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EDUCATIONAL PLANNING
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FROM THE EDITORS

This issue of Educational Planning covers significant planning topics such as planning issues in education policies, learning and organization in higher education and school curriculum and instructional planning in K-12 programs.

The first two articles are about planning for policy development. In the first article, Moss and White explored publicly available data from the Mississippi Department of Education's Annual Assessment Achievement Gap Analysis Report and the NAEP annual report to determine if the passage of the Mississippi Literacy-Based Promotion Act of 2013 has had any impact on closing the Black/White literacy gap.

In the second article, Alyass provided an overview of policy statements within the Policy on Accessible Education for Students with Disabilities (2018) in Ontario, Canada, and an analysis of the harmful effects of policy. Analysis was made using literature in the field of educational policy and disability studies.

The next two articles are relating to teaching and learning in higher education. Heath and Tracy-Bronson showcased inclusive special education undergraduate courses that utilized Universal Design for Learning (UDL) to meet the diverse needs of teacher education candidates.

Kidane, Woldeyohanis and Alemu examined the status of teaching soft skills in the polytechnic colleges of Ethiopia. The results revealed that the status of teaching soft skills was at an average level with no significant gender difference.

Then, the following articles were written on the organization and accountability practices of higher education institutions. Bogale and Hussien assessed the practice of accountability dimensions and their mechanisms in public research universities in Ethiopia. They found that the accountability dimensions and their mechanisms were deficient.

In the study by Tolosa and Hussien, organizational structural change was linked to staff job performance in Ethiopian research universities. The findings indicate that changes in organizational structure and work engagement parameters, such as vigor, absorption, and dedication, had a significant and positive relationship with employee job performance.

Riffe, Daniels and Collier explored the documented governance networks of formal university committees within and across institutions and the utility of those networks for institutional leaders in universities of the United States. The findings of their study demonstrate the effective utility of using social network analysis to better understand university governance processes at the meso-level.

In the study by Benti, Mogese and Woldegiyorgis, the focus is on Jimma university's effort to become international. They explored the university leadership and governance structures in place, and internationalization practices in its core functions.

The last three articles in this issue are concerning K – 12 school curriculum and instruction in the U.S. public education. Weinstein and Riegel investigated the factors impacting teacher technology knowledge and implementation in K-12 classrooms in California. Results of their study revealed that teacher practices were well below the expectations of the field and the standard set by ISTE for appropriate technology implementation.

Johnson, DeVillar and Chan reported on the self-perceptions of elementary school principals in the roles they played as curriculum leaders in school. They found that elementary school principals played a constructive role as curriculum leaders but at the same time understood their authoritative limitations.

Lastly, in Woodcock's study, attempts were made to bridge K-12 education, special education, literacy education, coaching, and the mental health professions, to better support students with dyslexia and mental health challenges such as anxiety, and the professionals who serve them.

Educational Planning is serving as a platform for sharing successful international educational planning experiences. At the same time, reports of failure attempts would certainly help our colleague planners to be cautious not to commit the same mistakes again. We, international educational planners, can help one another and eventually win!

Starting from 2026, the Educational Planning journal will be under a new editorship. Dr. Tak C. Chan is retiring at the end of 2025 after 13 years of service. Dr. Selehattin Turan will assume the editorship of the journal. Dr. Turan is an outstanding international scholar. He will lead the journal to a new stage of development.

November, 2025.

ABOUT THE AUTHORS

Demoze Degefa Alemu is one of senior faculties in the Department of Educational Planning and Management at Addis Ababa University whose career experience and educational background remains the key predictor of the effectiveness of this team. Regarding academic qualification, Dr. Demoze studied at National Flagship University and International world class Universities, namely Addis Ababa University and Aarhus University, Denmark respectively which offered him both knowledge of local realties and global developments. Likewise, his professional experience amazingly spans both geographic diversity and different educational levels of Ethiopia. Starting his career as secondary school teacher and leader, currently Dr. Demoze is faculty member and chair of a department at Addis Ababa University which offers him the opportunity to understand national and local realities in Ethiopia. Apart from his teaching career, Dr. Demoze has offered consultancy service to different organizations on different themes. Of particular importance for this research is his academic research bent which includes higher education, governance, leadership and management. His publication on academic freedom at AAU is an example in this regard.

