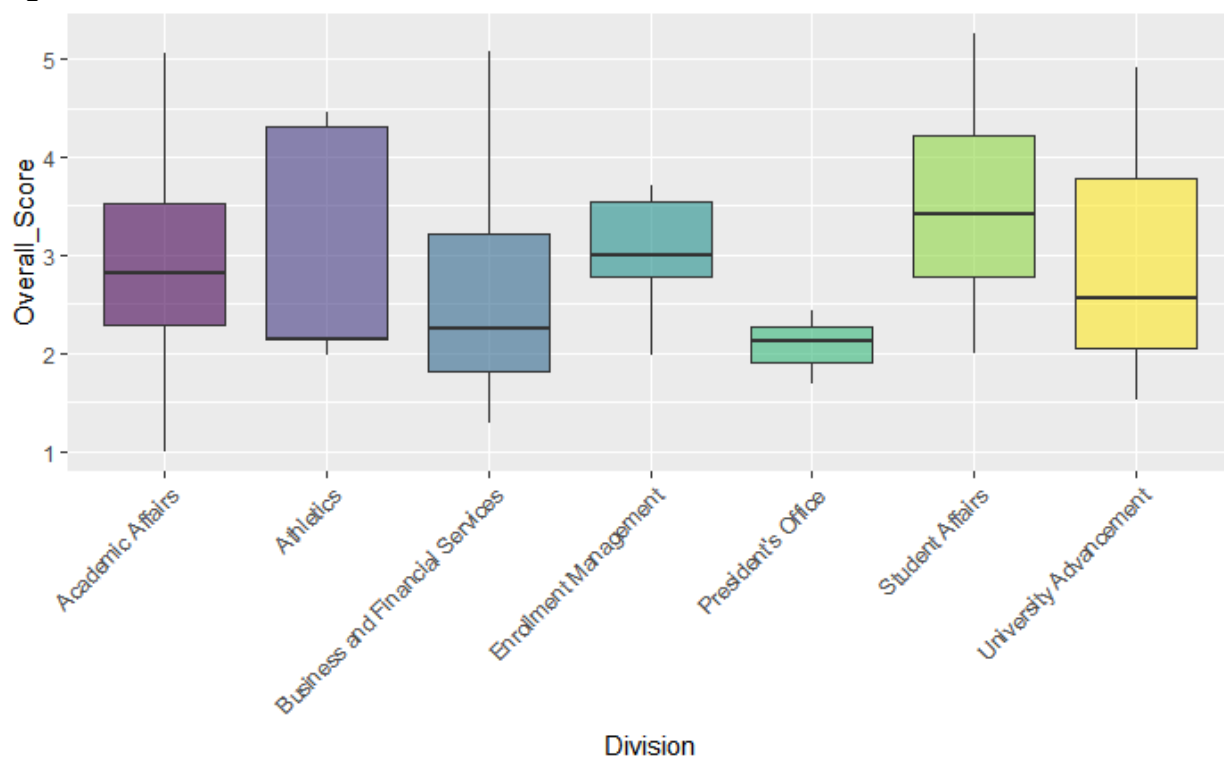
Detailed Findings for Supporting Question 2(c)

Continuous Learning

Summary statistics and distribution of the Continuous Learning (CL) scores between Academic Affairs (AAF) staff and non-AAF staff is shown in Table 37 and Figure 30, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.985, p=.287) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Mann-Whitney U test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Mann-Whitney U test (U=1359, p=.344) found no significant difference between AAF staff and non-AAF staff in CL. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on CL did not vary between AAF staff and non-AAF staff.

Table 37. Summary statistics of CL between AAF staff and non-AAF staff

AAF Staff or non-AAF staff	n	mean	sd	median	iqr	se	ci
Academic Affairs	37	3.328	1.026	3.429	1.429	0.169	0.342
Non-Academic Affairs	66	3.152	1.096	3.143	1.429	0.135	0.269

Figure 30. Distribution of scores of CL between AAF staff and non-AAF staff
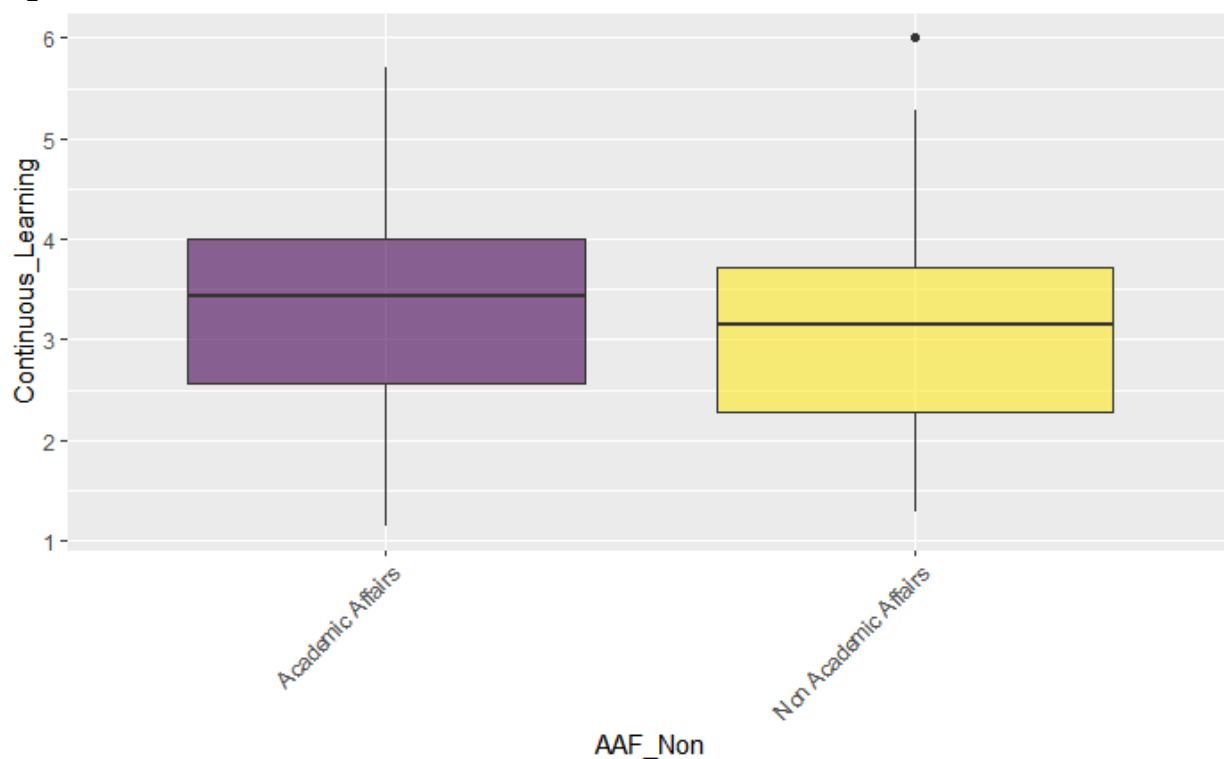
Inquiry and Dialogue

Summary statistics and distribution of the Inquiry and Dialogue (DI) scores between Academic Affairs (AAF) staff and non-AAF staff is shown in Table 38 and Figure 31, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.983, p=.204) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Mann-Whitney U test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Mann-Whitney U test (U=1330, p=.304) found no significant difference between AAF staff and non-AAF staff in DI. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on DI did not vary between AAF staff and non-AAF staff.

Table 38. Summary statistics of DI between AAF staff and non-AAF staff

| AAF Staff or non-AAF Staff	n	mean	sd	median	iqr	se	ci
Academic Affairs	37	3.117	0.977	3	1.333	0.161	0.326
Non-Academic Affairs	64	2.948	1.057	2.833	1.542	0.132	0.264

Figure 31. Distribution of scores of DI between AAF staff and non-AAF staff
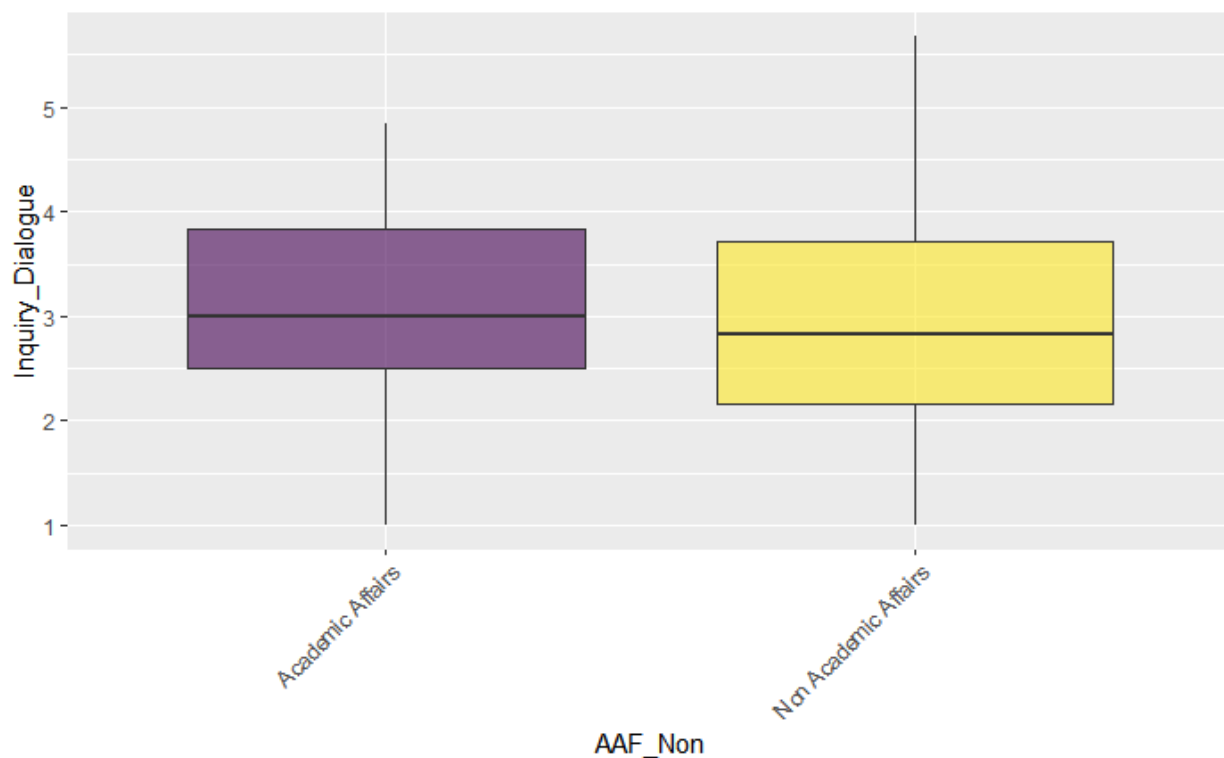
Collaboration and Team Learning

Summary statistics and distribution of the Collaboration and Team Learning (TL) scores between Academic Affairs (AAF) staff and non-AAF staff is shown in Table 39 and Figure 32, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.977, p=.072) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Mann-Whitney U test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Mann-Whitney U test (U=1341, p=.352) found no significant difference between AAF staff and non-AAF staff in TL. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on TL did not vary between AAF staff and non-AAF staff.

Table 39. Summary statistics of TL between AAF staff and non-AAF staff

AAF Staff or non-AAF Staff	n	mean	sd	median	iqr	se	ci
Academic Affairs	36	3.361	1.066	3.167	1.542	0.178	0.361
Non-Academic Affairs	67	3.142	1.203	3	1.583	0.147	0.294

*Figure 32. Distribution of scores of TL between AAF staff and non-AAF staff*
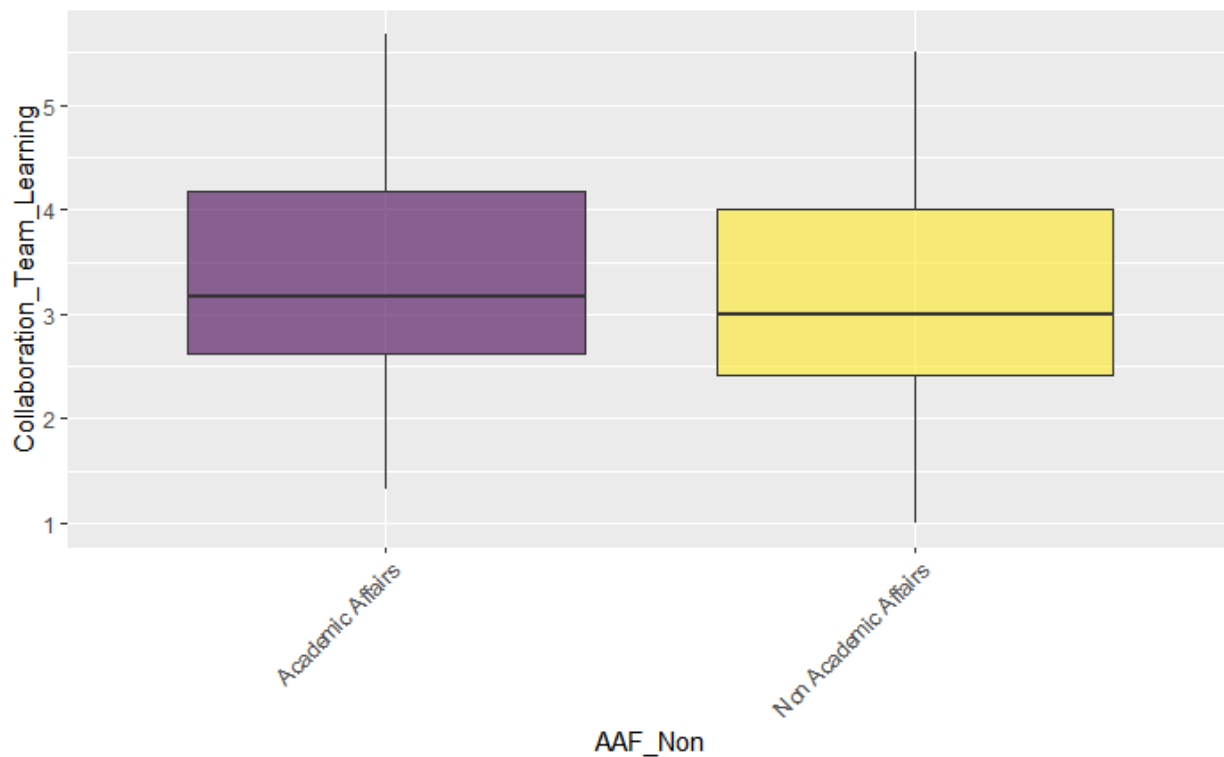
Systems to Capture and Share Learning

Summary statistics and distribution of the Systems to Capture and Share Learning (ES) scores between Academic Affairs (AAF) staff and non-AAF staff is shown in Table 40 and Figure 33, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.976, p=.069) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Mann-Whitney U test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Mann-Whitney U test (U=1037.5, p=.803) found no significant difference between AAF staff and non-AAF staff in ES. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on ES did not vary between AAF staff and non-AAF staff.

Table 40. Summary statistics of ES between AAF staff and non-AAF staff

AAF Staff or non-AAF Staff	n	mean	sd	median	iqr	se	ci
Academic Affairs	34	2.725	0.968	2.583	1.625	0.166	0.338
Non-Academic Affairs	63	2.847	1.143	2.667	1.25	0.144	0.288

Figure 33. Distribution of scores of ES between AAF staff and non-AAF staff
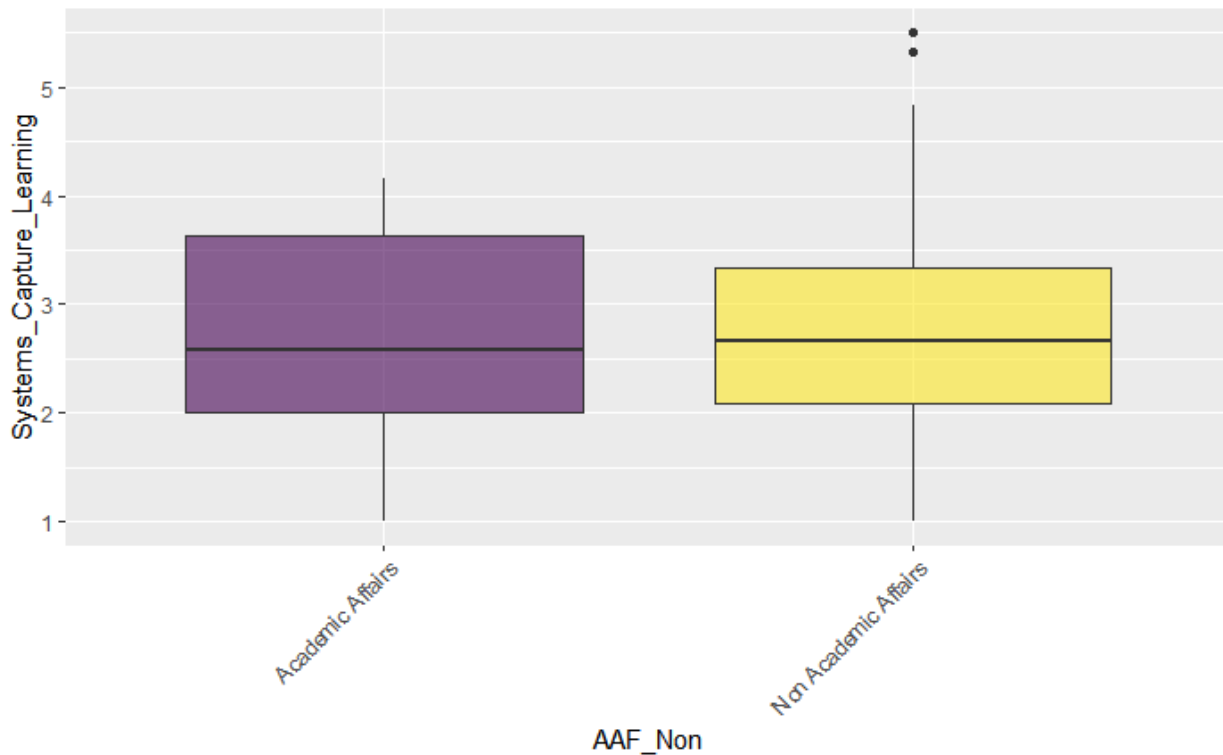
Empower People

Summary statistics and distribution of the Empower People (EP) scores between Academic Affairs (AAF) staff and non-AAF staff is shown in Table 41 and Figure 34, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.974, p=.047) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Mann-Whitney U test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Mann-Whitney U test (U=1070.5, p=.915) found no significant difference between AAF staff and non-AAF staff in EP. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU *on EP did not vary between AAF staff and non-AAF staff.*

Table 41. Summary statistics of EP between AAF staff and non-AAF staff

AAF Staff or non-AAF Staff	n	mean	sd	median	iqr	se	ci
Academic Affairs	33	2.813	0.896	3	1.167	0.156	0.318
Non-Academic Affairs	64	2.862	1.276	2.75	1.75	0.159	0.319

Figure 34. Distribution of scores of EP between AAF staff and non-AAF staff
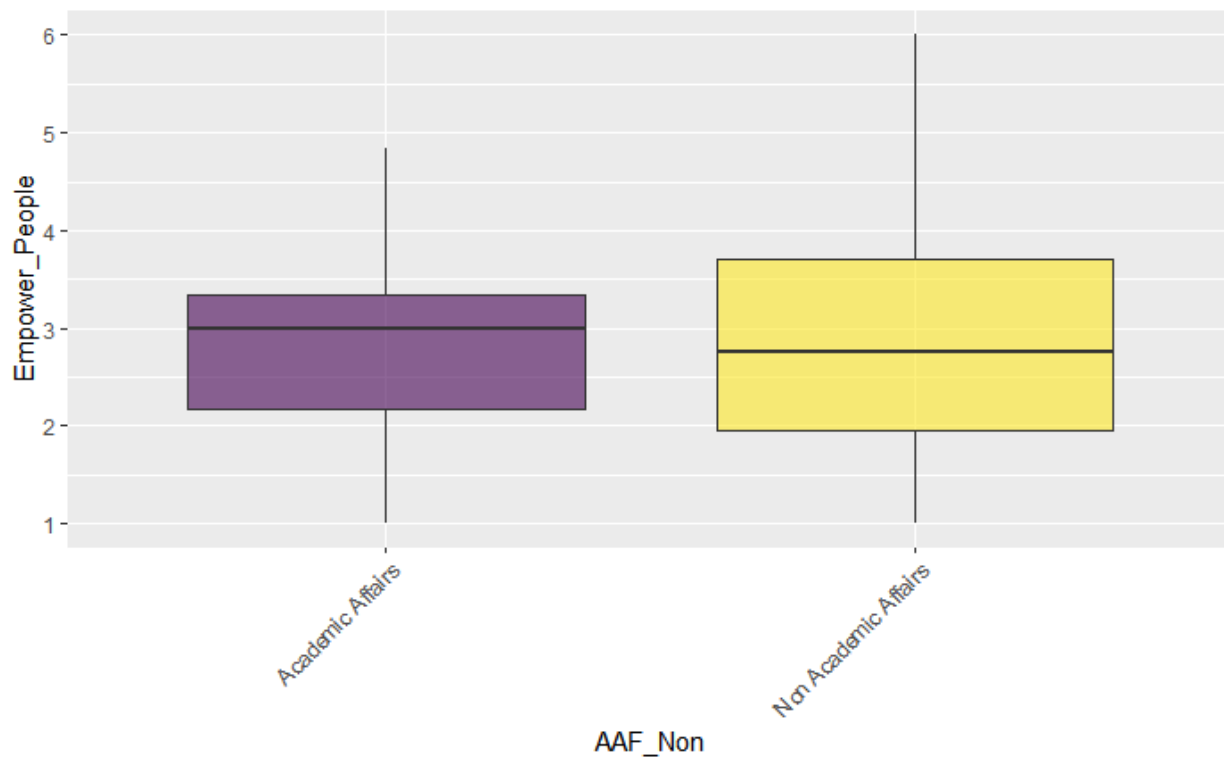
Connect the Organization to its Environment

Summary statistics and distribution of the Connect the Organization to its Environment (SC) scores between Academic Affairs (AAF) staff and non-AAF staff is shown in Table 42 and Figure 35, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.985, p=.341) of the distribution found that the data was not normally distributed. Consequently, a Mann-Whitney U test was run. In addition, an ANOVA was run, yielding similar results (see Appendix D). Results of the Mann-Whitney U test (U=1093, p=.835) found no significant difference between AAF staff and non-AAF staff in SC. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on SC did not vary between AAF staff and non-AAF staff.

Table 42. Summary statistics of SC between AAF staff and non-AAF staff

AAF Staff or non-AAF Staff	n	mean	sd	median	iqr	se	ci
Academic Affairs	34	3.078	1.011	3	1.458	0.173	0.353
Non-Academic Affairs	66	3.189	1.163	3.083	1.667	0.143	0.286

Figure 35. Distribution of scores of SC between AAF staff and non-AAF staff
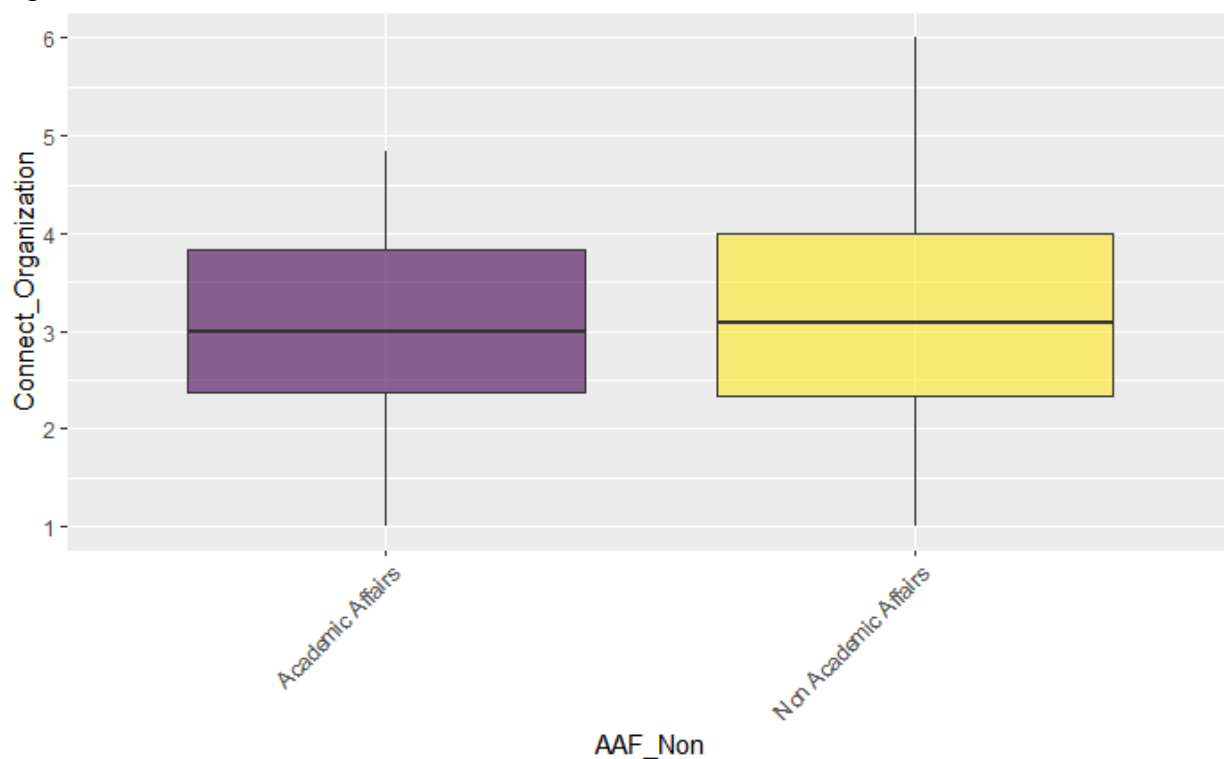
Strategic Leadership

Summary statistics and distribution of the Strategic Leadership (SL) scores between Academic Affairs (AAF) staff and non-AAF staff is shown in Table 43 and Figure 36, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.977, p=.087) of the distribution found that the data was not normally distributed. Consequently, a Mann-Whitney U test was run. In addition, an ANOVA was run, yielding similar results (see Appendix D). Results of the Mann-Whitney U test (U=1122, p=.448) found no significant difference between AAF staff and non-AAF staff in SL. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on SL did not vary between AAF staff and non-AAF staff.

Table 43. Summary statistics of SL between AAF staff and non-AAF staff

AAF Staff or non-AAF Staff	n	mean	sd	median	iqr	se	ci
Academic Affairs	32	3.307	1.132	3.25	1.542	0.2	0.408
Non-Academic Affairs	64	3.148	1.167	3	1.708	0.146	0.292

Figure 36. Distribution of scores of SL between AAF staff and non-AAF staff
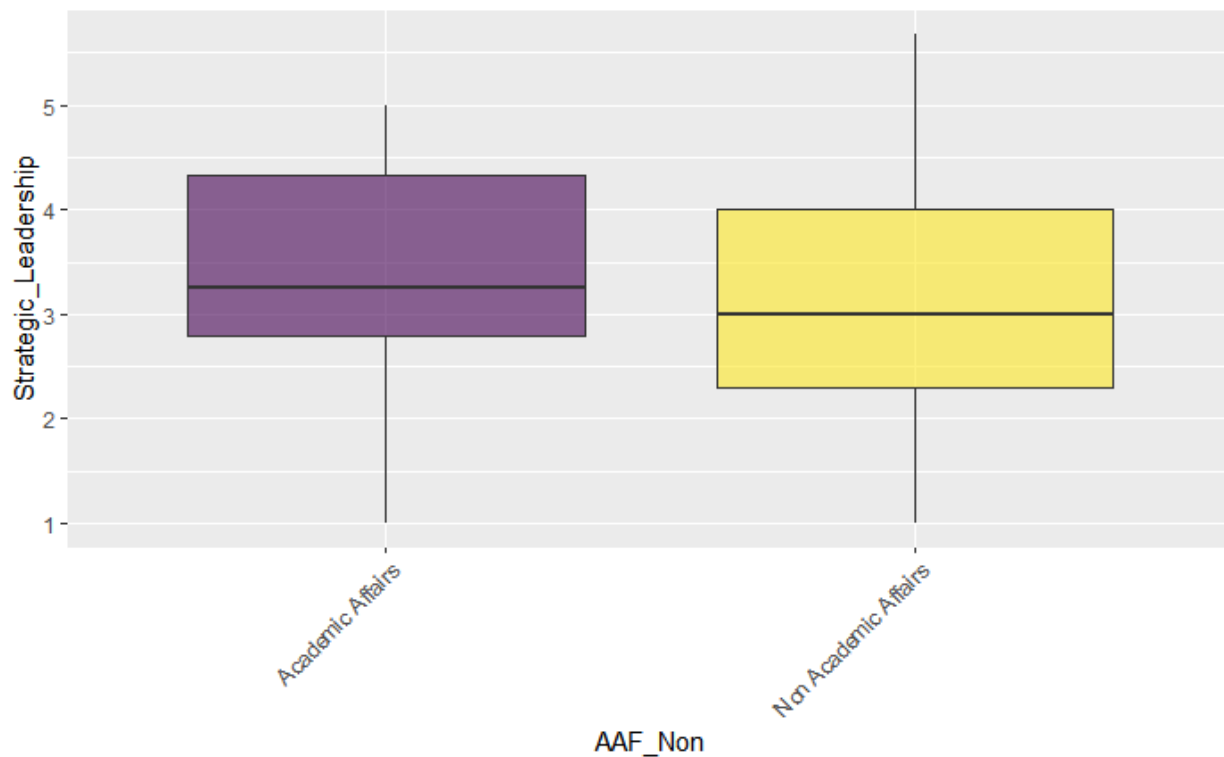
Overall Score

Summary statistics and distribution of the Overall Score (OS) scores between Academic Affairs (AAF) staff and non-AAF staff is shown in Table 44 and Figure 37, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.976, p=.108) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Mann-Whitney U test was run. In addition, an ANOVA was run, yielding similar results (see Appendix D). Results of the Mann-Whitney U test (U=952, p=.553) found no significant difference between AAF staff and non-AAF staff in OS. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on OS did not vary between AAF staff and non-AAF staff.

Table 44. Summary statistics of OS between AAF staff and non-AAF staff

AAF Staff or non-AAF Staff	n	mean	sd	median	iqr	se	ci
Academic Affairs	31	3.022	0.836	2.968	1.226	0.15	0.306
Non-Academic Affairs	57	2.98	1.024	2.825	1.417	0.136	0.272

Figure 37. Distribution of scores of OS between AAF staff and non-AAF staff
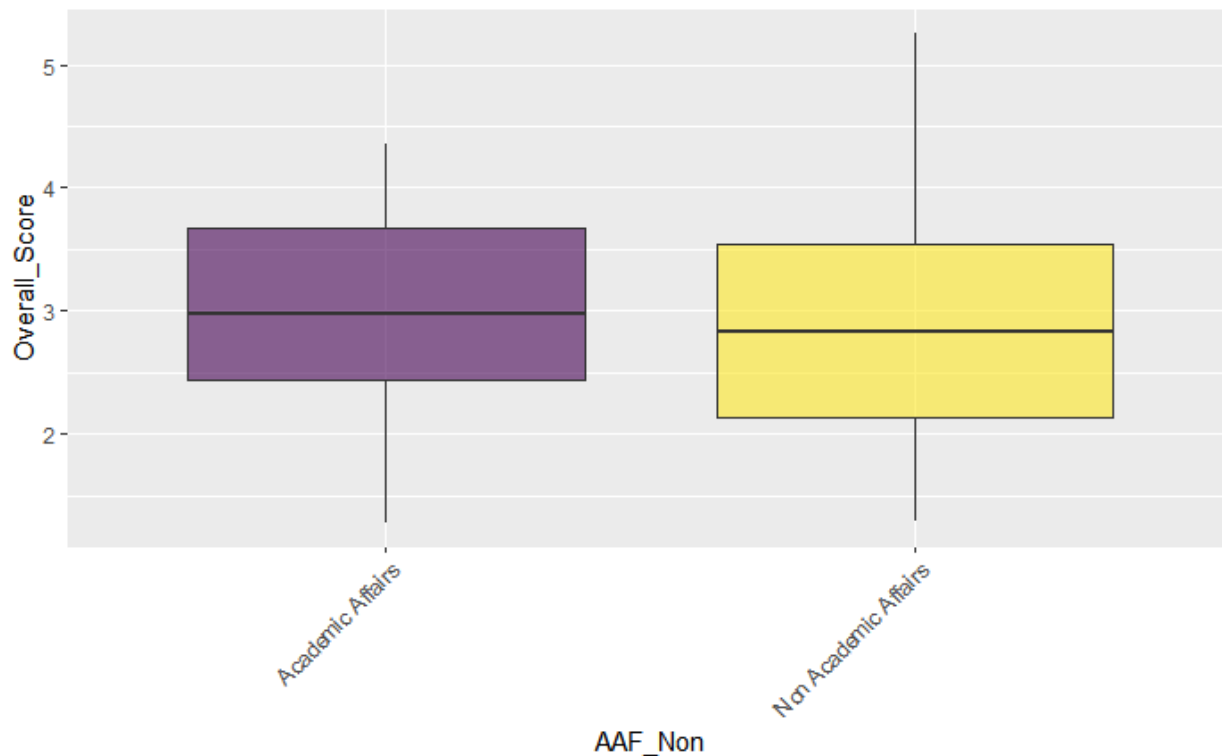
Appendix B

Detailed Findings for Supporting Question 3(a)

Continuous Learning

Summary statistics and distribution of the Continuous Learning (CL) scores between faculty and staff are shown in Table 45 and Figure 38, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.98, p=.011) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=2809, p=.0037, r =.218) produced a significant difference but a small effect size (Tomczak & Tomczak, 2014). The estimated difference of location parameters was 0.43 less for faculty on the 6-point scale. The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on CL varies between faculty and staff, though with a small effect size.

Table 45. Summary statistics of CL between faculty and staff

Employee Type	n	mean	sd	median	iqr	se	ci
Faculty	72	2.752	1.046	2.714	1.571	0.123	0.246
Staff	105	3.238	1.073	3.286	1.571	0.105	0.208

Figure 38. Distribution of scores of CL between faculty and staff
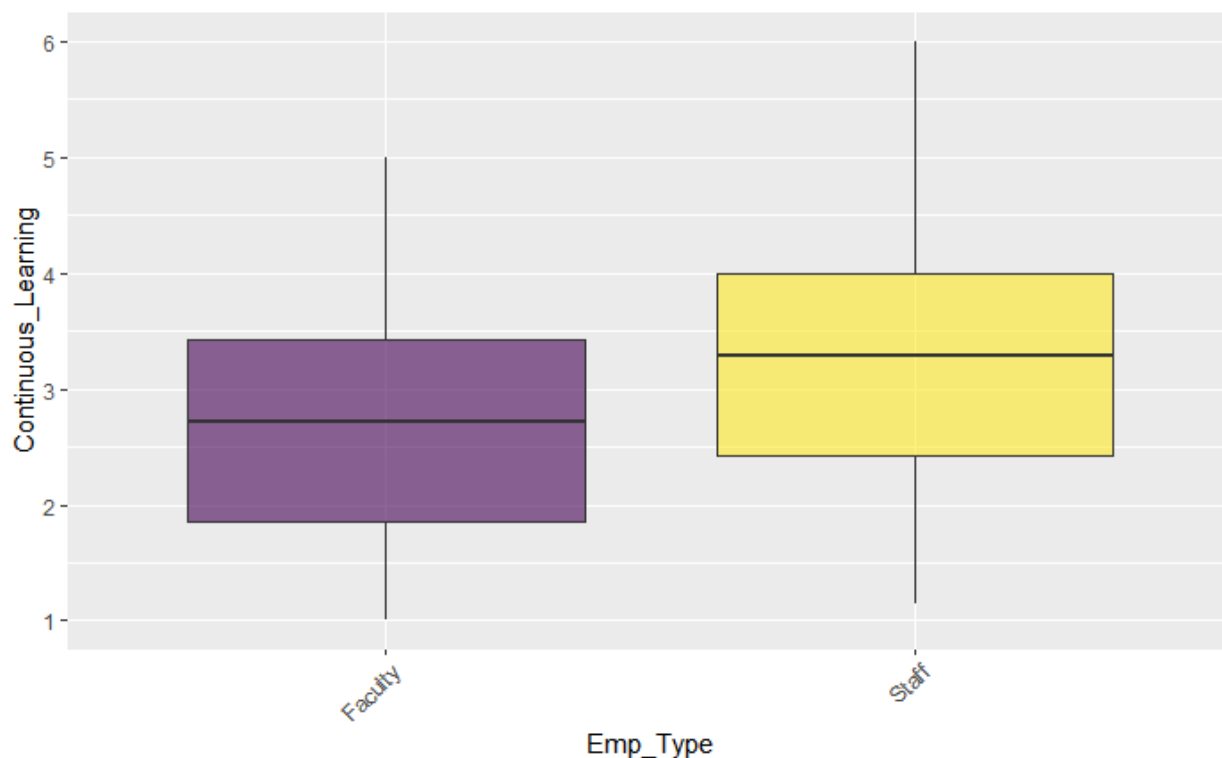
Inquiry and Dialogue

Summary statistics and distribution of the Inquiry and Dialogue (DI) scores between faculty and staff are shown in Table 46 and Figure 39, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.976, p=.004) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=3268.5, p=.276) found no significant difference between faculty and staff in DI. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on DI did not vary between faculty and staff.

Table 46. Summary statistics of DI between faculty and staff

Employee Type	n	mean	sd	median	iqr	se	ci
Faculty	69	2.87	1.066	2.667	1.667	0.128	0.256
Staff	105	3.008	1.01	3	1.333	0.099	0.196

Figure 39. Distribution of scores of DI between faculty and staff
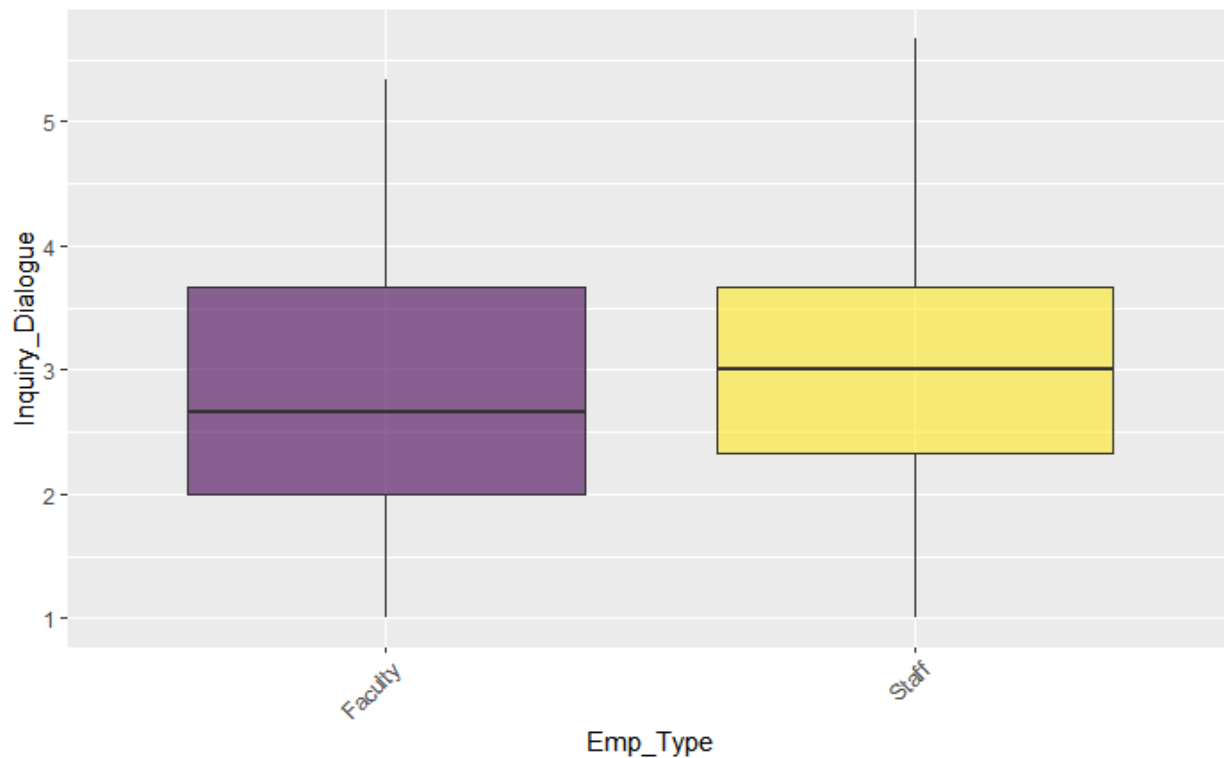
Collaboration and Team Learning

Summary statistics and distribution of the Collaboration and Team Learning (TL) scores between faculty and staff are shown in Table 47 and Figure 40, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.98, p=.014) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=3437.5, p=.442) found no significant difference between faculty and staff in TL. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on TL did not vary between faculty and staff.