Ghofran Alyass is a disabled woman, researcher, professor at George Brown College, and the founder of BeyondAbilities International, formerly known as BeyondAbilities. This organization provides online programs and services to youth and adults with disabilities. She holds a Master of Education Degree in Social Justice Education specializing in disability educational policy from OISE, University of Toronto. She also has an honour Bachelor of Arts in Disability Studies from the Toronto Metropolitan University, a college certificate in preparatory in Liberal Studies, and a college diploma in Community Services from George Brown College. She is a disability advocate, program facilitator, and author of a recent book, "You Have 24 Hours to Live". Ghofran is interested in and pursues research that explores persistent barriers for students with disabilities within academia. Her research seeks to find the policy's role in current accommodation practices and how student voices can influence better change. Ghofran is also interested in researching alternative non-medicalized ways students can access accommodations, particularly in higher education.

Wubnesh Shiferaw Benti is a Ph.D. candidate in International and Comparative Education at Addis Ababa University. With expertise in quality education, she is a researcher, higher education professor and teacher trainer. Currently, she is working at FDRE Education and Training Authority in a capacity of Higher Education Quality and Enhancement Expert. Mrs. Benti's research interests focus on the intersection of quality education, internationalization, digitalization, leadership, multiculturalism, global citizenship, and localization within higher education. She is deeply committed to advancing the role of higher education in fostering inclusive, globally oriented, and locally relevant learning environments.

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Tak Cheung Chan, Professor Emeritus of Educational Leadership, Kennesaw State University, Georgia, is a graduate of the University of Georgia. He was a classroom teacher, assistant school principal, school principal, and district office administrator. His previous experience in higher education includes serving as a faculty member of educational leadership at Valdosta State University, Georgia Southern University and Kennesaw State University. His research interests include educational planning, facility planning, school business administration, school finance, and international education.

Kate Collier is a doctoral student at the University of Georgia's Louise McBee Institute of Higher Education. Her research focuses on the intersection of motherhood and academia among postdoctoral scholars. Kate has spent the past decade working in the field of higher education and currently serves as a graduate assistant in the Office of Alumni Relations & Development.

Bryson K. Daniels is the Associate Director of Student & Academic Affairs in the School of Health at Georgetown University. He has served as a higher education practitioner at both private and public institutions for the past four years. His research interests surround institutional governance, institutional type, and college student experiences.

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Katie Heath is an Associate Professor at Roberts Wesleyan University. She is the program director for the Pathway to Teaching program, a non-traditional cohort-based initial teacher preparation program. Her research interests include Universal Design for Learning in Higher Education, personalized learning, and communication opportunities for students with disabilities.

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Phelton C. Moss is a nationally respected leader in K–12 education, widely recognized for his impact on early literacy, teacher workforce development, and education policy. With over a decade of experience as a teacher, principal, and state education leader, Dr. Moss has led transformative efforts to improve student outcomes. As Mississippi's youngest principal, he doubled reading proficiency at a historically underperforming middle school. He later served as Bureau Director at the Mississippi Department of Education, leading statewide initiatives to address early literacy gaps and teacher shortages.

Now an Assistant Professor at Virginia Commonwealth University and an elected Board of Education member in Prince George's County, Maryland, Dr. Moss leverages his policy seat to support district leaders in building research-based literacy systems aligned with the science of reading. He has also worked as a Senior Policy Adviser in the U.S. House of Representatives for the Committee on Education and Labor.

Caitlin Riegel is an Assistant Professor in the Education Department at Daemen University in New York State. She holds a Bachelor of Arts Degree in Education with a concentration in secondary mathematics, a Master of Science Degree in Special Education, and earned her Doctorate in Leadership and Policy. Dr. Riegel's research focuses on teacher preparation and educational technology. She served as President of the International Society for Educational Planning (ISEP) from 2023-2025 and currently serves as Past President on the Board of Directors. She also serves as the Communications & Media Chair for the Association for Independent Liberal Arts Colleges for Teacher Education (AILACTE).

Karley A. Riffe is an Assistant Professor in Educational Leadership at the University of Cincinnati. Her research uses qualitative and quantitative methods to explore the interrelationships between higher education institutions, those who work within them, and the external environment as they affect institutional mission fulfillment. Dr. Riffe has published on the organization and governance of colleges and universities and worked on several grant projects that addressed the administration and decision-making processes within and across colleges and universities.