Table 47. Summary statistics of TL between faculty and staff

Employee Type	n	mean	sd	median	iqr	se	ci
Faculty	69	3.01	1.142	3	1.5	0.137	0.274
Staff	107	3.19	1.148	3	1.583	0.111	0.22

Figure 40. Distribution of scores of TL between faculty and staff
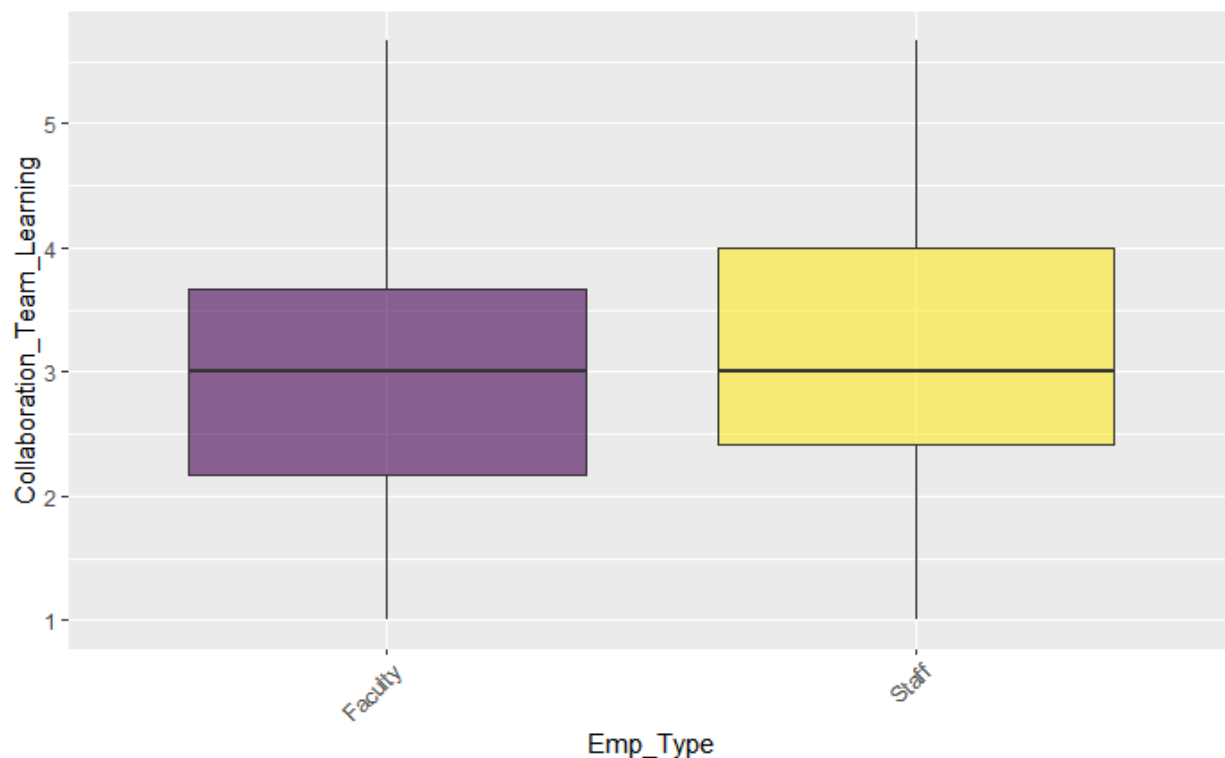
Systems to Capture and Share Learning

Summary statistics and distribution of the Systems to Capture and Share Learning (ES) scores between faculty and staff are shown in Table 48 and Figure 41, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.97, p=.0005) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=2652.5, p=.0227, r =.176) produced a significant difference but a small effect size (Tomczak & Tomczak, 2014). The estimated difference of location parameters was 0.33 less for faculty on the 6-point scale. The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on ES varies between faculty and staff, though with a small effect size.

Table 48. Summary statistics of ES between faculty and staff

Employee Type	n	mean	sd	median	iqr	se	ci
Faculty	67	2.423	1.098	2.333	1.667	0.134	0.268
Staff	100	2.802	1.074	2.667	1.5	0.107	0.213

Figure 41. Distribution of scores of ES between faculty and staff
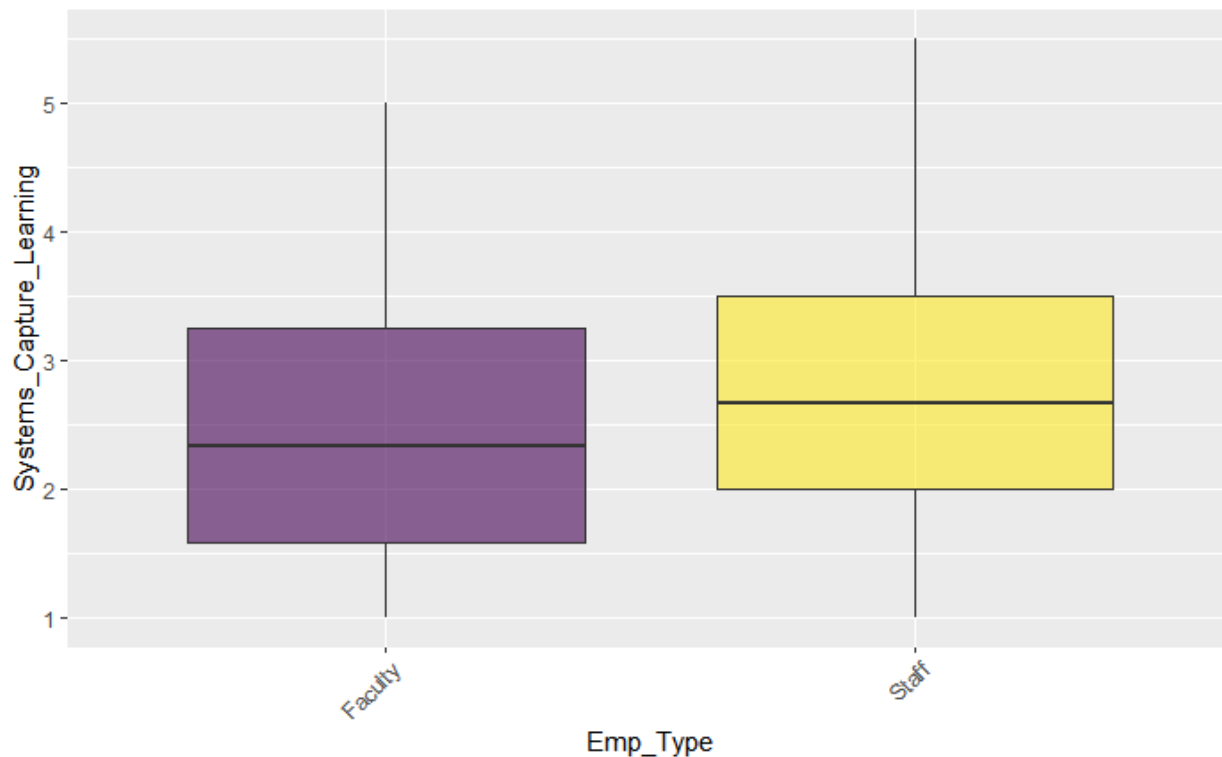
Empower People

Summary statistics and distribution of the Empower People (EP) scores between faculty and staff are shown in Table 49 and Figure 42, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.975, p=.003) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=3266, p=.459) found no significant difference between faculty and staff in EP. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on EP did not vary between faculty and staff.

Table 49. Summary statistics of EP between faculty and staff

Employee Type	n	mean	sd	median	iqr	se	ci
Faculty	70	2.667	0.98	2.5	1.292	0.117	0.234
Staff	100	2.818	1.156	2.833	1.5	0.116	0.229

Figure 42. Distribution of scores of EP between faculty and staff
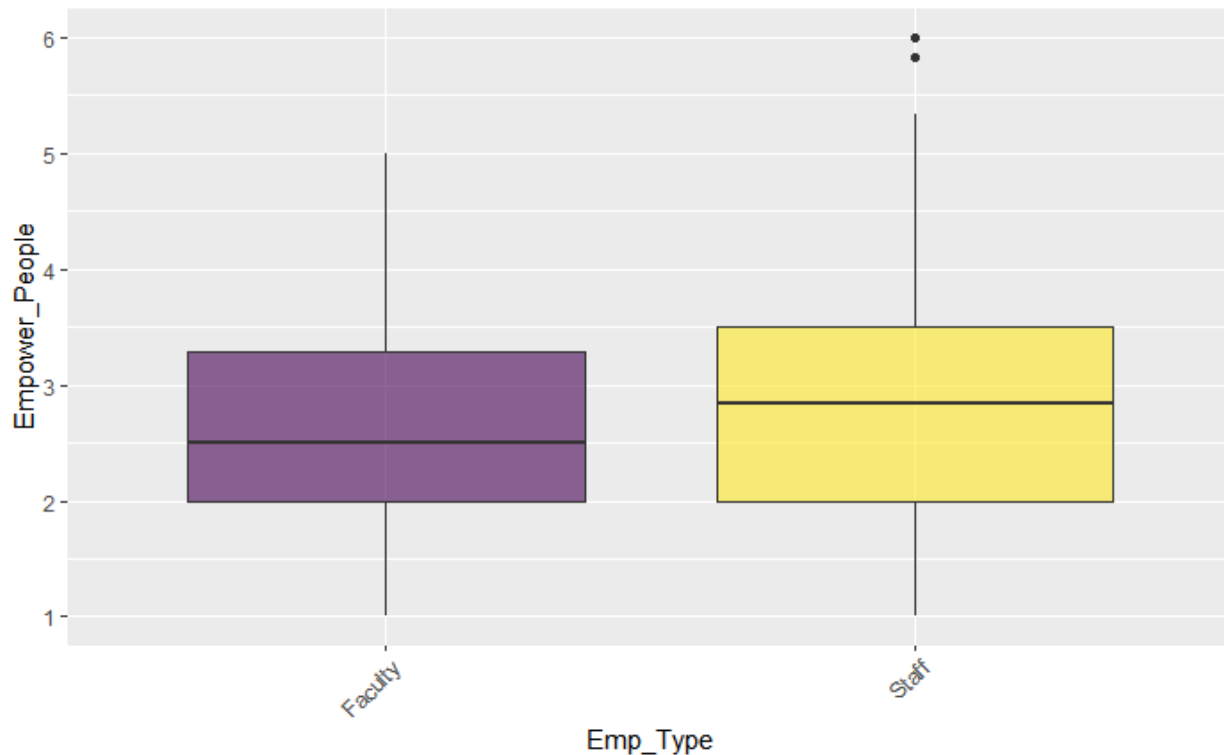
Connect the Organization to its Environment

Summary statistics and distribution of the Connect the Organization to its Environment (SC) scores between faculty and staff are shown in Table 50 and Figure 43, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.987, p=.104) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Mann-Whitney U test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Mann-Whitney U test (U=3115.5, p=.171) found no significant difference between faculty and staff in SC. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on SC did not vary between faculty and staff.

Table 50. Summary statistics of SC between faculty and staff

Employee Type	n	mean	sd	median	iqr	se	ci
Faculty	69	2.947	0.999	2.833	1.5	0.12	0.24
Staff	103	3.173	1.104	3.167	1.667	0.109	0.216

Figure 43. Distribution of scores of SC between faculty and staff
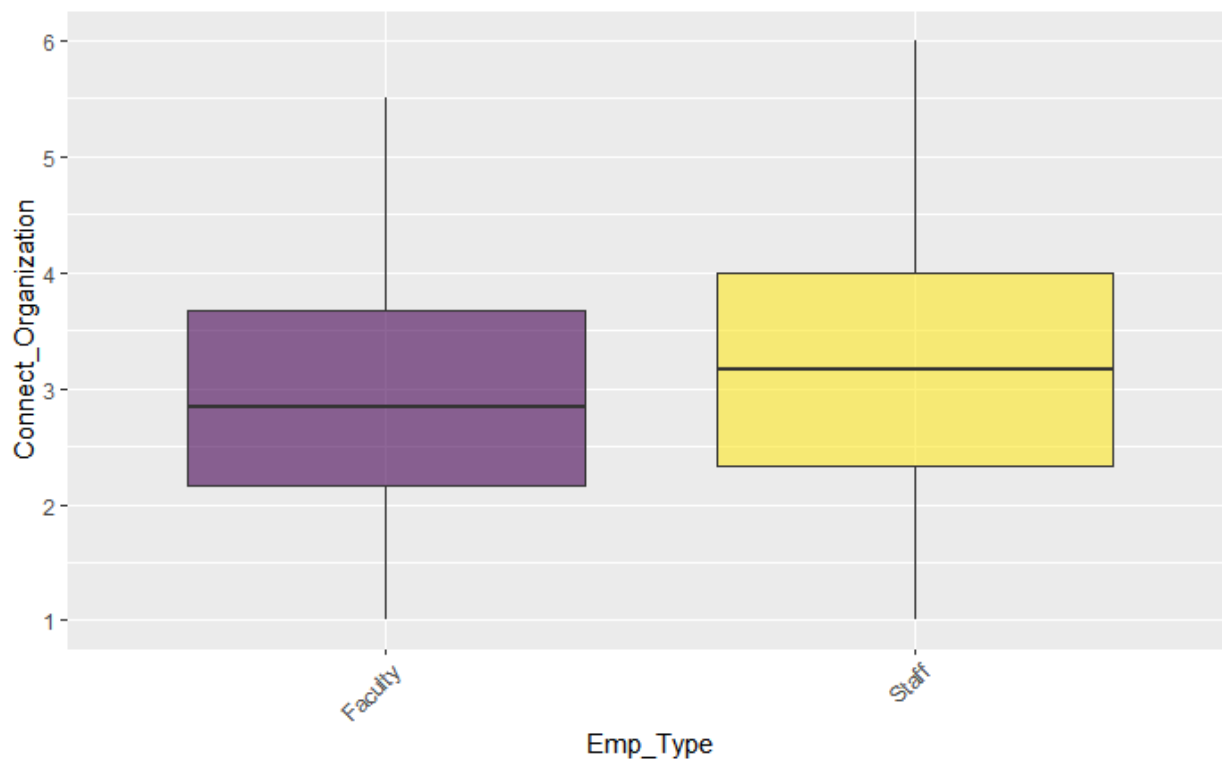
Strategic Leadership

Summary statistics and distribution of the Strategic Leadership (SL) scores between faculty and staff are shown in Table 51 and Figure 44, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.973, p=.002) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=2575.5, p=.0045, r =.219) produced a significant difference but a small effect size (Tomczak & Tomczak, 2014). The estimated difference of location parameters was 0.50 less for faculty on the 6-point scale. The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on SL varies between faculty and staff, though with a small effect size.

Table 51. Summary statistics of SL between faculty and staff

Employee Type	n	mean	sd	median	iqr	se	ci
Faculty	70	2.743	1.147	2.667	1.625	0.137	0.273
Staff	99	3.224	1.146	3.167	1.583	0.115	0.229

Figure 44. Distribution of scores of SL between faculty and staff
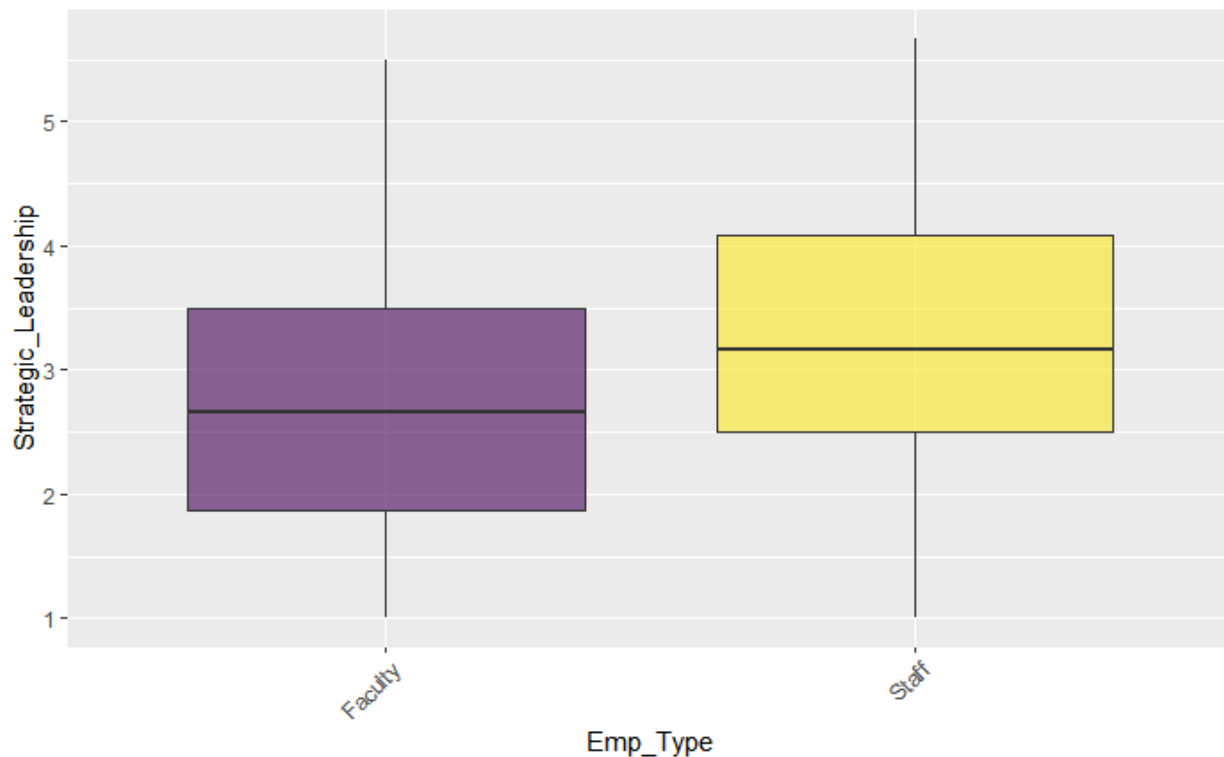
Overall Score

Summary statistics and distribution of the Overall Score (OS) between faculty and staff are shown in Table 52 and Figure 45, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.979, p=.02) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=2385, p=.208) found no significant difference between faculty and staff in OS. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on OS did not vary between faculty and staff.

Table 52. Summary statistics of OS between faculty and staff

Employee Type	n	mean	sd	median	iqr	se	ci
Faculty	61	2.789	0.952	2.563	1.075	0.122	0.244
Staff	89	2.994	0.952	2.917	1.44	0.101	0.2

Figure 45. Distribution of scores of OS between faculty and staff
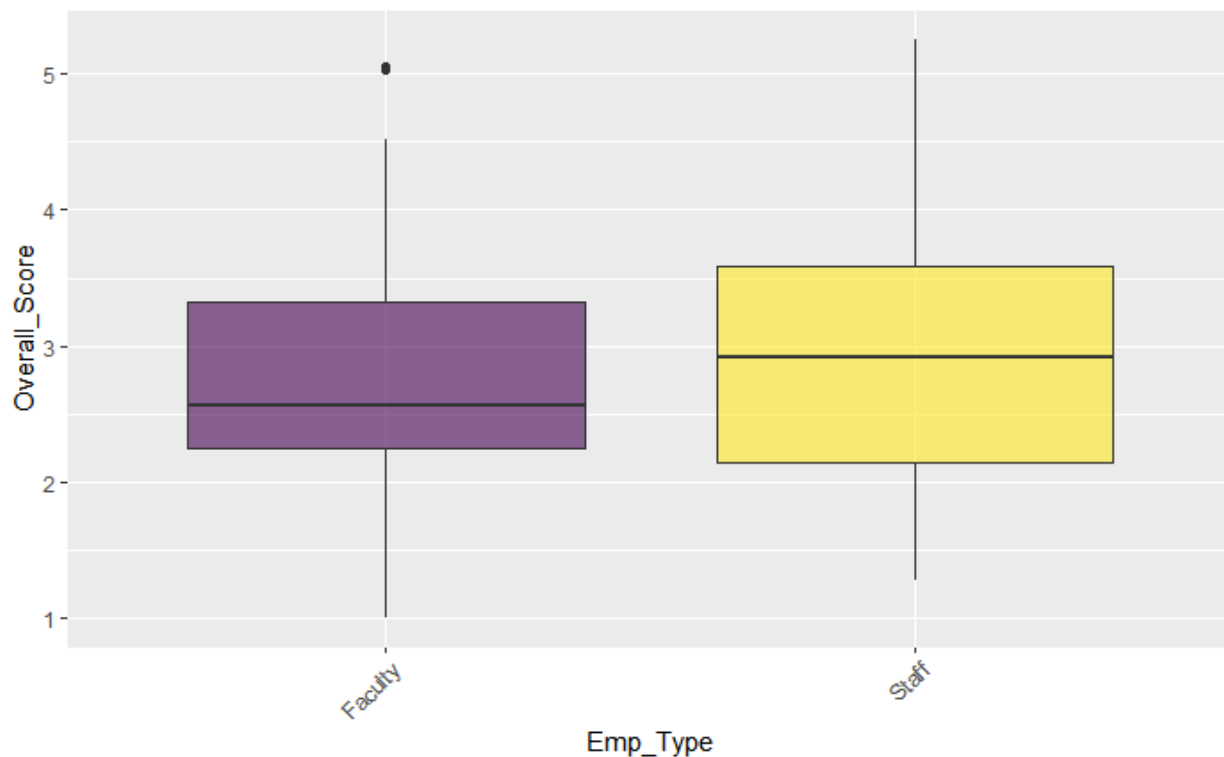
Detailed Findings for Supporting Question 3(b)

Continuous Learning

Summary statistics and distribution of the Continuous Learning (CL) scores between leadership and non-leadership is shown in Table 53 and Figure 46, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.98, p=.013) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. In addition, an ANOVA was run that yielded similar results (see Appendix D). Results of the Mann-Whitney U test (U=1341.5, p=.309) found no significant difference between leadership and non-leadership in CL. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on CL did not vary between leadership and non-leadership.

Table 53. Summary statistics of CL between leadership and non-leadership

Leadership or Not	n	mean	sd	median	iqr	se	ci
Leadership	20	2.779	0.787	2.786	1.071	0.176	0.368
Not Leadership	156	3.08	1.117	3	1.714	0.089	0.177

Figure 46. Distribution of scores of CL between leadership and non-leadership
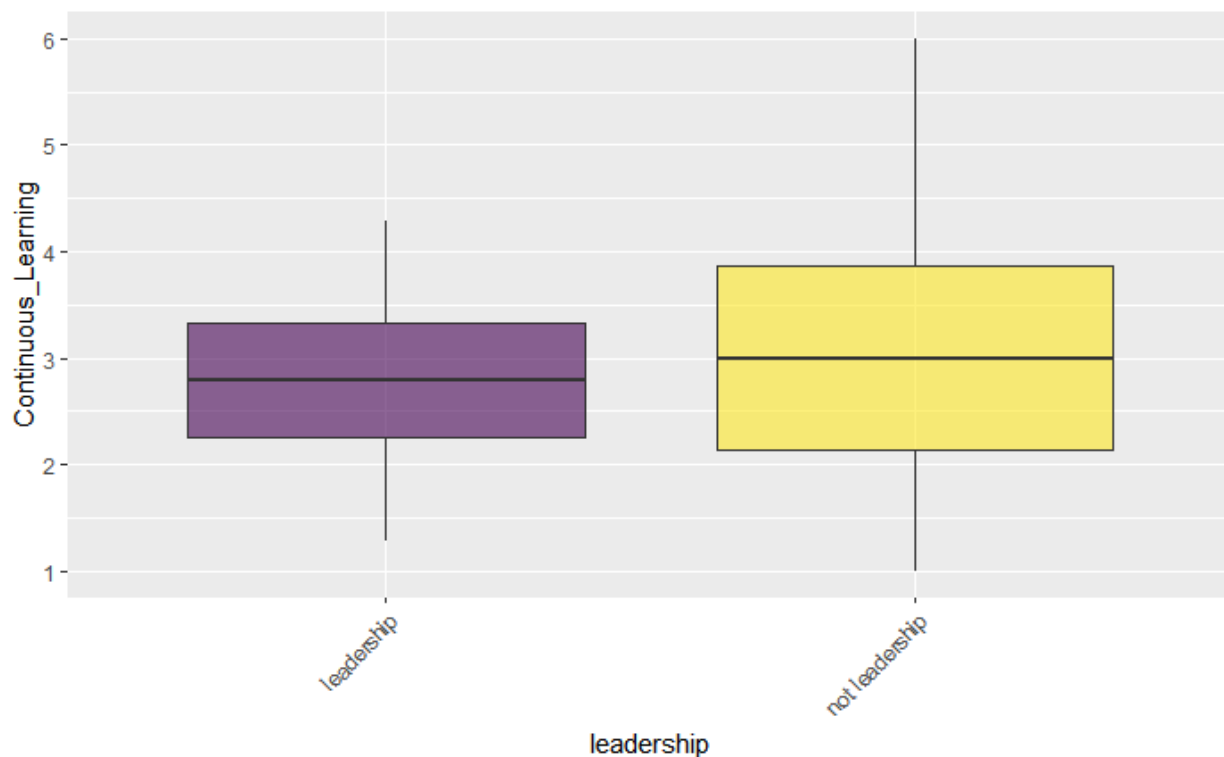
Inquiry and Dialogue

Summary statistics and distribution of the Inquiry and Dialogue (DI) scores between leadership and non-leadership is shown in Table 54 and Figure 47, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.976, p=.005) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Additionally, an ANOVA was run that yielded similar results (see Appendix D). Results of the Mann-Whitney U test (U=1658, p=.775) found no significant difference between leadership and non-leadership in DI. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on DI did not vary between leadership and non-leadership.

Table 54. Summary statistics of DI between leadership and non-leadership

Leadership or Not	n	mean	sd	median	iqr	se	ci
Leadership	21	2.992	0.846	2.833	1	0.185	0.385
Not Leadership	152	2.95	1.061	2.833	1.542	0.086	0.17

Figure 47. Distribution of scores of DI between leadership and non-leadership
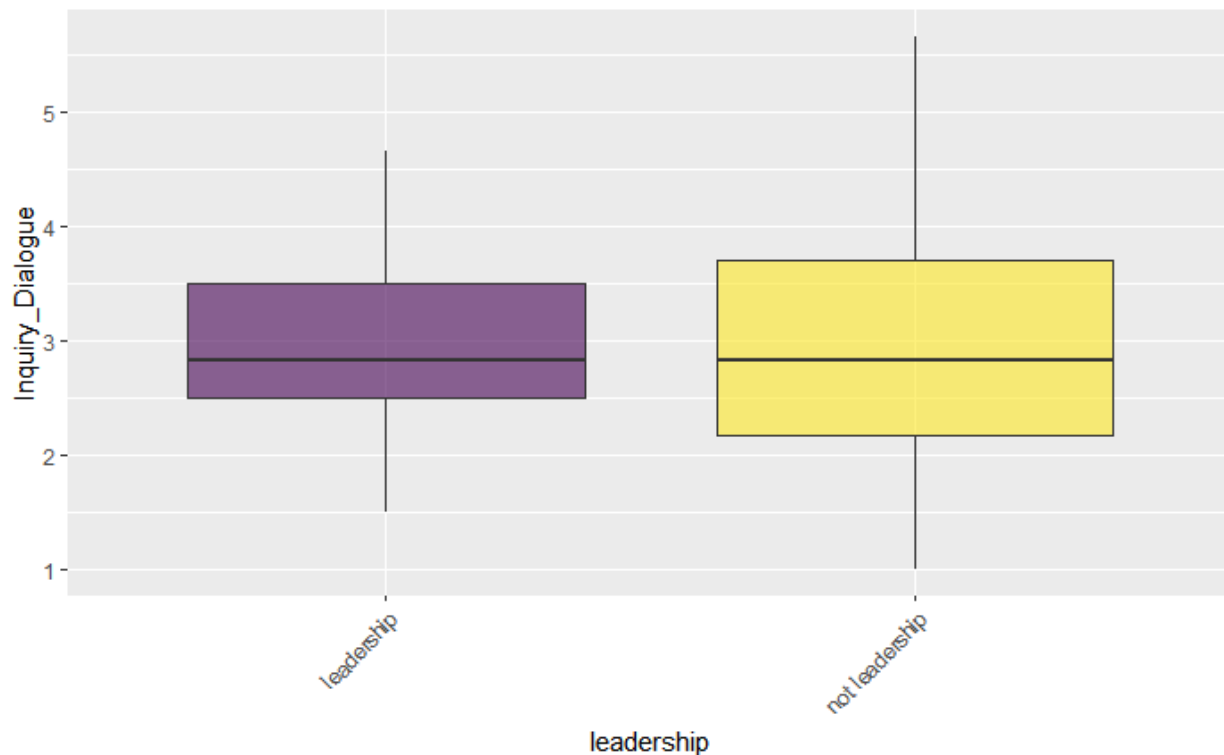
Collaboration and Team Learning

Summary statistics and distribution of the Collaboration and Team Learning (TL) scores between leadership and non-leadership are shown in Table 55 and Figure 48, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.98, p=.014) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=1428, p=.386) found no significant difference between leadership and non-leadership in TL. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on TL did not vary between leadership and non-leadership.

Table 55. Summary statistics of TL between leadership and non-leadership

Leadership or Not	n	mean	sd	median	iqr	se	ci
Leadership	21	2.905	0.963	2.833	1.667	0.21	0.438
Not Leadership	154	3.153	1.17	3	1.667	0.094	0.186

Figure 48. Distribution of scores of TL between leadership and non-leadership
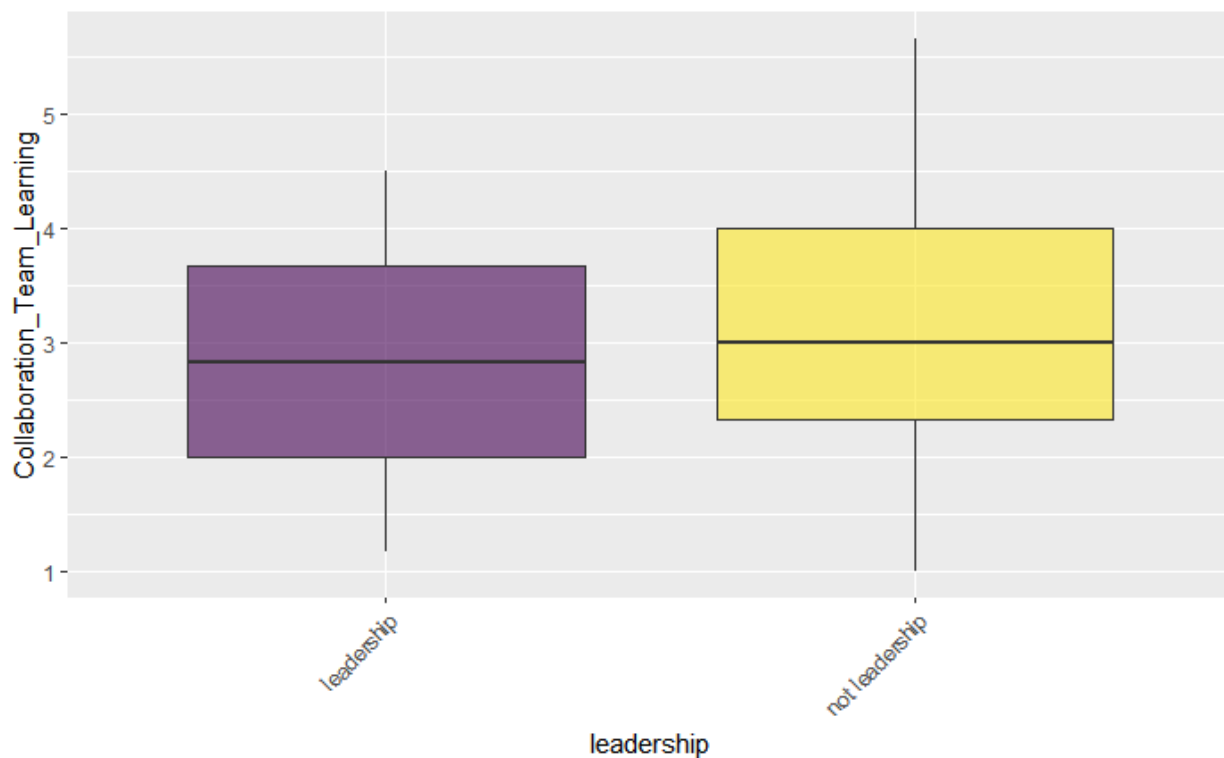
Systems to Capture and Share Learning

Summary statistics and distribution of the Systems to Capture and Share Learning (ES) scores between leadership and non-leadership is shown in Table 56 and Figure 49, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.967, p=.001) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Additionally, an ANOVA was run, yielding similar results (see Appendix D). Results of the Mann-Whitney U test (U=1007.5, p=.0123, r =.194) produced a significant difference but a small effect size (Tomczak & Tomczak, 2014). The estimated difference of location parameters was 0.66 less for leadership on the 6-point scale. The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on ES varies between leadership and non-leadership, though with a small effect size.

Table 56. Summary statistics of ES between leadership and non-leadership

Leadership or Not	n	mean	sd	median	iqr	se	ci
Leadership	21	2.119	0.922	2	1	0.201	0.42
Not Leadership	145	2.738	1.095	2.667	1.5	0.091	0.18

Figure 49. Distribution of scores of ES between leadership and non-leadership
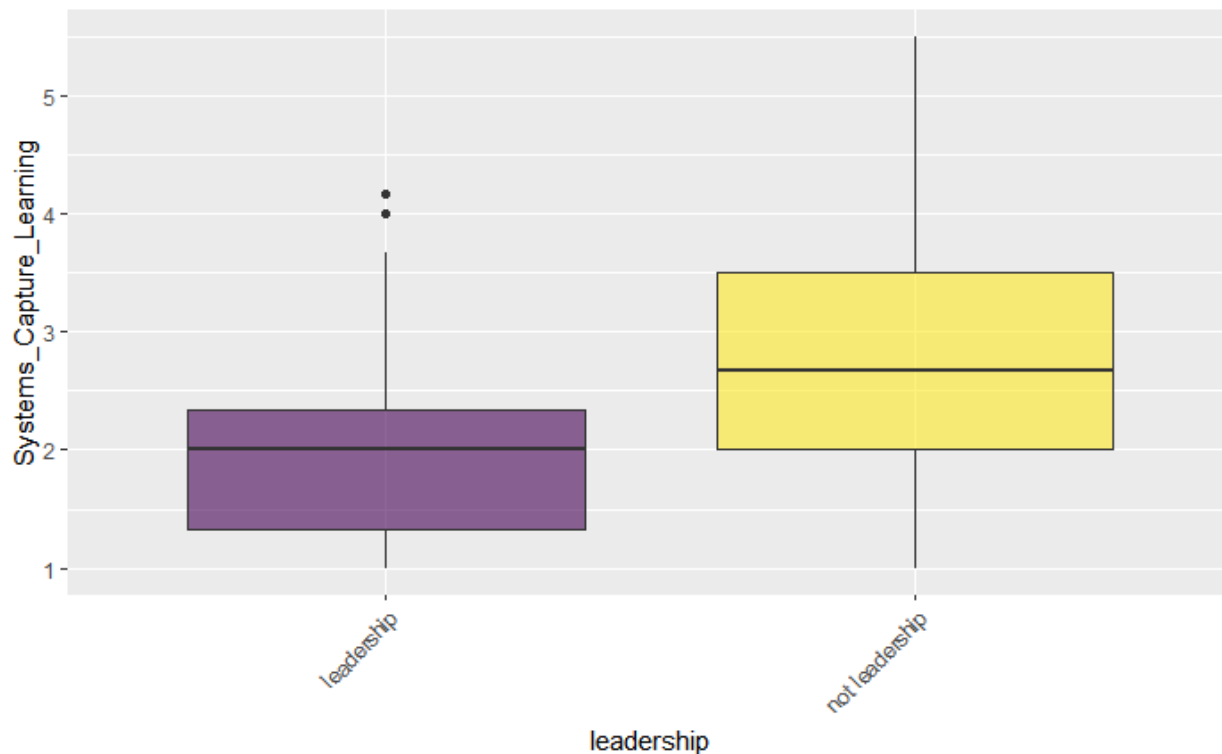
Empower People

Summary statistics and distribution of the Empower People (EP) scores between leadership and non-leadership are shown in Table 57 and Figure 50, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.975, p=.004) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Additionally, an ANOVA was run, yielding similar results (see Appendix D). Results of the Mann-Whitney U test (U=1114.5, p=.0362, r=.161) produced a significant difference but a small effect size (Tomczak & Tomczak, 2014). The estimated difference of location parameters was 0.50 less for leadership on the 6-point scale. The null hypothesis was rejected, and it was concluded that the perception of employees of SSU on ES varies between leadership and non-leadership, though with a small effect size.

Table 57. Summary statistics of EP between leadership and non-leadership

Leadership or Not	n	mean	sd	median	iqr	se	ci
Leadership	21	2.31	0.775	2.167	1	0.169	0.353
Not Leadership	148	2.831	1.105	2.833	1.5	0.091	0.179

Figure 50. Distribution of scores of EP between leadership and non-leadership
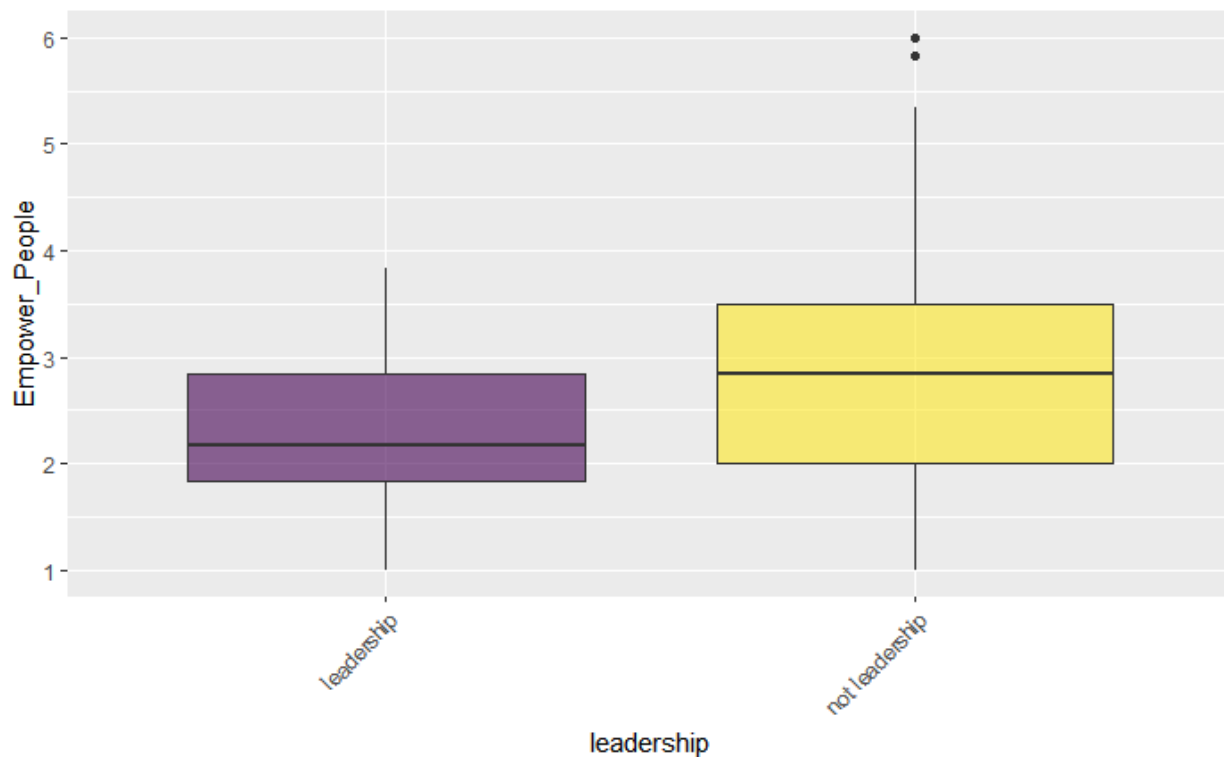
Connect the Organization to its Environment

Summary statistics and distribution of the Connect the Organization to its Environment (SC) scores between leadership and non-leadership are shown in Table 58 and Figure 51, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.986, p=.097) of the distribution found that the data were normally distributed. To maintain consistency of the evaluation tool, a Mann-Whitney U test was run. In addition, an ANOVA was run that provided similar results (see Appendix D). Results of the Mann-Whitney U test (U=1227, p=.174) found no significant difference between leadership and non-leadership in SC. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on SC did not vary between leadership and non-leadership.

Table 58. Summary statistics of SC between leadership and non-leadership

Leadership or Not	n	mean	sd	median	iqr	se	ci
Leadership	20	2.767	0.953	2.75	1.417	0.213	0.446
Not Leadership	151	3.138	1.065	3	1.667	0.087	0.171

Figure 51. Distribution of scores of SC between leadership and non-leadership
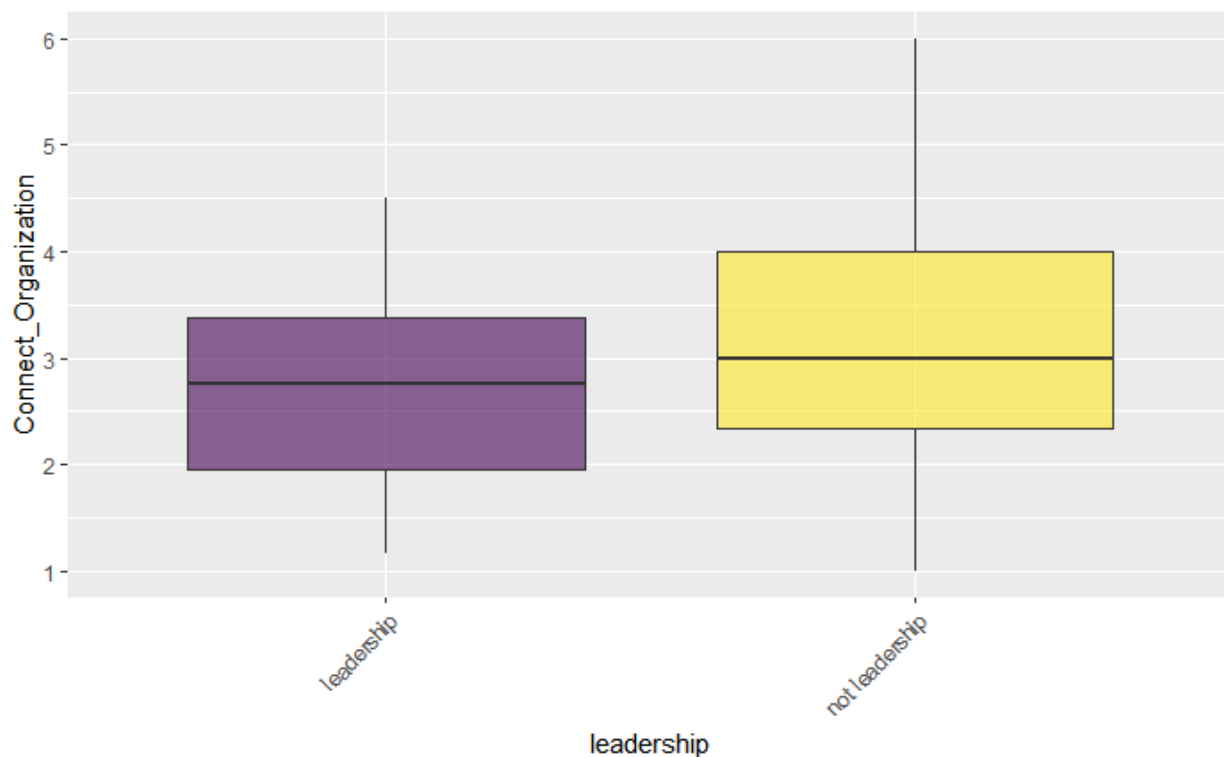
Strategic Leadership

Summary statistics and distribution of the Strategic Leadership (SL) scores between leadership and non-leadership is shown in Table 59 and Figure 52, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.974, p=.003) of the distribution found that the data was not normally distributed. Consequently, the nonparametric Mann-Whitney U test was run. Additionally, an ANOVA was run, yielding similar results (see Appendix D). Results of the Mann-Whitney U test (U=1334.5, p=.477) found no significant difference between leadership and non-leadership in SL. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on SL did not vary between leadership and non-leadership.