Nega Balcha Tolosa is currently a Ph.D. candidate in the College of Education and Language Studies, Department of Educational Planning and Management at Addis Ababa University in Ethiopia. The author earned his M.A. degree in educational leadership and management from Arsi University and his B.Ed. degree in geography and environmental studies from Jimma University. With over 10 years of experience, he has worked as a senior lecturer. He has held various positions, including Dean of the College of Education and Behavioral Studies at Bule Hora University, Ethiopia. His research interests include organizational change, educational administration, policy, management, and leadership.

Chelsea P. Tracy-Bronson is a Professor at Stockton University who focuses her research, teaching, and consulting on designing inclusive opportunities for all in colleges and k-12 school districts. She received her master's degree in Curriculum and Teaching from Teacher's College at Columbia University and earned her Ph.D. in Special Education from Syracuse University after completing her dissertation with distinction. She has published articles in multiple journals, including Journal of Educational Administration, Journal of School Leadership, Journal of Special Education Leadership, and Teachers College Record. She received three American Education Research Association (AERA) awards for her research: AERA Division A Administration Dissertation Award Honorable Mention; AERA Leadership for Social Justice SIG Outstanding Dissertation Award; AERA Districts in Research and Reform SIG Outstanding Dissertation Award. She currently serves on the executive committee of the AERA Special and Inclusive Education SIG.

Danielle Weinstein is a K-12 educator and former administrator in Southern California. She holds a Bachelor's of Arts Degree in Sociology with a minor in Education, a Master of Education Degree in Educational Leadership with a concentration in Single Subject Science, and earned her Doctorate in Educational Leadership with a concentration in Leading Instructional Change. Dr. Weinstein's research focuses on in-service teaching practices and educational technology. In 2018, Dr. Weinstein was recognized as Educator of the Year by Congressional District 52. She currently serves on the Board of Directors for the International Society for Educational Planning (ISEP).

Ashley L. White is a nationally recognized leader in K–12 and special education, known for her expertise in education policy, teacher workforce development, and advancing just educational practices for diverse students. With over two decades in education - as a teacher, district professional development provider, and now Assistant Professor at the University of Wisconsin–Madison - Dr. White has shaped policy and practice at every level. Her impact spans from leading district initiatives related to best practices for Black students served by the Individuals with Disabilities Education Act (IDEA) to serving in the U.S. House Committee on Education and Labor. Dr. White's research and advocacy have been recognized by key staff at the Smithsonian National Museum of African American History and Culture (NMAAHC) and Howard University. Her work for the 70th anniversary of Brown v. Board represented one of the most notable commemorations of that year, garnering the support of the Biden Administration. As a consultant, editorial board member, and policy architect, Dr. White leverages her experience to support district and national leaders in building culturally responsive and just education systems aligned with current research and policy advancements.

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Christine Woodcock has always loved school, reading and children's literature, which is what inspired her to pursue a doctorate in Reading from the University at Albany. She is passionate about working with children, families, and teachers around issues of literacy. After teaching special education in a variety of urban, rural, and suburban environments in K-8th grade settings, Christine became a professor and has had the great privilege of educating teachers for over twenty years. Currently, Christine is an Associate Professor at the State University of New York at New Paltz. Her hugest inspiration is her daughter, who truly taught Christine how to teach reading.

ADVANCING EQUITY THROUGH LITERACY POLICY: A LEADERSHIP ANALYSIS OF MISSISSIPPI'S PROGRESS AND CHALLENGES IMPLEMENTING THE LITERACY-BASED PROMOTION ACT

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ABSTRACT

Since 2011, Mississippi has significantly improved its students' literacy rates on the National Assessment of Educational Progress (NAEP) and the Mississippi Academic Assessment Program (MAAP). However, little attention has gone to understanding how and if, amid such tremendous progress, Mississippi is closing the gap in literacy proficiency between Black and White students. In this brief, I explore data from the statewide MAAP from the 2019–2020 school year to the 2022–2023 school year, using publicly available data from the Mississippi Department of Education's annual Assessment Achievement Gap Analysis Report and the NAEP annual report to determine if the passage of the Literacy-Based Promotion Act of 2013 has had any impact on closing the Black/White literacy gap in Mississippi as they pursue their goal of getting 70% of students reading proficiently by 2025. While this analysis found the Black/White literacy gap widen, it does not necessarily follow that Mississippi made no progress with Black students. In fact, these findings reveal that both groups experience gains; however, the overall gap widen. These conclusions, which offered a between group analysis of Black/White student literacy performance, add weight to the arugment that much work needs to be done, but that Mississippi's modest gains could be a starting point for other state's literacy policy efforts. In this paper, we also provide policy and practice recommendations.