Table 59. Summary statistics of SL between leadership and non-leadership

Leadership or Not	n	mean	sd	median	iqr	se	ci
Leadership	20	2.817	0.978	2.917	1.375	0.219	0.458
Not Leadership	148	3.065	1.184	3	1.833	0.097	0.192

Figure 52. Distribution of scores of SL between leadership and non-leadership
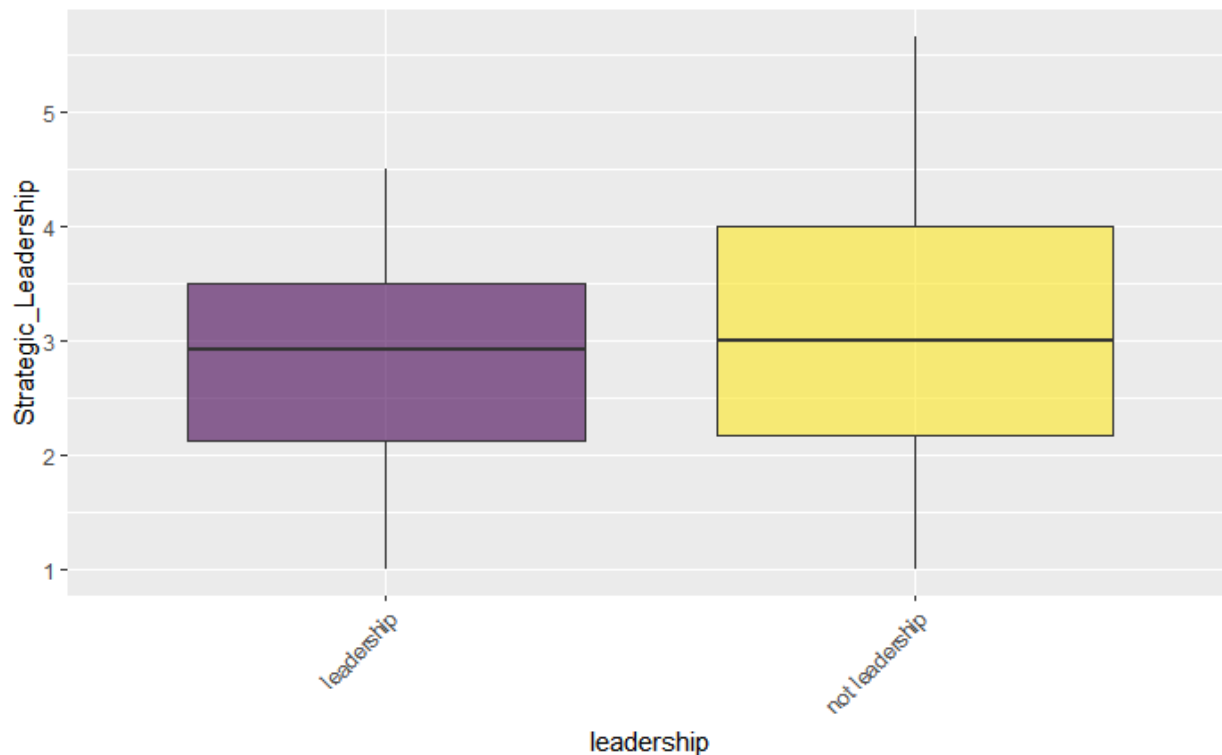
Overall Score

Summary statistics and distribution of the Overall Score (OS) between leadership and non-leadership is shown in Table 60 and Figure 53, respectively. A QQ-Plot and a Shapiro-Wilk test (W=.979, p=.024) of the distribution found that the data was not normally distributed. Additionally, an ANOVA was run, yielding similar results (see Appendix D). Consequently, the nonparametric Mann-Whitney U test was run. Results of the Mann-Whitney U test (U=918, p=.224) found no significant difference between leadership and non-leadership in OS. The null hypothesis could not be rejected, and so it was concluded that the perception of employees of SSU on OS did not vary between leadership and non-leadership.

Table 60. Summary statistics of OS between leadership and non-leadership

Leadership or Not	n	mean	sd	median	iqr	se	ci
Leadership	17	2.65	0.693	2.496	1.198	0.168	0.356
Not Leadership	132	2.953	0.977	2.835	1.313	0.085	0.168

Figure 53. Distribution of scores of OS between leadership and non-leadership
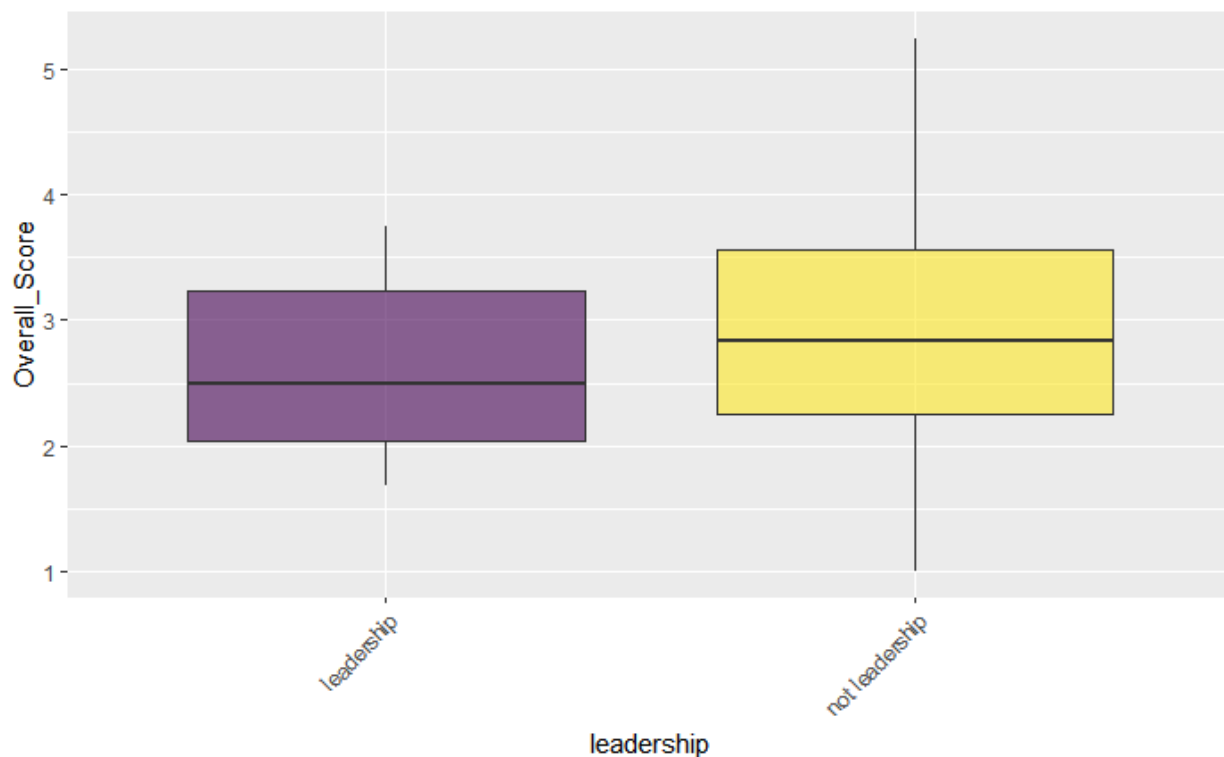
Appendix C

Pairwise Estimates between Colleges

Table 61. Pairwise estimates of CL between colleges

College 1	College 2	n1	n2	c	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
College of Business Administration	College of Liberal Arts and Sciences	4	33	108.5	0.039	0.285687	2.285706	0.156	ns	1.285758
College of Business Administration	College of Science and Technology	4	36	71.5	1	-1.14283	1.142809	1	ns	-1.4E-05
College of Business Administration	College of Teacher Education	4	8	18	0.797	-1.14281	1.142826	1	ns	0.125166
College of Liberal Arts and Sciences	College of Science and Technology	33	36	237.5	2E-05	-1.85712	-0.714236	0.00011	***	-1.28575
College of Liberal Arts and Sciences	College of Teacher Education	33	8	44	0.004	-1.85712	-0.571383	0.019	*	-1.28573
College of Science and Technology	College of Teacher Education	36	8	154.5	0.76	-0.71435	0.857074	1	ns	0.142789

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 62. Pairwise estimates of DI between colleges

College 1	College 2	n1	n2	c	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
College of Business Administration	College of Liberal Arts and Sciences	4	33	103	0.073	-0.1666	2.500044	0.294	ns	1.500033
College of Business Administration	College of Science and Technology	4	34	80.5	0.567	-0.83339	1.666604	1	ns	0.333307
College of Business Administration	College of Teacher Education	4	9	22	0.589	-1.16664	1.833375	1	ns	0.500028
College of Liberal Arts and Sciences	College of Science and Technology	33	34	263.5	2E-04	-1.50006	-0.500006	0.001	**	-1.00004
College of Liberal Arts and Sciences	College of Teacher Education	33	9	63.5	0.009	-1.66667	-0.333294	0.047	*	-1.00006
College of Science and Technology	College of Teacher Education	34	9	155.5	0.952	-0.83332	0.833409	1	ns	0.00002

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 63. Pairwise estimates of TL between colleges

College 1	College 2	n1	n2	c	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
College of Business Administration	College of Liberal Arts and Sciences	4	32	101	0.066	-0.33333	2.500061	0.262	ns	1.225138
College of Business Administration	College of Science and Technology	4	33	68	0.941	-1.33333	1.3333	1	ns	0.000088
College of Business Administration	College of Teacher Education	4	8	17	0.932	-1.99997	1.666722	1	ns	0.166661
College of Liberal Arts and Sciences	College of Science and Technology	32	33	233	1E-04	-1.83326	-0.666602	0.00065	***	-1.1667
College of Liberal Arts and Sciences	College of Teacher Education	32	8	57.5	0.018	-2.00004	-0.333294	0.088	ns	-1.16664
College of Science and Technology	College of Teacher Education	33	8	139	0.83	-0.66667	0.833376	1	ns	0.166645

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 64. Pairwise estimates of ES between colleges

College 1	College 2	n1	n2	c	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
College of Business Administration	College of Liberal Arts and Sciences	4	32	84	0.325	-0.99998	1.999969	1	ns	0.499966
College of Business Administration	College of Science and Technology	4	31	58	0.856	-1.49996	1.166642	1	ns	-0.16666
College of Business Administration	College of Teacher Education	4	8	14	0.796	-1.83336	1.333371	1	ns	-0.25697
College of Liberal Arts and Sciences	College of Science and Technology	32	31	310.5	0.011	-1.33329	-0.166721	0.065	ns	-0.8333
College of Liberal Arts and Sciences	College of Teacher Education	32	8	68.5	0.045	-1.83339	-0.000016	0.226	ns	-1.16663
College of Science and Technology	College of Teacher Education	31	8	105.5	0.53	-1.16662	0.833268	1	ns	-0.33333

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 65. Pairwise estimates of EP between colleges

College 1	College 2	n1	n2	c	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
College of Business Administration	College of Liberal Arts and Sciences	4	33	105.5	0.056	-0.16661	1.999957	0.224	ns	1.000036
College of Business Administration	College of Science and Technology	4	32	67.5	0.88	-0.99996	1.166642	1	ns	0.095742
College of Business Administration	College of Teacher Education	4	7	16	0.776	-1.00001	1.166685	1	ns	0.31315
College of Liberal Arts and Sciences	College of Science and Technology	33	32	269.5	7E-04	-1.33335	-0.333369	0.004	**	-0.83335
College of Liberal Arts and Sciences	College of Teacher Education	33	7	50.5	0.021	-1.66667	-0.166618	0.106	ns	-0.83334
College of Science and Technology	College of Teacher Education	32	7	104.5	0.797	-0.83339	0.833308	1	ns	-0.16661

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 66. Pairwise estimates of SC between colleges

College 1	College 2	n1	n2	c	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
College of Business Administration	College of Liberal Arts and Sciences	4	33	101.5	0.086	-0.16671	1.666726	0.362	ns	0.833364
College of Business Administration	College of Science and Technology	4	32	50	0.496	-1.3333	0.833324	1	ns	-0.16667
College of Business Administration	College of Teacher Education	4	6	11.5	1	-1.33336	1.666627	1	ns	-0.15418
College of Liberal Arts and Sciences	College of Science and Technology	33	32	219.5	5E-05	-1.50002	-0.500005	0.0003	***	-1.16661
College of Liberal Arts and Sciences	College of Teacher Education	33	6	52.5	0.072	-1.83334	0.166635	0.362	ns	-0.83337
College of Science and Technology	College of Teacher Education	32	6	106	0.703	-0.66668	1.166641	1	ns	0.166712

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 67. Pairwise estimates of SL between colleges

College 1	College 2	n1	n2	c	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
College of Business Administration	College of Liberal Arts and Sciences	4	33	97	0.135	-0.50004	1.83328	0.54	ns	0.91029
College of Business Administration	College of Science and Technology	4	33	48	0.391	-1.66667	0.833311	0.782	ns	-0.66659
College of Business Administration	College of Teacher Education	4	7	6	0.153	-2.16671	0.500005	0.54	ns	-1.00003
College of Liberal Arts and Sciences	College of Science and Technology	33	33	229	5E-05	-1.83336	-0.666625	0.00031	***	-1.1667
College of Liberal Arts and Sciences	College of Teacher Education	33	7	25.5	0.001	-2.33335	-0.666713	0.007	**	-1.6666
College of Science and Technology	College of Teacher Education	33	7	91.5	0.4	-1.16669	0.50003	0.782	ns	-0.33332

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 68. Pairwise estimates of OS between colleges

College 1	College 2	n1	n2	c	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
College of Business Administration	College of Liberal Arts and Sciences	4	31	94	0.104	-0.28571	1.996032	0.416	ns	1.168651
College of Business Administration	College of Science and Technology	4	27	53	0.977	-1.00397	1.039683	1	ns	-0.03968
College of Business Administration	College of Teacher Education	4	6	14	0.762	-1.30556	1.706349	1	ns	0.253968
College of Liberal Arts and Sciences	College of Science and Technology	31	27	158	2E-05	-1.54365	-0.615079	0.00014	***	-1.07937
College of Liberal Arts and Sciences	College of Teacher Education	31	6	39	0.025	-1.73016	-0.202381	0.123	ns	-0.93056
College of Science and Technology	College of Teacher Education	27	6	87.5	0.779	-0.71031	0.952326	1	ns	0.105444

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Pairwise Estimates between Divisions

Table 69. Pairwise estimates of CL between divisions

Division 1	Division 2	n1	n2	Statistic	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
Academic Affairs	Athletics	108	5	299	0.69	-0.85715	1.428522	1	ns	0.285674
Academic Affairs	Business and Financial Services	108	18	1065	0.52	-0.42856	0.857123	1	ns	0.142948
Academic Affairs	Enrollment Management	108	10	481.5	0.58	-0.85709	0.428593	1	ns	-0.14288
Academic Affairs	President's Office	108	3	234.5	0.19	-0.42862	2.142848	1	ns	0.714337
Academic Affairs	Student Affairs	108	19	611	0.01	-1.28579	-0.2857	0.11	ns	-0.85707
Academic Affairs	University Advancement	108	12	660.5	0.92	-0.71421	0.714335	1	ns	0.00004
Athletics	Business and Financial Services	5	18	41.5	0.82	-1.5714	1.428505	1	ns	-0.14279
Athletics	Enrollment Management	5	10	18.5	0.46	-1.71428	1.142847	1	ns	-0.51709
Athletics	President's Office	5	3	9	0.76	-1	3.285714	1	ns	0.714229
Athletics	Student Affairs	5	19	26	0.13	-2.14291	0.428565	1	ns	-1.14291
Athletics	University Advancement	5	12	27.5	0.83	-1.71429	1.57138	1	ns	-0.12478
Business and Financial Services	Enrollment Management	18	10	67.5	0.29	-1.2857	0.571409	1	ns	-0.42854
Business and Financial Services	President's Office	18	3	34.5	0.48	-0.71429	2.428639	1	ns	0.571377
Business and Financial Services	Student Affairs	18	19	90.5	0.02	-1.71424	-0.14293	0.28	ns	-1.00005
Business and Financial Services	University Advancement	18	12	102	0.82	-1.14287	0.857117	1	ns	-0.14283
Enrollment Management	President's Office	10	3	25	0.11	-0.42856	2.285705	1	ns	0.999939
Enrollment Management	Student Affairs	10	19	61	0.12	-1.28563	0.142835	1	ns	-0.57136
Enrollment Management	University Advancement	10	12	67.5	0.64	-0.85711	1.285669	1	ns	0.285687
President's Office	Student Affairs	3	19	1.5	0.01	-2.8572	-0.42864	0.22	ns	-1.57146
President's Office	University Advancement	3	12	11	0.35	-2.42858	0.999975	1	ns	-0.70585
Student Affairs	University Advancement	19	12	159.5	0.07	-0.14286	1.714249	1	ns	0.857185

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 70. Pairwise estimates of DI between divisions

Division 1	Division 2	n1	n2	Statistic	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
Academic Affairs	Athletics	106	5	266	0.99	-1.50005	1.000076	1	ns	0.000068
Academic Affairs	Business and Financial Services	106	17	1027	0.36	-0.33333	0.833341	1	ns	0.333314
Academic Affairs	Enrollment Management	106	9	435.5	0.67	-0.83331	0.500062	1	ns	-0.16661
Academic Affairs	President's Office	106	3	204	0.41	-0.66658	1.666755	1	ns	0.499954
Academic Affairs	Student Affairs	106	18	758	0.17	-0.83336	0.166651	1	ns	-0.33334
Academic Affairs	University Advancement	106	12	734	0.38	-0.33337	1.000035	1	ns	0.333269
Athletics	Business and Financial Services	5	17	49	0.64	-1.1667	2.166614	1	ns	0.166697
Athletics	Enrollment Management	5	9	20	0.79	-1.49997	1.666712	1	ns	-0.3333
Athletics	President's Office	5	3	9	0.76	-1	3	1	ns	0.166682
Athletics	Student Affairs	5	18	33.5	0.41	-1.66671	1.499953	1	ns	-0.33334
Athletics	University Advancement	5	12	36.5	0.53	-1.33331	2.499955	1	ns	0.473562
Business and Financial Services	Enrollment Management	17	9	55.5	0.27	-1.33327	0.49998	1	ns	-0.49994
Business and Financial Services	President's Office	17	3	28	0.83	-1.16664	1.666706	1	ns	0.16664
Business and Financial Services	Student Affairs	17	18	97.5	0.07	-1.33336	0.000052	1	ns	-0.66661
Business and Financial Services	University Advancement	17	12	105	0.91	-0.99992	1.000016	1	ns	0.000068
Enrollment Management	President's Office	9	3	20.5	0.23	-0.50007	1.666708	1	ns	0.500001
Enrollment Management	Student Affairs	9	18	69	0.55	-0.83337	0.499964	1	ns	-0.16674
Enrollment Management	University Advancement	9	12	66.5	0.39	-0.66669	1.49997	1	ns	0.50005
President's Office	Student Affairs	3	18	12	0.14	-1.99998	0.166691	1	ns	-0.83328
President's Office	University Advancement	3	12	17.5	1	-2.33333	1.499991	1	ns	-0.08333
Student Affairs	University Advancement	18	12	142.5	0.15	-0.33329	1.499972	1	ns	0.666739

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 71. Pairwise estimates of TL between divisions

Division 1	Division 2	n1	n2	Statistic	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
Academic Affairs	Athletics	104	5	329.5	0.317	-0.666637	1.833301	1	ns	0.666755
Academic Affairs	Business and Financial Services	104	17	1105	0.1	-0.166598	1.333288	1	ns	0.500038
Academic Affairs	Enrollment Management	104	10	449	0.479	-0.833364	0.499974	1	ns	-0.168502
Academic Affairs	President's Office	104	3	238.5	0.121	-0.333315	2.000035	1	ns	0.833335
Academic Affairs	Student Affairs	104	20	746.5	0.046	-1.000052	-0.000001	0.785	ns	-0.500013
Academic Affairs	University Advancement	104	13	781	0.364	-0.499942	1.000025	1	ns	0.333354
Athletics	Business and Financial Services	5	17	46	0.813	-1.499928	1.499992	1	ns	0.166629
Athletics	Enrollment Management	5	10	17	0.356	-2.166626	0.666686	1	ns	-1.018621
Athletics	President's Office	5	3	6	0.763	-1	2	1	ns	-0.499963
Athletics	Student Affairs	5	20	25	0.094	-2.666641	0.666619	1	ns	-1.351011
Athletics	University Advancement	5	13	25	0.489	-1.500042	1.499944	1	ns	-0.500061
Business and Financial Services	Enrollment Management	17	10	51	0.092	-1.83334	0.166691	1	ns	-0.83335
Business and Financial Services	President's Office	17	3	29	0.75	-1.000021	2.833309	1	ns	0.333328
Business and Financial Services	Student Affairs	17	20	88	0.013	-1.83337	-0.166674	0.254	ns	-1.333373
Business and Financial Services	University Advancement	17	13	105.5	0.85	-1.166704	0.666697	1	ns	-0.166612
Enrollment Management	President's Office	10	3	27.5	0.042	0.000056	2.499994	0.76	ns	1.004291
Enrollment Management	Student Affairs	10	20	83.5	0.479	-1.00003	0.499991	1	ns	-0.333307
Enrollment Management	University Advancement	10	13	84.5	0.238	-0.500052	1.500024	1	ns	0.666744
President's Office	Student Affairs	3	20	0.5	0.008	-2.499949	-0.50005	0.161	ns	-1.166713
President's Office	University Advancement	3	13	13	0.417	-2.666695	1.000038	1	ns	-0.333281
Student Affairs	University Advancement	20	13	191.5	0.024	0.166658	1.83334	0.46	ns	0.833305

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 72. Pairwise estimates of ES between divisions

Division 1	Division 2	n1	n2	Statistic	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
Academic Affairs	Athletics	100	5	124.5	0.06	-2.166627	0.000021	0.894	ns	-1.000021
Academic Affairs	Business and Financial Services	100	18	1026	0.347	-0.333325	0.833315	1	ns	0.333306
Academic Affairs	Enrollment Management	100	10	432	0.482	-0.833358	0.499969	1	ns	-0.333323
Academic Affairs	President's Office	100	3	230	0.118	-0.166669	2.333297	1	ns	0.99996
Academic Affairs	Student Affairs	100	16	468.5	0.008	-1.666642	-0.166701	0.167	ns	-0.926237
Academic Affairs	University Advancement	100	12	463.5	0.2	-1.000033	0.166711	1	ns	-0.333358
Athletics	Business and Financial Services	5	18	74.5	0.03	0.166716	2.499986	0.538	ns	1.223401
Athletics	Enrollment Management	5	10	38.5	0.108	-0.166668	1.833288	1	ns	0.833347
Athletics	President's Office	5	3	14	0.071	-0.333333	3.833333	1	ns	2.166667
Athletics	Student Affairs	5	16	43.5	0.804	-1.33332	1.50006	1	ns	0.16672
Athletics	University Advancement	5	12	41	0.265	-0.500036	1.666677	1	ns	0.83328
Business and Financial Services	Enrollment Management	18	10	58.5	0.136	-1.166693	0.333326	1	ns	-0.499999
Business and Financial Services	President's Office	18	3	39	0.245	-0.333379	1.833396	1	ns	0.61768
Business and Financial Services	Student Affairs	18	16	71.5	0.013	-1.999955	-0.166682	0.256	ns	-1.166687
Business and Financial Services	University Advancement	18	12	71.5	0.126	-1.333337	0.166718	1	ns	-0.500033
Enrollment Management	President's Office	10	3	27	0.049	-0.000051	2.166597	0.789	ns	1.046795
Enrollment Management	Student Affairs	10	16	50	0.119	-1.666636	0.166685	1	ns	-0.666683
Enrollment Management	University Advancement	10	12	55	0.765	-0.833279	0.666654	1	ns	-0.059484
President's Office	Student Affairs	3	16	4.5	0.033	-3.500046	-0.166622	0.566	ns	-1.999938
President's Office	University Advancement	3	12	2	0.024	-2.666676	-0.166624	0.446	ns	-1.310785
Student Affairs	University Advancement	16	12	124	0.2	-0.333354	1.50006	1	ns	0.500015

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 73. Pairwise estimates of EP between divisions

Division 1	Division 2	n1	n2	Statistic	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
Academic Affairs	Athletics	102	5	263	0.912	-1.666678	1.16669	1 ns		0.166584
Academic Affairs	Business and Financial Services	102	17	1108	0.067	-0.000007	1.166614	1 ns		0.500018
Academic Affairs	Enrollment Management	102	10	435	0.446	-0.833258	0.333367	1 ns		-0.333304
Academic Affairs	President's Office	102	3	235	0.116	-0.166691	1.833362	1 ns		0.833332
Academic Affairs	Student Affairs	102	18	523	0.004	-1.333406	-0.333302	0.076 ns		-0.8333
Academic Affairs	University Advancement	102	12	683.5	0.511	-0.666653	1.000047	1 ns		0.333296
Athletics	Business and Financial Services	5	17	51.5	0.504	-1.000015	2.499985	1 ns		0.500022
Athletics	Enrollment Management	5	10	22	0.759	-1.666706	1.999998	1 ns		-0.270584
Athletics	President's Office	5	3	9	0.786	-1	3.666667	1 ns		0.666667
Athletics	Student Affairs	5	18	32.5	0.37	-2.333339	1.000019	1 ns		-0.833324
Athletics	University Advancement	5	12	34	0.712	-1.666634	2.666583	1 ns		0.33327
Business and Financial Services	Enrollment Management	17	10	53	0.113	-1.500029	0.166725	1 ns		-0.833285
Business and Financial Services	President's Office	17	3	30	0.671	-1.00004	1.833288	1 ns		0.16668
Business and Financial Services	Student Affairs	17	18	64.5	0.004	-2.166666	-0.500036	0.076 ns		-1.33335
Business and Financial Services	University Advancement	17	12	90	0.61	-1.33334	0.666691	1 ns		-0.166693
Enrollment Management	President's Office	10	3	24.5	0.127	-0.333301	2.333345	1 ns		1.166624
Enrollment Management	Student Affairs	10	18	56.5	0.113	-1.499967	0.16671	1 ns		-0.666638
Enrollment Management	University Advancement	10	12	73.5	0.391	-0.833326	1.50004	1 ns		0.500067
President's Office	Student Affairs	3	18	3.5	0.02	-2.999983	-0.333353	0.39 ns		-1.571356
President's Office	University Advancement	3	12	14	0.612	-3.333299	1.16665	1 ns		-0.505726
Student Affairs	University Advancement	18	12	152	0.065	-0.000025	2.000074	1 ns		1.166628

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 74. Pairwise estimates of SC between divisions

Division 1	Division 2	n1	n2	Statistic	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
Academic Affairs	Athletics	102	5	253	0.982	-1.499974	1.16664	1 ns		-0.000053
Academic Affairs	Business and Financial Services	102	17	1033.5	0.207	-0.166696	0.833349	1 ns		0.333385
Academic Affairs	Enrollment Management	102	10	405	0.285	-1.000073	0.333289	1 ns		-0.333337
Academic Affairs	President's Office	102	3	222.5	0.184	-0.333394	2.166641	1 ns		0.833385
Academic Affairs	Student Affairs	102	20	711	0.033	-1.166636	-0.000018	0.652 ns		-0.666628
Academic Affairs	University Advancement	102	12	575	0.736	-0.999938	0.666647	1 ns		-0.166622
Athletics	Business and Financial Services	5	17	52.5	0.455	-1.000026	1.833269	1 ns		0.499979
Athletics	Enrollment Management	5	10	22.5	0.806	-1.833372	1.333326	1 ns		-0.32931
Athletics	President's Office	5	3	10	0.571	-1	3.5	1 ns		0.833333
Athletics	Student Affairs	5	20	37.5	0.413	-1.999936	0.999973	1 ns		-0.499973
Athletics	University Advancement	5	12	27	0.792	-1.500036	1.500012	1 ns		-0.166719
Business and Financial Services	Enrollment Management	17	10	52	0.102	-1.666658	0.166692	1 ns		-0.666705
Business and Financial Services	President's Office	17	3	33	0.457	-0.999958	1.999994	1 ns		0.500022
Business and Financial Services	Student Affairs	17	20	91.5	0.017	-1.666714	-0.16664	0.359 ns		-0.999962
Business and Financial Services	University Advancement	17	12	79.5	0.329	-1.50008	0.500032	1 ns		-0.499955
Enrollment Management	President's Office	10	3	24.5	0.126	-0.333376	2.833286	1 ns		1.184302
Enrollment Management	Student Affairs	10	20	85.5	0.537	-1.166624	0.666705	1 ns		-0.333313
Enrollment Management	University Advancement	10	12	68	0.621	-1.000044	1.333273	1 ns		0.333316
President's Office	Student Affairs	3	20	7.5	0.044	-2.833399	-0.000057	0.832 ns		-1.644537
President's Office	University Advancement	3	12	9	0.219	-3.499934	0.999973	1 ns		-0.7756
Student Affairs	University Advancement	20	12	138.5	0.483	-0.500045	1.499943	1 ns		0.499964

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 75. Pairwise estimates of SL between divisions

Division 1	Division 2	n1	n2	Statistic	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
Academic Affairs	Athletics	101	5	231	0.754	-1.333368	0.833381	1 ns		-0.166735
Academic Affairs	Business and Financial Services	101	17	1074	0.099	-0.000009	1.166593	1 ns		0.500031
Academic Affairs	Enrollment Management	101	10	364.5	0.148	-1.166592	0.166701	1 ns		-0.499943
Academic Affairs	President's Office	101	3	224	0.161	-0.499991	2.333357	1 ns		0.833298
Academic Affairs	Student Affairs	101	19	524.5	0.002	-1.500047	-0.333364	0.035 *		-0.999971
Academic Affairs	University Advancement	101	11	554.5	0.996	-0.666679	0.833404	1 ns		-0.000095
Athletics	Business and Financial Services	5	17	58.5	0.223	-0.83327	2.166636	1 ns		0.833416
Athletics	Enrollment Management	5	10	19.5	0.539	-1.333304	1.333326	1 ns		-0.415439
Athletics	President's Office	5	3	11	0.393	-0.666667	3.666667	1 ns		1.166667
Athletics	Student Affairs	5	19	32.5	0.302	-1.83334	0.666625	1 ns		-0.833309
Athletics	University Advancement	5	11	29	0.91	-1.166627	1.666692	1 ns		0.166592
Business and Financial Services	Enrollment Management	17	10	41.5	0.03	-1.833345	-0.166586	0.515 ns		-1.000019
Business and Financial Services	President's Office	17	3	32	0.524	-1.166689	2.000065	1 ns		0.333335
Business and Financial Services	Student Affairs	17	19	61	0.002	-2.333303	-0.666697	0.032 *		-1.500024
Business and Financial Services	University Advancement	17	11	66	0.203	-1.499998	0.666642	1 ns		-0.333386
Enrollment Management	President's Office	10	3	29	0.022	0.166706	2.833304	0.394 ns		1.166664
Enrollment Management	Student Affairs	10	19	62.5	0.141	-1.166665	0.166729	1 ns		-0.500013
Enrollment Management	University Advancement	10	11	70	0.304	-0.33339	1.500027	1 ns		0.500044
President's Office	Student Affairs	3	19	2.5	0.015	-3.166706	-0.500042	0.277 ns		-1.833283
President's Office	University Advancement	3	11	9	0.275	-2.666709	0.999996	1 ns		-0.66669
Student Affairs	University Advancement	19	11	152.5	0.041	0.000053	1.833367	0.651 ns		0.999968

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 76. Pairwise estimates of OS between divisions

Division 1	Division 2	n1	n2	Statistic	p	conf.low	conf.high	p.adj	p.adj.signif	Estimate
Academic Affairs	Athletics	92	5	235.5	0.935	-1.385001	0.94449	1	ns	0.029613
Academic Affairs	Business and Financial Services	92	15	836	0.192	-0.214349	0.873048	1	ns	0.341753
Academic Affairs	Enrollment Management	92	9	345.5	0.418	-0.750025	0.369085	1	ns	-0.230163
Academic Affairs	President's Office	92	3	216	0.099	-0.142802	1.82147	1	ns	0.729181
Academic Affairs	Student Affairs	92	14	407.5	0.028	-1.170645	-0.059487	0.526	ns	-0.596956
Academic Affairs	University Advancement	92	11	492	0.885	-0.793606	0.607112	1	ns	-0.042121
Athletics	Business and Financial Services	5	15	45	0.553	-0.944444	2.119048	1	ns	0.261905
Athletics	Enrollment Management	5	9	20.5	0.841	-1.404813	1.47622	1	ns	-0.539695
Athletics	President's Office	5	3	11	0.393	-0.452381	2.769841	1	ns	0.452381
Athletics	Student Affairs	5	14	24	0.343	-1.642857	1.015873	1	ns	-0.611111
Athletics	University Advancement	5	11	27	1	-1.313492	1.900794	1	ns	-0.047619
Business and Financial Services	Enrollment Management	15	9	42	0.138	-1.285714	0.253968	1	ns	-0.615079
Business and Financial Services	President's Office	15	3	29	0.498	-0.634921	1.75	1	ns	0.345238
Business and Financial Services	Student Affairs	15	14	49	0.014	-1.686508	-0.202381	0.274	ns	-0.968254
Business and Financial Services	University Advancement	15	11	65	0.384	-1.380952	0.468254	1	ns	-0.309524
Enrollment Management	President's Office	9	3	25	0.036	0.253968	1.857143	0.655	ns	1.055556
Enrollment Management	Student Affairs	9	14	48	0.361	-1.202386	0.301626	1	ns	-0.411004
Enrollment Management	University Advancement	9	11	55	0.71	-1.123016	1.119048	1	ns	0.285714
President's Office	Student Affairs	3	14	2	0.012	-2.686508	-0.329365	0.248	ns	-1.285714
President's Office	University Advancement	3	11	9	0.291	-2.690476	0.396825	1	ns	-0.81746
Student Affairs	University Advancement	14	11	100	0.222	-0.5	1.412698	1	ns	0.535714

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Appendix D

Overall ANOVA

Table 77. ANOVA of scores across dimensions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	6	31.9	5.319	4.413	0.000201	***	0.02	Small
Residuals	1198	1443.9	1.205					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Colleges ANOVA

Continuous Learning

Table 78. ANOVA of CL across colleges

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	3	24.32	8.107	7.753	0.000137	***	0.23	Large
Residuals	77	80.52	1.046					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 79. Tukey test of CL between colleges

Pair	diff	lwr	upr	p adj	Signif.
College of Liberal Arts and Sciences-College of Business Administration	-1.0909	-2.5126	0.33079	0.19144	ns
College of Science and Technology-College of Business Administration	0.03571	-1.3796	1.451	0.99989	ns
College of Teacher Education-College of Business Administration	-0.0179	-1.6623	1.62655	0.99999	ns
College of Science and Technology-College of Liberal Arts and Sciences	1.12662	0.47946	1.77378	0.00011	***
College of Teacher Education-College of Liberal Arts and Sciences	1.07305	0.01481	2.13129	0.04562	*
College of Teacher Education-College of Science and Technology	-0.0536	-1.1032	0.99603	0.99913	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Inquiry and Dialogue

Table 80. ANOVA of DI across colleges

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	3	19.53	6.509	6.609	0.0005	***	0.21	Large
Residuals	76	74.85	0.985					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 81. Tukey test of DI between colleges

Pair	diff	lwr	upr	p adj	Signif.
College of Liberal Arts and Sciences-College of Business Administration	-1.2639	-2.644	0.11626	0.08462	ns
College of Science and Technology-College of Business Administration	-0.2868	-1.6647	1.09119	0.94718	ns
College of Teacher Education-College of Business Administration	-0.3194	-1.886	1.24706	0.95008	ns
College of Science and Technology-College of Liberal Arts and Sciences	0.97712	0.3401	1.61414	0.00075	***
College of Teacher Education-College of Liberal Arts and Sciences	0.94444	-0.0359	1.92474	0.06317	ns
College of Teacher Education-College of Science and Technology	-0.0327	-1.0099	0.94452	0.99975	ns

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

The Tukey comparison did not detect the significant difference detected between CLASS and COTE by the Wilcoxon pairwise test. It also detected a more significant difference between COST and CLASS. Given the non-normal distribution of data, these results were not accepted.

Collaboration and Team Learning

Table 82. ANOVA of TL across colleges

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	3	23.37	7.791	6.886	0.00038	***	0.22	Large
Residuals	73	82.59	1.131					

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 83. Tukey test of TL between colleges

College 1	College 2	diff	lwr	upr	p.adj	Signif.
College of Liberal Arts and Sciences	College of Business Administration	-1.109	-2.593	0.374	0.2101	ns
College of Science and Technology	College of Business Administration	0.025	-1.455	1.506	1	ns
College of Teacher Education	College of Business Administration	-0.063	-1.775	1.65	1	ns
College of Science and Technology	College of Liberal Arts and Sciences	1.135	0.441	1.828	0.0003	***
College of Teacher Education	College of Liberal Arts and Sciences	1.047	-0.059	2.152	0.0699	ns
College of Teacher Education	College of Science and Technology	-0.088	-1.19	1.014	0.9967	ns

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Systems to Capture and Share Learning

Table 84. ANOVA of ES across colleges

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	3	9.52	3.173	2.801	0.0461	*	0.11	Moderate
Residuals	71	80.43	1.133					

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 85. Tukey test of ES between colleges

Pair	diff	lwr	upr	p adj	Signif.
College of Liberal Arts and Sciences-College of Business Administration	-0.5052	-1.9902	0.97979	0.80742	ns
College of Science and Technology-College of Business Administration	0.18817	-1.2995	1.67583	0.98719	ns
College of Teacher Education-College of Business Administration	0.35417	-1.3606	2.06889	0.94802	ns
College of Science and Technology-College of Liberal Arts and Sciences	0.69338	-0.0123	1.39904	0.05592	ns
College of Teacher Education-College of Liberal Arts and Sciences	0.85938	-0.2475	1.96622	0.18232	ns
College of Teacher Education-College of Science and Technology	0.16599	-0.9444	1.27641	0.97921	ns

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Empower People

Table 86. ANOVA of EP across colleges

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	3	13.47	4.488	5.426	0.00202	**	0.18	Large
Residuals	72	59.56	0.827					

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 87. Tukey test of EP between colleges

College 1	College 2	diff	lwr	upr	p.adj	signif.
College of Liberal Arts and Sciences	College of Business Administration	-0.899	-2.166	0.367	0.2514	ns
College of Science and Technology	College of Business Administration	-0.063	-1.331	1.206	0.9992	ns
College of Teacher Education	College of Business Administration	-0.024	-1.523	1.476	1	ns
College of Science and Technology	College of Liberal Arts and Sciences	0.836	0.243	1.43	0.0023	**
College of Teacher Education	College of Liberal Arts and Sciences	0.875	-0.120	1.871	0.1047	ns
College of Teacher Education	College of Science and Technology	0.039	-0.959	1.037	0.9996	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Connect the Organization to its Environment

Table 88. ANOVA of SC across colleges

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	3	17.92	5.975	6.774	0.00044	***	0.22	Large
Residuals	71	62.62	0.882					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 89. Tukey test of SC between colleges

College 1	College 2	diff	lwr	upr	p.adj	signif.
College of Liberal Arts and Sciences	College of Business Administration	-0.745	-2.053	0.563	0.4439	ns
College of Science and Technology	College of Business Administration	0.286	-1.024	1.597	0.9392	ns
College of Teacher Education	College of Business Administration	0.056	-1.539	1.650	0.9997	ns
College of Science and Technology	College of Liberal Arts and Sciences	1.031	0.418	1.644	0.0002	***
College of Teacher Education	College of Liberal Arts and Sciences	0.801	-0.296	1.897	0.2287	ns
College of Teacher Education	College of Science and Technology	-0.231	-1.330	0.868	0.9455	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Strategic Leadership

Table 90. ANOVA of SL across colleges

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	3	28.43	9.477	8.175	0.00009	****	0.25	Large
Residuals	73	84.63	1.159					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

ANOVA detected a more significant relationship than Kruskal-Wallis. Given the non-normal distribution of data, this finding was not accepted.

Table 91. Tukey test of SL between colleges

Pair	diff	lwr	upr	p adj	Signif.
College of Liberal Arts and Sciences-College of Business Administration	-0.6439	-2.1427	0.85483	0.67254	ns
College of Science and Technology-College of Business Administration	0.53788	-0.9609	2.03665	0.7815	ns
College of Teacher Education-College of Business Administration	0.86905	-0.9053	2.64339	0.57362	ns
College of Science and Technology-College of Liberal Arts and Sciences	1.18182	0.4849	1.87873	0.00017	***
College of Teacher Education-College of Liberal Arts and Sciences	1.51299	0.33499	2.69099	0.00634	**
College of Teacher Education-College of Science and Technology	0.33117	-0.8468	1.50917	0.88096	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Overall Score

Table 92. ANOVA of OS across colleges

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
College	3	16.10	5.367	6.949	0.00040	***	0.25	Large
Residuals	64	49.43	0.772					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 93. Tukey test of OS between colleges

College 1	College 2	diff	lwr	upr	p.adj	Signif.
College of Liberal Arts and Sciences	College of Business Administration	-0.947	-2.179	0.284	0.1884	ns
College of Science and Technology	College of Business Administration	0.552	-1.187	1.297	0.9994	ns
College of Teacher Education	College of Business Administration	-0.082	-1.578	1.415	0.9989	ns
College of Science and Technology	College of Liberal Arts and Sciences	1.002	0.392	1.612	0.0003	***
College of Teacher Education	College of Liberal Arts and Sciences	0.865	-0.168	1.899	0.1320	ns
College of Teacher Education	College of Science and Technology	-0.137	-1.183	0.909	0.9858	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Divisions ANOVA

Continuous Learning

Table 94. ANOVA of CL across divisions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Division	6	14.05	2.342	2.076	0.0585	ns
Residuals	168	189.52	1.128			

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 95. Tukey test of CL between divisions

Pair	diff	lwr	upr	p adj	Signif.
Athletics-Academic Affairs	-0.1929	-1.6429	1.25715	0.99969	ns
Business and Financial Services-Academic Affairs	-0.123	-0.93	0.68397	0.99932	ns
Enrollment Management-Academic Affairs	0.13571	-0.912	1.18346	0.99973	ns
President's Office-Academic Affairs	-0.8214	-2.6767	1.03388	0.84112	ns
Student Affairs-Academic Affairs	0.79511	0.00654	1.58368	0.04668	*
University Advancement-Academic Affairs	-0.0238	-0.9883	0.94072	1	ns
Business and Financial Services-Athletics	0.06984	-1.5326	1.67224	1	ns
Enrollment Management-Athletics	0.32857	-1.4076	2.06472	0.99767	ns
President's Office-Athletics	-0.6286	-2.9434	1.6863	0.98365	ns
Student Affairs-Athletics	0.98797	-0.6052	2.58117	0.51597	ns
University Advancement-Athletics	0.16905	-1.5182	1.85628	0.99994	ns
Enrollment Management-Business and Financial Services	0.25873	-0.9914	1.5089	0.99618	ns
President's Office-Business and Financial Services	-0.6984	-2.6751	1.27828	0.94019	ns
Student Affairs-Business and Financial Services	0.91813	-0.1245	1.96072	0.1242	ns
University Advancement-Business and Financial Services	0.09921	-1.0821	1.28051	0.99998	ns
President's Office-Enrollment Management	-0.9571	-3.0437	1.12945	0.81748	ns
Student Affairs-Enrollment Management	0.6594	-0.579	1.89777	0.68947	ns
University Advancement-Enrollment Management	-0.1595	-1.5167	1.19769	0.99985	ns
Student Affairs-President's Office	1.61654	-0.3527	3.58579	0.18484	ns
University Advancement-President's Office	0.79762	-1.2485	2.84369	0.90675	ns
University Advancement-Student Affairs	-0.8189	-1.9877	0.34988	0.36279	ns

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Tukey comparisons of means found one significant difference between Student Affairs and Academic Affairs that was not detected with the Wilcoxon pairwise test. Given the non-normality of distribution, this result was not accepted.