INTRODUCTION

Most recently in the United States, state level policy has focused on improving student literacy outcomes has taken center stage. Specifically, Mississippi has become the source for literacy policy with the passage of the Literacy-Based Promotion Act of 2013, requiring its students to pass a reading exam to move from 3rd to 4th grade. What is more, Mississippi's recent National Assessment of Educational Progress (NAEP) gains have moved its work to the center stage. Researchers and policy actors, including major media outlets, have spent the last few years highlighting Mississippi's ability to improve literacy outcomes on national assessments. Ten years later, many of these researchers and media outlets have cast the change in literacy outcomes as the "Mississippi Miracle" to describe current events surrounding Mississippi's gains in literacy. Next is a small recast of such commentary:

> "The so-called Mississippi miracle in education really isn't one. The State's surge in student achievement results not from divine intervention but from careful policy applied by committed human beings" (Washington Post, 2023).

> "In the last decade, Mississippi students have rapidly closed the test score gap within the nation as a whole, particularly in fourth grade. State officials, education wonks, and national journalists have attributed these improvements to the State's 2013 early reading law, which included emphasizing phonics and holding back third graders who struggle to read" (Barnum, 2023).
>
> "Mississippi has shown that it is possible to raise standards even in a state ranked dead last in the country in child poverty and hunger," New York Times columnist Nick Kristof (2023) wrote in May.

Each headline is true, but missing from the conversation is the extent to which Mississippi has closed the Black/White literacy proficiency gap as it implemented policy efforts to get more kids reading within the State. Moreover, as state political leaders, advocacy groups, civil rights organizations, and parents look for policies for other states to adopt for similar progress, it is essential to know what is truly happening in Mississippi. Understanding what impact policies have on closing the Black/White literacy gap is paramount for achieving widespread gains in education. For Mississippi, where almost 40% of the population is Black—the largest share for any state in the US, understanding how policies help meet its goal of getting 70% of all its student reading proficiently by 2025 is necessary.

PROBLEM STATEMENT

When it comes to the topic of improving literacy performance, most education policy advocates will readily agree that, broadly, policy and practice efforts have not ensured that racially minoritized populations achieve literacy proficiency at the same rate as their White counterparts. This agreement usually ends, however, on the question of what pedagogical approaches and policy pieces are necessary to achieve the expected gains. In their recent work, David Kilpatrick and Timothy Shanhan have both offered support of the Science of Reading as an instructional approach to teaching reading. However, unitl recently, Lucy Calkins a major critic of The Science of Reading, has maintained that the pedagogoical approach should not be used. Although some are convinced the science of reading is a pedagogical framework and retaining students for not meeting the expected standards, others maintain that these are not the paths for achieving such gains. As such, policy actors and literacy advocates must closely examine what gains have been achieved for racially minoritized populations, namely Black students and what strategies are driving those gains. One such place to begin that analysis is Mississippi.

RESEARCH QUESTIONS

1. To what extent has the Literacy-Based Promotion Act of 2013 impacted literacy proficiency rates for Black and White students in Mississippi between 2019 and 2023?
2. Has the implementation of the Literacy-Based Promotion Act contributed to closing or widening the Black/White literacy proficiency gap in Mississippi?
3. What are the education planning lessons other states can learn from Mississippi's literacy improvement efforts in terms of both progress made and persistent racial disparities in outcomes?

METHODOLOGY

This analysis uses adminsirative data organized and collected by the Mississippi Department of Education to examine Mississippi's student literacy trends over time, comparing them to national benchmarks and disaggregating outcomes by race. Three primary publicly available datasets were used:

1. Mississippi Literacy-Based Promotion Act (LBPA):Data were collected on the percentage of third-grade students meeting the LBPA promotion standard between 2014–2015 and 2022–2023. These data were extracted from state-issued reports tracking annual LBPA performance. Special attention was paid to the years in which COVID-19 testing waivers were applied (2019–2021), and the dataset was interpreted in the context of changes in promotion standards over time.
2. Mississippi Academic Assessment Program (MAAP): Statewide ELA proficiency data for Black and White students were analyzed over a five-year period (2018–2023) using the Mississippi Assessment Achievement Gap Analysis Reports. This dataset allowed for examination of both absolute gains in proficiency and the racial achievement gap across years. COVID-related waivers were noted and considered when interpreting data anomalies.
3. Mississippi Academic Assessment Program (MAAP):Statewide ELA proficiency data for Black and White students were analyzed over a five-year period (2018–2023) using the Mississippi Assessment Achievement Gap Analysis Reports. This dataset allowed for examination of both absolute gains in proficiency and the racial achievement gap across years. COVID-related waivers were noted and considered when interpreting data anomalies. Of note, these reports did not exist prior to 2018.