Inquiry and Dialogue

Table 96. ANOVA of DI across divisions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Division	6	4.82	0.8041	0.733	0.623	ns
Residuals	163	178.74	1.0966			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 97. Tukey test of DI between divisions

Pair	diff	lwr	upr	p adj	Signif.
Athletics-Academic Affairs	0.14403	-1.2867	1.57478	0.99994	ns
Business and Financial Services-Academic Affairs	-0.2207	-1.0375	0.59612	0.98403	ns
Enrollment Management-Academic Affairs	0.09958	-0.9859	1.18504	0.99996	ns
President's Office-Academic Affairs	-0.5115	-2.3419	1.31884	0.98099	ns
Student Affairs-Academic Affairs	0.34958	-0.4474	1.14659	0.8467	ns
University Advancement-Academic Affairs	-0.2615	-1.2138	0.69069	0.98261	ns
Business and Financial Services-Athletics	-0.3647	-1.9552	1.22583	0.9933	ns
Enrollment Management-Athletics	-0.0444	-1.7883	1.69936	1	ns
President's Office-Athletics	-0.6556	-2.9387	1.62762	0.97818	ns
Student Affairs-Athletics	0.20556	-1.3749	1.78601	0.99973	ns
University Advancement-Athletics	-0.4056	-2.0697	1.25858	0.99071	ns
Enrollment Management-Business and Financial Services	0.32026	-0.9685	1.60905	0.98969	ns
President's Office-Business and Financial Services	-0.2908	-2.2487	1.66696	0.99941	ns
Student Affairs-Business and Financial Services	0.57026	-0.4871	1.6276	0.67598	ns
University Advancement-Business and Financial Services	-0.0408	-1.2196	1.13791	1	ns
President's Office-Enrollment Management	-0.6111	-2.6954	1.47314	0.97574	ns
Student Affairs-Enrollment Management	0.25	-1.0263	1.52634	0.99717	ns
University Advancement-Enrollment Management	-0.3611	-1.7397	1.01749	0.9864	ns
Student Affairs-President's Office	0.86111	-1.0885	2.81075	0.84237	ns
University Advancement-President's Office	0.25	-1.7681	2.26806	0.99979	ns
University Advancement-Student Affairs	-0.6111	-1.7762	0.55402	0.70414	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Collaboration and Team Learning

Table 98. ANOVA of TL across divisions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Division	6	14.6	2.433	1.891	0.0852	ns
Residuals	165	212.3	1.287			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 99. Tukey test of TL between divisions

Pair	diff	lwr	upr	p adj	Signif.
Athletics-Academic Affairs	-0.5808	-2.131	0.9695	0.92174	ns
Business and Financial Services-Academic Affairs	-0.4317	-1.3176	0.45407	0.77081	ns
Enrollment Management-Academic Affairs	0.2359	-0.8852	1.35696	0.99581	ns
President's Office-Academic Affairs	-0.8697	-2.8526	1.11328	0.84687	ns
Student Affairs-Academic Affairs	0.5609	-0.2659	1.38765	0.40288	ns
University Advancement-Academic Affairs	-0.2244	-1.2205	0.77173	0.99392	ns
Business and Financial Services-Athletics	0.14902	-1.5736	1.87167	0.99997	ns
Enrollment Management-Athletics	0.81667	-1.038	2.67129	0.84438	ns
President's Office-Athletics	-0.2889	-2.7617	2.18394	0.99985	ns
Student Affairs-Athletics	1.14167	-0.5514	2.8347	0.41052	ns
University Advancement-Athletics	0.35641	-1.4255	2.13827	0.99683	ns
Enrollment Management-Business and Financial Services	0.66765	-0.6818	2.01708	0.75814	ns
President's Office-Business and Financial Services	-0.4379	-2.5583	1.68253	0.99622	ns
Student Affairs-Business and Financial Services	0.99265	-0.1244	2.10965	0.11732	ns
University Advancement-Business and Financial Services	0.20739	-1.0402	1.45494	0.99888	ns
President's Office-Enrollment Management	-1.1056	-3.3345	1.12342	0.75599	ns
Student Affairs-Enrollment Management	0.325	-0.9864	1.63642	0.98985	ns
University Advancement-Enrollment Management	-0.4603	-1.8845	0.964	0.9608	ns
Student Affairs-President's Office	1.43056	-0.6659	3.527	0.39561	ns
University Advancement-President's Office	0.6453	-1.5235	2.81411	0.97391	ns
University Advancement-Student Affairs	-0.7853	-1.9916	0.42107	0.45505	ns

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Systems to Capture and Share Learning

Table 100. ANOVA of ES across divisions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
Division	6	21.19	3.531	3.143	0.00616	**	0.107	Moderate
Residuals	157	176.42	1.124					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 101. Tukey test of ES between divisions

Pair	diff	lwr	upr	p adj	Signif.
Athletics-Academic Affairs	1.03333	-0.4177	2.48433	0.34203	ns
Business and Financial Services-Academic Affairs	-0.2093	-1.02	0.60144	0.98737	ns
Enrollment Management-Academic Affairs	0.16667	-0.8835	1.21682	0.99913	ns
President's Office-Academic Affairs	-0.9778	-2.8331	0.87752	0.69894	ns
Student Affairs-Academic Affairs	0.87292	0.02036	1.72548	0.04098	*
University Advancement-Academic Affairs	0.39722	-0.5701	1.36455	0.88285	ns
Business and Financial Services-Athletics	-1.2426	-2.8433	0.35807	0.2417	ns
Enrollment Management-Athletics	-0.8667	-2.6009	0.86761	0.74884	ns
President's Office-Athletics	-2.0111	-4.3235	0.30125	0.13373	ns
Student Affairs-Athletics	-0.1604	-1.7827	1.46185	0.99994	ns
University Advancement-Athletics	-0.6361	-2.3215	1.0493	0.91881	ns
Enrollment Management-Business and Financial Services	0.37593	-0.8729	1.62475	0.97223	ns
President's Office-Business and Financial Services	-0.7685	-2.7431	1.20604	0.90697	ns
Student Affairs-Business and Financial Services	1.08218	-0.0058	2.1701	0.05221	ns
University Advancement-Business and Financial Services	0.60648	-0.5735	1.7865	0.72321	ns
President's Office-Enrollment Management	-1.1444	-3.2288	0.93989	0.65664	ns
Student Affairs-Enrollment Management	0.70625	-0.5701	1.98264	0.64834	ns
University Advancement-Enrollment Management	0.23056	-1.1252	1.5863	0.99872	ns
Student Affairs-President's Office	1.85069	-0.1414	3.8428	0.08735	ns
University Advancement-President's Office	1.375	-0.6689	3.41886	0.4129	ns
University Advancement-Student Affairs	-0.4757	-1.6849	0.73347	0.90251	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Tukey comparisons of means found one significant difference between Student Affairs and Academic Affairs that was not detected with the Wilcoxon pairwise test. Given the non-normality of distribution, this result was not accepted.

Empower People

Table 102. ANOVA of EP across divisions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
Division	6	16.52	2.754	2.457	0.0267	*	0.084	Moderate
Residuals	160	179.35	1.121					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

The effect size magnitude was moderate in ANOVA, but small in Kruskal-Wallis. Given the non-normal distribution of the data, the Kruskal-Wallis effect size was accepted.

Table 103. Tukey test of EP between divisions

Pair	diff	lwr	upr	p adj	Signif.
Athletics-Academic Affairs	0.17288	-1.2753	1.62103	0.99983	ns
Business and Financial Services-Academic Affairs	-0.3938	-1.222	0.43445	0.79043	ns
Enrollment Management-Academic Affairs	0.18954	-0.8581	1.23719	0.99818	ns
President's Office-Academic Affairs	-0.8382	-2.6902	1.01377	0.82625	ns
Student Affairs-Academic Affairs	0.80065	-0.0076	1.60893	0.05401	ns
University Advancement-Academic Affairs	-0.0605	-1.0253	0.90441	1	ns
Business and Financial Services-Athletics	-0.5667	-2.1751	1.04179	0.94077	ns
Enrollment Management-Athletics	0.01667	-1.715	1.74835	1	ns
President's Office-Athletics	-1.0111	-3.32	1.2978	0.84751	ns
Student Affairs-Athletics	0.62778	-0.9705	2.22605	0.90331	ns
University Advancement-Athletics	-0.2333	-1.9162	1.44956	0.9996	ns
Enrollment Management-Business and Financial Services	0.58333	-0.6766	1.84332	0.81041	ns
President's Office-Business and Financial Services	-0.4444	-2.4243	1.53543	0.99401	ns
Student Affairs-Business and Financial Services	1.19444	0.12519	2.2637	0.0179	*
University Advancement-Business and Financial Services	0.33333	-0.8587	1.52537	0.9809	ns
President's Office-Enrollment Management	-1.0278	-3.109	1.05344	0.75939	ns
Student Affairs-Enrollment Management	0.61111	-0.6358	1.85806	0.76588	ns
University Advancement-Enrollment Management	-0.25	-1.6037	1.10372	0.99796	ns
Student Affairs-President's Office	1.63889	-0.3327	3.61049	0.1728	ns
University Advancement-President's Office	0.77778	-1.263	2.81858	0.91532	ns
University Advancement-Student Affairs	-0.8611	-2.0394	0.31715	0.31091	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Tukey comparisons of means found one significant difference between Student Affairs and Business and Financial Services that was not detected with the Wilcoxon pairwise test. Given the non-normality of distribution, this result was not accepted.

Connect the Organization to its Environment

Table 104. ANOVA of SC across divisions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Division	6	12.65	2.109	1.911	0.0819	ns
Residuals	162	178.76	1.103			

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Table 105. Tukey test of SC between divisions

Pair	diff	lwr	upr	p adj	Signif.
Athletics-Academic Affairs	0.12843	-1.3082	1.56503	0.99997	ns
Business and Financial Services-Academic Affairs	-0.348	-1.1697	0.47359	0.8669	ns
Enrollment Management-Academic Affairs	0.3451	-0.6942	1.38439	0.95525	ns
President's Office-Academic Affairs	-0.8382	-2.6755	0.99899	0.82088	ns
Student Affairs-Academic Affairs	0.5951	-0.1719	1.36209	0.24252	ns
University Advancement-Academic Affairs	0.25899	-0.6982	1.21616	0.9839	ns
Business and Financial Services-Athletics	-0.4765	-2.0721	1.11915	0.9734	ns
Enrollment Management-Athletics	0.21667	-1.5012	1.93453	0.99977	ns
President's Office-Athletics	-0.9667	-3.2571	1.32382	0.86891	ns
Student Affairs-Athletics	0.46667	-1.1015	2.03485	0.97385	ns
University Advancement-Athletics	0.13056	-1.5389	1.80002	0.99999	ns
Enrollment Management-Business and Financial Services	0.69314	-0.5568	1.94307	0.64636	ns
President's Office-Business and Financial Services	-0.4902	-2.4543	1.47388	0.98945	ns
Student Affairs-Business and Financial Services	0.94314	-0.0915	1.97778	0.09946	ns
University Advancement-Business and Financial Services	0.60703	-0.5755	1.78955	0.72475	ns
President's Office-Enrollment Management	-1.1833	-3.2479	0.88128	0.60953	ns
Student Affairs-Enrollment Management	0.25	-0.9647	1.46471	0.99628	ns
University Advancement-Enrollment Management	-0.0861	-1.429	1.2568	1	ns
Student Affairs-President's Office	1.43333	-0.5085	3.37518	0.29924	ns
University Advancement-President's Office	1.09722	-0.9273	3.12174	0.67083	ns
University Advancement-Student Affairs	-0.3361	-1.4814	0.80913	0.97561	ns

*Note: ****p<.0001, ***p<.001, **p<.01, *p<.05*

Strategic Leadership

Table 106. ANOVA of SL across divisions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
Division	6	23.95	3.992	3.151	0.00602	**	0.106	Moderate
Residuals	159	201.42	1.267					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 107. Tukey test of SL between divisions

Pair	diff	lwr	upr	p adj	Signif.
Athletics-Academic Affairs	0.22772	-1.3123	1.76772	0.99942	ns
Business and Financial Services-Academic Affairs	-0.4978	-1.379	0.38342	0.62572	ns
Enrollment Management-Academic Affairs	0.42772	-0.6866	1.54205	0.91257	ns
President's Office-Academic Affairs	-0.9389	-2.9082	1.03034	0.78817	ns
Student Affairs-Academic Affairs	0.91193	0.07138	1.75249	0.02404	*
University Advancement-Academic Affairs	0.00045	-1.0668	1.0677	1	ns
Business and Financial Services-Athletics	-0.7255	-2.4356	0.98459	0.86591	ns
Enrollment Management-Athletics	0.2	-1.6411	2.04109	0.9999	ns
President's Office-Athletics	-1.1667	-3.6214	1.28812	0.79068	ns
Student Affairs-Athletics	0.68421	-1.0053	2.37371	0.88964	ns
University Advancement-Athletics	-0.2273	-2.0402	1.5857	0.99978	ns
Enrollment Management-Business and Financial Services	0.92549	-0.4141	2.26508	0.37968	ns
President's Office-Business and Financial Services	-0.4412	-2.5461	1.66378	0.99588	ns
Student Affairs-Business and Financial Services	1.4097	0.28752	2.53188	0.00451	**
University Advancement-Business and Financial Services	0.49822	-0.8025	1.7989	0.91337	ns
President's Office-Enrollment Management	-1.3667	-3.5794	0.84604	0.52018	ns
Student Affairs-Enrollment Management	0.48421	-0.829	1.79743	0.92696	ns
University Advancement-Enrollment Management	-0.4273	-1.896	1.04141	0.97663	ns
Student Affairs-President's Office	1.85088	-0.2374	3.93915	0.11918	ns
University Advancement-President's Office	0.93939	-1.25	3.12877	0.85954	ns
University Advancement-Student Affairs	-0.9115	-2.185	0.36202	0.33605	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Tukey comparisons of means found significance between the same pairs, but the degree of significance was greater for Student Affairs and Business and Financial Services. Given the non-normality of the distribution, this finding was not accepted.

Overall Scores

Table 108. ANOVA of OS across divisions

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Division	6	8.82	1.4695	1.646	0.139	ns
Residuals	142	126.76	0.8927			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Table 109. Tukey test of OS between divisions

Pair	diff	lwr	upr	p adj	Signif.
Athletics-Academic Affairs	0.13873	-1.159	1.43644	0.99991	ns
Business and Financial Services-Academic Affairs	-0.2666	-1.0535	0.52034	0.95025	ns
Enrollment Management-Academic Affairs	0.17559	-0.8114	1.16258	0.99833	ns
President's Office-Academic Affairs	-0.7883	-2.4462	0.86972	0.78909	ns
Student Affairs-Academic Affairs	0.62841	-0.1823	1.43912	0.24256	ns
University Advancement-Academic Affairs	0.15366	-0.7479	1.05523	0.99869	ns
Business and Financial Services-Athletics	-0.4053	-1.8646	1.05404	0.98136	ns
Enrollment Management-Athletics	0.03686	-1.5394	1.61312	1	ns
President's Office-Athletics	-0.927	-2.9908	1.13683	0.83016	ns
Student Affairs-Athletics	0.48968	-0.9826	1.96199	0.95441	ns
University Advancement-Athletics	0.01494	-1.5093	1.53916	1	ns
Enrollment Management-Business and Financial Services	0.44215	-0.7494	1.63369	0.92419	ns
President's Office-Business and Financial Services	-0.5217	-2.309	1.26562	0.97599	ns
Student Affairs-Business and Financial Services	0.89497	-0.1552	1.94515	0.15012	ns
University Advancement-Business and Financial Services	0.42023	-0.7016	1.54203	0.9209	ns
President's Office-Enrollment Management	-0.9638	-2.8478	0.92015	0.72621	ns
Student Affairs-Enrollment Management	0.45282	-0.7546	1.66022	0.92048	ns
University Advancement-Enrollment Management	-0.0219	-1.2921	1.24826	1	ns
Student Affairs-President's Office	1.41667	-0.3813	3.21459	0.22502	ns
University Advancement-President's Office	0.94192	-0.8988	2.7826	0.72597	ns
University Advancement-Student Affairs	-0.4747	-1.6134	0.66388	0.87427	ns

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Faculty vs. Staff ANOVA

Continuous Learning

Table 110. ANOVA of CL between faculty and staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
Emp. Type	1	10.09	10.093	8.941	0.00319	**	0.05	Small
Residuals	175	197.54	1.129					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Inquiry and Dialogue

Table 111. ANOVA of DI between faculty and staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Emp. Type	1	0.8	0.7972	0.747	0.388	ns
Residuals	172	183.5	1.0666			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Collaboration and Team Learning

Table 112. ANOVA of TL between faculty and staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Emp. Type	1	1.36	1.365	1.04	0.309	ns
Residuals	174	228.30	1.312			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Systems to Capture and Share Learning

Table 113. ANOVA of ES between faculty and staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
Emp. Type	1	5.76	5.756	4.901	0.0282	*	0.03	Small
Residuals	165	193.78	1.174					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Empower People

Table 114. ANOVA of EP between faculty and staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Emp. Type	1	0.95	0.9472	0.801	0.372	ns
Residuals	168	198.62	1.1822			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Connect the Organization to its Environment

Table 115. ANOVA of SC between faculty and staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Emp. Type	1	2.12	2.116	1.871	0.173	ns
Residuals	170	192.19	1.131			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Strategic Leadership

Table 116. ANOVA of SL between faculty and staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
Emp. Type	1	9.49	9.489	7.222	0.00793	**	0.04	Small
Residuals	167	219.44	1.314					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Overall Score

Table 117. ANOVA of OS between faculty and staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Emp. Type	1	1.52	1.5207	1.679	0.197	ns
Residuals	148	134.06	0.9058			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

AAF Staff vs. Non-AAF Staff ANOVA

Continuous Learning

Table 118. ANOVA of CL between AAF staff and non-AAF staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
AAF/Not	1	0.74	0.740	0.644	0.424	ns
Residuals	101	115.99	1.148			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Inquiry and Dialogue

Table 119. ANOVA of DI between AAF staff and non-AAF staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
AAF/Not	1	0.67	0.6712	0.634	0.428	ns
Residuals	99	104.82	1.0588			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Collaboration and Team Learning

Table 120. ANOVA of TL between AAF staff and non-AAF staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
AAF/Not	1	1.13	1.126	0.841	0.361	ns
Residuals	101	135.32	1.340			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Systems to Capture and Share Learning

Table 121. ANOVA of ES between AAF staff and non-AAF staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
AAF/Not	1	0.32	0.3237	0.275	0.275	ns
Residuals	95	111.95	1.1785			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Empower People

Table 122. ANOVA of EP between AAF staff and non-AAF staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
AAF/Not	1	0.05	0.052	0.038	0.845	ns
Residuals	95	128.24	1.350			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Connect the Organization to its Environment

Table 123. ANOVA of SC between AAF staff and non-AAF staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
AAF/Not	1	0.28	0.2763	0.223	0.638	ns
Residuals	98	121.62	1.2410			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Strategic Leadership

Table 124. ANOVA of SL between AAF staff and non-AAF staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
AAF/Not	1	0.54	0.5383	0.403	0.527	ns
Residuals	94	125.57	1.3358			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Overall Score

Table 125. ANOVA of OS between AAF staff and non-AAF staff

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
AAF/Not	1	0.04	0.0354	0.038	0.845	ns
Residuals	86	79.65	0.9262			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Leadership vs. Non-Leadership ANOVA

Continuous Learning

Table 126. ANOVA of CL between leadership and non-leadership

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Leadership/Not	1	1.61	1.607	1.363	0.245	ns
Residuals	174	205.21	1.179			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Inquiry and Dialogue

Table 127. ANOVA of DI between leadership and non-leadership

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Leadership/Not	1	0.03	0.0333	0.031	0.861	ns
Residuals	171	184.14	1.0768			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Collaboration and Team Learning

Table 128. ANOVA of TL between leadership and non-leadership

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Leadership/Not	1	1.14	1.135	0.861	0.355	ns
Residuals	173	228.14	1.319			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Systems to Capture and Share Learning

Table 129. ANOVA of ES between leadership and non-leadership

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
Leadership/Not	1	7.03	7.026	6.072	0.0148	*	0.036	Small
Residuals	164	189.77	1.157					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Empower People

Table 130. ANOVA of EP between leadership and non-leadership

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.	Eta.sq	Magnit.
Leadership/Not	1	5.0	5.003	4.364	0.0382	*	0.025	Small
Residuals	167	191.5	1.146					

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Connect the Organization to its Environment

Table 131. ANOVA of SC between leadership and non-leadership

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Leadership/Not	1	2.43	2.435	2.194	0.14	ns
Residuals	169	187.51	1.109			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Strategic Leadership

Table 132. ANOVA of SL between leadership and non-leadership

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Leadership/Not	1	1.09	1.089	0.806	.371	ns
Residuals	166	224.36	1.352			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Overall Score

Table 133. ANOVA of OS between leadership and non-leadership

	df	Sum Sq	Mean Sq	F Value	Pr(>F)	Signif.
Leadership/Not	1	1.39	1.3861	1.535	0.217	ns
Residuals	147	132.76	0.9031			

Note: ****p<.0001, ***p<.001, **p<.01, *p<.05

Appendix E

Survey

Savannah State University Employee Perspectives Survey

Thank you for taking the time to respond to this survey. This information will be invaluable as we seek to continually improve our institution.