Each dataset was tabulated and visualized in table form to assess trends and draw comparisons across time, grade level, race, and jurisdiction (state vs. national). Percent changes were calculated to quantify shifts in student proficiency, and the racial proficiency gap was computed as the difference in proficiency rates between Black and White students for each year of available data. However, in no way am I aiming to simply juxtapose Black student performance to White student performance for the sake of measuring achievement, rather, the aim of this analysis is to consider the impact of particular sets of policies on Black student literacy. Findings were interpreted through a historical and policy lens, acknowledging shifts in state policy, decisions, a lack of resources, and error in assessment standards that may influence outcomes.

Limitations include the lack of available racial disaggregated data prior to 2018 for MAAP, and potential interruptions or distortions in longitudinal trends due to the COVID-19 pandemic. Despite these limitations, the triangulation of NAEP, LBPA, and MAAP data provides a robust picture of Mississippi's literacy outcomes and equity challenges. Further, I acknowledge long-standing history of utilizing data to weaponize Black student performance, as such in this analysis we aim to historize particular policy decisions and the ways in which the have imnpacted Black student performance. Though, the biggest limitation of this analysis t is that we did not talk to Black students themselves. Futher analysis should be conducted to understand the nuances of these student outcomes.

FINDINGS

This section presents a descriptive analysis of Mississippi's literacy performance across national and state-level assessments over the past decade, with a particular focus on trends in student proficiency, equity, and policy implications. Drawing from the National Assessment of Educational Progress (NAEP), the Mississippi Literacy-Based Promotion Act (LBPA), and the Mississippi Academic Assessment Program (MAAP), the data illustrate both the progress and persistent challenges in the state's efforts to improve literacy outcomes.

The results are organized across three key areas:

1. Mississippi's performance relative to national trends on the NAEP 4th and 8th grade English Language Arts assessments over a ten-year span (2011–2022);
2. Third-grade promotion rates under the LBPA, highlighting student readiness for advancement based on foundational reading skills; and
3. Race-based gaps in ELA proficiency between Black and White students based on the state's annual MAAP reports.

TABLE 1. Mississippi to National 10-Year ELA NAEP Trend for Percentage of Students Proficient in 4th and 8th Grades

Year/Grade	% Nation	Change	% Mississippi	Change
2011 / 4th	32		22	
2022 / 4th	32	0	31	+9
2011 / 8th	32		21	
2022 / 8th	29	-3	22	+1

*Source: National Assessment of Education Progress Publicly Available Reports

1. From 2011 to 2022, Mississippi has seen a 9% increase for 4th graders in English Language Arts. However, for 8th graders, since 2011, Mississippi has experienced only a 1% increase in students earning the proficiency bar on the NAEP. When examining previous years of NAEP data, dating back to the beginning of the NAEP, Mississippi has never experienced comparable gains in a 10-year span.
2. Although good for Mississippi, the national data are troubling. From 2011 to 2022, nationally, the number of students meeting the proficiency bar has remained the same. Data are even more startling for 8th graders within the same years as nationally, with a 3% decline in the number of students meeting the proficiency bar.

TABLE 2. Mississippi Statewide 5-Year Trend for Percentage of 3rd-Grade Students Initially Meeting Promotion Requirements for the Literacy-Based Promotion Act

Year	% of students meeting promotion requirement
2014-2015	85.2
2015-2016	87.0
2016-2017	92.1
2017-2018	93.2
2018-2019	74.5
2019-2020	COVID testing waiver
2020-2021	COVID testing waiver
2021-2022	73.9
2022-2023	76.3

1. In addition to positive NAEP Assessment trends, Mississippi has seen tremendous progress in student success on its 3rd-grade assessment, which determines if students can move on to 4th grade.
2. Although a decline was noted during the 2018–2019 school year, after hitting 93% of students passing the 3rd-grade promotion requirement, the state increased the requirement because the indicator from promotion was not proficiency. In fact, after the 2018–2019, the requirement is still not proficient.
3. Though the state has moved its marker for promotion and there are declines in the data, it is clear the state is making progress in getting students to proficiency. After raising the bar, the state appears to be on track to get students to proficiency. Based on data trends, one could argue that had it not been for the COVID-19 global pandemic, the state may have reached its 2014–2015 passage levels with a higher standard.