In this questionnaire, you are asked to think about how your organization supports and uses learning at an individual, team, and organizational level. From this data, you and your organization will be able to identify the strengths you can continue to build on and the areas of greatest strategic leverage for development toward becoming a learning organization.

Your participation is completely voluntary and your responses will be kept confidential.

This survey was adapted from:
Marsick, V. J., & Watkins, K. E. (2003). Demonstrating the Value of an Organization's Learning Culture: The Dimensions of the Learning Organization Questionnaire. Advances in Developing Human Resources, 5(2), 132–151.

About you

1. **In what division of the organization do you primarily work?**
   Mark only one oval.

   ◯ Academic Affairs   *Skip to question 2.*

   ◯ Athletics   *Skip to question 3.*

   ◯ Business and Financial Services   *Skip to question 4.*

   ◯ President's Office   *Skip to question 8.*

   ◯ Student Affairs   *Skip to question 5.*

   ◯ University Advancement   *Skip to question 6.*

   ◯ Other: _____   *Skip to question 7.*

Academic Affairs

2. **In what unit do you work?**
   Mark only one oval.

   ⬭ College of Business Administration

   ⬭ College of Liberal Arts and Sciences

   ⬭ College of Science and Technology

   ⬭ College of Teacher Education

   ⬭ Admissions

   ⬭ Center for Academic Success

   ⬭ Graduate Admissions

   ⬭ Library

   ⬭ International Education Center

   ⬭ Office of Academic Affairs

   ⬭ Other: _____

   Skip to question 8.

Athletics

3. **In what unit do you work?**
   Mark only one oval.

   ⬭ Athletics Administration

   ⬭ Athletics Teams

   ⬭ Other: _____

   Skip to question 8.

Business and Financial Services

4. **In what unit do you work?**
   Mark only one oval.

   ⬭ Business and Finance Administration

   ⬭ Auxiliary Services

   ⬭ Budget and Financial Planning

   ⬭ Business Compliance

   ⬭ Comptroller's Office

   ⬭ Financial Aid

   ⬭ Human Resources

   ⬭ Payroll

   ⬭ Plant Administration

   ⬭ Procurement

   ⬭ Student Financial Services

   ⬭ Other: _____

Skip to question 8.

Student Affairs

5. **In what unit do you work?**
   Mark only one oval.

   ( ) Student Affairs Administration

   ( ) Housing and Residence Life

   ( ) Career Services

   ( ) Counseling Services

   ( ) Disability Services

   ( ) Health Services

   ( ) Programs and Organizations

   ( ) Registrar's Office

   ( ) Dean of Students

   ( ) Center for Women's Programs and Resources

   ( ) Office of Student Conduct

   ( ) Parent Resources

   ( ) Other: _____

Skip to question 8.

University Advancement

6. **In what unit do you work?**
   Mark only one oval.

   ( ) Alumni Relations

   ( ) Development

   ( ) Marketing and Communications

   ( ) SSU Foundation

   ( ) Office of Events

   ( ) Advancement Services

   ( ) Other: _____

Skip to question 8.

Other (division)

7. **In what unit/department do you work?**

   _____

Employee Type

8. **What type of employee are you?**
   Mark only one oval.

   ◯ Faculty   *Skip to question 9.*

   ◯ Staff   *Skip to question 10.*

Faculty roles

9. **What is your primary role?**
   Mark only one oval.

   ◯ Administrator

   ◯ Tenured/Tenure-Track Faculty

   ◯ Non-Tenure Track Faculty

Skip to question 11.

Staff roles

10. **What is your primary role?**
    Mark only one oval.

    ◯ Senior Management

    ◯ Middle Management

    ◯ Supervisory

    ◯ Non-Management (salaried)

    ◯ Non-Management (hourly)

Skip to question 11.

Gender

11. **What is your gender?**
    Mark only one oval.

    ◯ Female

    ◯ Male

    ◯ Non-binary/third gender

    ◯ Prefer not to say

    ◯ Other: _____

Experience

12. **Approximately how many years have you worked at Savannah State University?**

    _____

Individual Level

13. **At SSU, people openly discuss mistakes in order to learn from them**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

14. **At SSU, people identify skills they need for future work tasks**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

15. **At SSU, people help each other learn**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

16. **At SSU, people can get money and other resources to support their learning**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

17. **At SSU, people are given time to support learning**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

18. **At SSU, people view problems in their work as an opportunity to learn**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

19. **At SSU, people are rewarded for learning**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

20. **At SSU, people give open and honest feedback to each other**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

21. **At SSU, people listen to others' views before speaking**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

22. **At SSU, people are encouraged to ask "why" regardless of rank**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

23. **At SSU, whenever people state their view, they also ask what others think**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

24. **At SSU, people treat each other with respect**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

25. **At SSU, people spend time building trust with each other**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

Team or Group Level
Team or group refers to your primary working group; such as department, team, etc.

26. **At SSU, departments/working groups have the freedom to adapt their goals as needed**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

27. **At SSU, departments/working groups treat members as equals, regardless of rank, culture, or other differences**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

28. **At SSU, departments/working groups focus both on the group's task and on how well the group is working**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

29. **At SSU, departments/working groups revise their thinking as a result of group discussions or information collected**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

30. **At SSU, departments/working groups are rewarded for their achievements as a team/group**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

31. **At SSU, departments/working groups are confident that the organization will act on their recommendations**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

Organization Level

12/7/2019   Savannah State University Employee Perspectives Survey

32. **SSU uses two-way communication on a regular basis, such as suggestion systems, electronic bulletin boards, or town hall/open meetings**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

33. **SSU enables people to get needed information at any time quickly and easily**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

34. **SSU maintains an up-to-date database of employee skills**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

35. **SSU creates systems to measure gaps between current and expected performance**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

36. **SSU makes its lessons learned available to all employees**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

37. **SSU measures the results of the time and resources spent on training**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

38. **SSU recognizes people for taking initiative**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

39. **SSU gives people choices in their work assignments**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

40. **SSU invites people to contribute to the organization's vision**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

41. **SSU gives people control over the resources they need to accomplish their work**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

42. **SSU supports employees who take calculated risks**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

43. **SSU builds alignment of visions across different levels and workgroups**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

44. **SSU helps employees balance work and family**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

45. **SSU encourages people to think from a global perspective**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

46. **SSU encourages everyone to bring the students' views into the decision making process**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

47. **SSU considers the impact of decisions on employee morale**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

48. **SSU works together with the outside community to meet mutual needs**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

49. **SSU encourages people to get answers from across the organization when solving problems**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

50. **At SSU, leaders generally support requests for learning opportunities and training**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

51. **At SSU, leaders share up-to-date information with employees about competitors, industry trends, and organizational directions**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

52. **At SSU, leaders empower others to help carry out the organization's vision**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

53. **At SSU, leaders mentor and coach those they lead**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

54. **At SSU, leaders continually look for opportunities to learn**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

55. **At SSU, leaders ensure that the organization's actions are consistent with its values**
Mark only one oval.

	1	2	3	4	5	6	
Almost Never	◯	◯	◯	◯	◯	◯	Almost Always

Appendix F

Permission to use DLOQ

Dear Dr. Marsick,

I am a doctoral student at Vanderbilt University completing a capstone project in Leadership and Learning in Organizations. I have thoroughly enjoyed reading and learning from your work and I am writing to ask written permission to use the Dimensions of the Learning Organizations Questionnaire (DLOQ) in my research study. My study will utilize the DLOQ to measure the learning culture of a medium-sized, primarily undergraduate HBCU, as well as to provide insights for the development of interventions for improvement. My research is being supervised by my professor, Dr. Tracey Armstrong.

I plan to provide the DLOQ (in its entirety) electronically to all full-time employees at the university. In addition to using the instrument, I also ask your permission to reproduce it in my capstone report Appendix. The capstone report was published in the Vanderbilt University Library's archives.

I would like to use [and reproduce] your DLOQ under the following conditions:

- I will use the DLOQ only for my research study and will not sell or use it for any other purposes
- I will include a statement of attribution and copyright on all copies of the instrument. If you have a specific statement of attribution that you would like for me to include, please provide it in your response.
- At your request, I will send a copy of my completed research study to you upon completion of the study and/or provide a hyperlink to the final manuscript

If you do not control the copyright for these materials, I would appreciate any information you can provide concerning the proper person or organization I should contact.

If these are acceptable terms and conditions, please indicate so by replying to me through e-mail at michael.rothlisberger@vanderbilt.edu.

Sincerely,

Michael Rothlisberger

Response

Dear Mr. Rothlisberger,

I have shared this with my co-author, Dr. Karen Watkins, and we both agree to the provisions in your email to provide our consent to your use of the DLOQ in your study. We look forward to seeing the results ... the study looks very interesting!

Regards

Dr. Marsick

Appendix G

Survey recruitment communication

Dear SSU Faculty & Staff:

I would like to invite you to participate in a survey to help us understand more about the perspectives of full-time employees of Savannah State University about our organizational learning culture. **The survey will only take 5-10 minutes to complete**. I believe this information was invaluable in determining ways that the institution might improve for our employees and students. I appreciate your willingness to share your perspectives.

This research is being conducted by Michael Rothlisberger, a doctoral student at Vanderbilt University. You can find important consent information attached.

The link for the survey can be found at: http://bit.ly/SavannahStateSurvey

Thank you for taking the time to provide this important information.

Regards,

Kimberly Ballard-Washington, J.D.
Interim President

Appendix H

Figure 54. Dashboard - waitlists
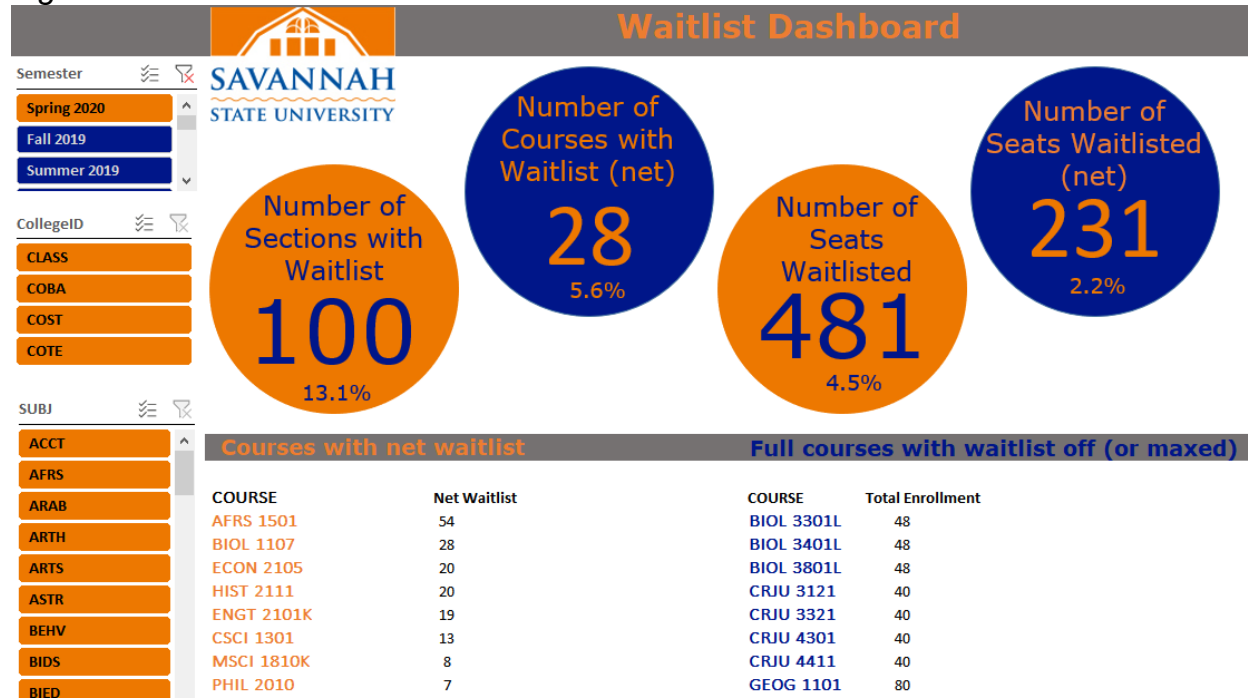
Figure 55. Dashboard - course detail

Semester			Row Labels	Full Name	Max Capacity	Seats Filled	Seats Available	Waitlisted Seats	Net Available	Sum of %Full
Spring 2017			⊟CLASS		11925	8298	3627	1	4419	69.58%
Fall 2019			⊞HIST 4901		1	1	0	0	0	100.00%
Fall 2018			⊞HSEM 4000		3	3	0	0	0	100.00%
			⊞AFRS 3211		40	40	0	0	0	100.00%
CollegeID			⊞HUMN 1201H		2	2	0	0	0	100.00%
			⊞ARTS 1011		1	1	0	0	0	100.00%
CLASS			⊞HIST 3909		1	1	0	0	0	100.00%
COBA			⊞SPAN 2002		1	1	0	0	0	100.00%
COST			⊞SPEH 4101		30	30	0	0	0	100.00%
COTE			⊞CRJU 4301		1	1	0	0	0	100.00%
			⊞ARTS 1010		16	16	0	0	0	100.00%
			⊞HEDU 1301		25	25	0	0	0	100.00%
SUBJ			⊞COMM 3201		2	2	0	0	0	100.00%
			⊞CRJU 3610		40	40	0	0	0	100.00%
BEHV			⊞MUSC 3644		6	6	0	0	0	100.00%
BIDS			⊞THEA 3101		15	15	0	0	0	100.00%
BIOL			⊞PADM 6861		3	3	0	0	0	100.00%
BUSA			⊞ENGL 3515		1	1	0	0	0	100.00%
CHEM			⊞PHIL 2030		25	25	0	0	0	100.00%
CHIN			⊞MSWK 6750		24	23	1	0	1	95.83%
CISM			⊞MUSC 2432		10	9	1	0	1	90.00%
CIVT			⊞ARTS 3201		16	15	1	0	1	93.75%
CLAS			⊞FINE 4906		5	4	1	0	1	80.00%
			⊞MUSC 1561		8	7	1	0	1	87.50%
			⊞SOCI 4312		40	39	1	0	1	97.50%
			⊞MSWK 6793		24	23	1	0	1	95.83%
			⊞SOCI 4601		0	1	-1	0	1	#DIV/0!
			⊞FINE 1101		28	26	2	0	2	92.86%
			⊞PSYC 2103		40	38	2	0	2	95.00%

Figure 56. Dashboard - failure rates

Row Labels	Enrollment	DFW%
⊟CLASS	8298	
ARTS 1101	170	
COMM 4402	7	
SOWK 4301	11	
BEHV 2000	20	
SOCI 3611	37	
SOWK 4106	11	
HSEM 3260	16	
PADM 6834	8	
MSWK 6834	2	
ARTS 1010	16	
SOWK 3201	17	
ARTS 1011	1	
MSUS 8865	2	
ARTS 1060	10	
MUSC 3011	6	
AFRS 2000	37	
POLS 3601	17	Redacted
ARTS 2800	7	
HONS 3101	3	
ARTS 3012	9	
HSEM 4606	4	
ARTS 3101	7	
MSWK 6680	22	
ARTS 3201	15	
MUSC 1644	1	
ARTS 3701	9	
MUSC 4409	3	
ARTS 4900	8	
PHIL 2030	25	

Slicers:

Semester
- Spring 2018
- Spring 2017
- Fall 2019

CollegeID
- CLASS
- COBA
- COST
- COTE

Type
- Graduate
- Lower Division
- Upper Division

SUBJ
- CLAS
- COMM
- COST
- CRJU
- CSCI

Figure 57. Dashboard - retention

Row Labels	%Lost from Fall 16 to Fall 17	%Lost from Fall 17 to Fall 18	%Lost from Fall 18 to Fall 19	3 year average loss per year
⊟CLASS				
English Lang & Literature				
Visual and Performing Art				
Africana Studies				
Master Urban Studies Plan				
Associate of Science Core				
Criminal Justice				
Behavior Analysis				
Sociology				
History				
Master of Public Administ				
Social Work	Redacted	Redacted	Redacted	Redacted
Mass Communications				
Political Science				
Interdisciplinary Studies				
Homeland Security & Emerg				
Master of Social Work				
Associate of Arts, Core				
Post-Bac Certificate				
Cert Nonproft Org & Leade				
⊟COBA				
Business Management Onlin				
Business Management				
Business Marketing				
Global Logis & Interna Bu				
Accounting				
Bus Comp Information Syst				
Master of Business Admini				
⊟COST				

Slicers: CollegeID — CLASS, COBA, COST, COTE, UNDEC.
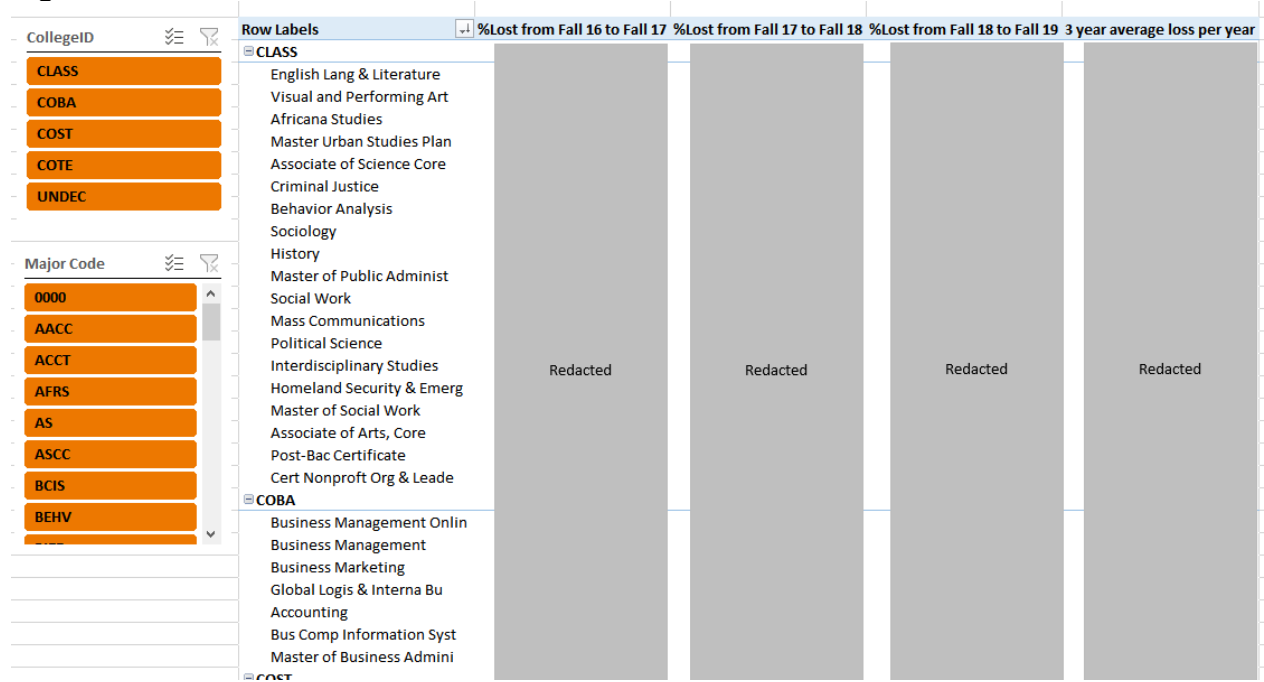Major Code — 0000, AACC, ACCT, AFRS, AS, ASCC, BCIS, BEHV.

Figure 58. Dashboard - teaching productivity

*All figures are per FT Faculty per semester

Row Labels	# Sections	#Course Credit Hours	# Seats	#Student Credit Hours	Average Class Size
⊟CLASS					
⊞English, Languages and Cultures					
⊞Political Science and Public Affairs					
⊞Social Work					
⊞Fine Arts, Humanities and Wellness					
⊞Journalism and Mass Communications					
⊞Social and Behavioral Sciences					
CLASS Total					
⊟COBA					
⊞ACCT, CIS & GLIB	Redacted	Redacted	Redacted	Redacted	Redacted
⊞Business					
COBA Total					
⊟COST					
⊞Chemistry & Forensic Sciences					
⊞Marine & Environmental Sciences					
⊞Mathematics					
⊞Biology					
⊞Engineering Technology					
COST Total					
⊟COTE					
⊞Teacher Education					
COTE Total					
Grand Total					

Slicers: Semester — Spring 2020, Fall 2019, Spring 2019, Fall 2018, Spring 2018, Fall 2017, Spring 2017, Fall 2016.
Type — Graduate, Lower Division, Upper Division.