TABLE 3. Mississippi Statewide 5-Year Trend of Percentage of Black and White Students' Proficiency in English Language Arts on the Mississippi Academic Assessment Program

Year	% of Black students proficient	% of White students proficient	% Gap
2018-2019	27.1	57.2	-30.1
2019-2020	COVID Waiver	COVID Waiver	COVID Waiver
2020-2021	20.4	50	-29.6
2021-2022	28.2	57.2	-29
2022-2023	33.2	61.1	-33.3

*Source: Mississippi Assessment Achievement Gap Analysis Reports

1. These data show over the last five years, Mississippi has increased proficiency for Black and White students while the gap between White and Black student performance has widened.
2. Although Mississippi has been making gains with its 3rd graders, including students taking English Language Arts Assessments in 3rd–8th grade and 10th grade, Mississippi's progress appears short sighted. Much of this could be attributed to Mississippi's early grade reforms not having time to play out. It also signals that a greater emphasis is warranted for the secondary grades, as the early grades policy work is proving to have an impact.
3. Of greater note, more data were not available at the time of this brief, as Mississippi did not produce a "Mississippi Achievement Gap Analysis Report" before 2018. This report came about after the U.S. Department of Education approved the state's Every Student Succeeds Act plan. However, the assumption might hold that before 2018, the gap was wider, and far fewer Black students were reaching proficiency.

Education reform advocates have long assumed that many of the policy proposals stewarded by Mississippi—such as retaining students and investing in research-based approaches to teaching are the silver bullet for closing student literacy gaps. While these findings reveal some success following these policy proposals, it does not necessarily follow that these efforts alone are enough to close the literacy gap. The results of this analysis point to the need for further research—including to, but not limited to, understanding implementation efforts, training and support for teachers, and family and community engagement.

Education reform advocates frequently highlight Mississippi's strategies—such as mandatory retention policies and research-based literacy instruction—as potential blueprints for addressing student literacy gaps nationwide. While evidence from Mississippi indicates incremental success, these approaches alone cannot be presumed to fully resolve persistent inequities in literacy achievement.

Implications for Educational Planning

This analysis underscores the need to move beyond a reliance on single-dimensional strategies and instead, explore the broader ecosystem influencing student literacy outcomes. Specifically, there is a critical need for further research and action in the following areas:

1. Implementation Fidelity: Evaluating how literacy reforms are being carried out across diverse educational settings, ensuring consistency and scalability without compromising quality.
2. Teacher Development: Investing in comprehensive, sustained professional learning opportunities that equip educators with the skills and confidence to implement research-based practices effectively.
3. Family and Community Engagement: Recognizing the role of families and communities as partners in literacy development and fostering collaborative approaches to build a culture of literacy beyond the classroom.
4. Structural Barriers: Addressing systemic inequities, such as disparities in school funding, access to high-quality early childhood education, and culturally relevant curriculum, that exacerbate gaps in literacy achievement.

Policymakers and education leaders must resist the temptation of oversimplified solutions and instead, commit to a holistic, equity-focused approach. Closing literacy gaps requires not just replicating isolated successes but cultivating a robust support system that empowers students, educators, and communities alike (Darling-Hammond et al., 2020). In recent discussions surrounding improving literacy scores, a controversial issue has been whether policies—like the ones in Mississippi mandating pedagogical approaches aligned to the science of reading and retaining students for not meeting literacy proficiency standards—are the policy paths forward. These approaches, codified in policy, deliver on a commitment to ensure historically marginalized populations have access to strong literacy instruction. From this perspective, literacy advocates aim to create a policy infrastructure that ensures racially minoritized populations have the same access to high-quality literacy instruction as their white counterparts (Paris & Alim, 2017). The Education Trust (2021) argues that that retention policies disproportionately impact Black students, and the science of reading as a pedagogical framework for achieving equity in access to high-quality literacy instruction does not honor the phonetic patterns of racially minoritized populations. Julie Washington, one of this view's main proponents, asserts the meed to, "value and respect revery child's home language, not surppress." According to this view and considering the modest gains in Mississippi, it would appear that Washington's assertions are worth noting and consideration. In sum, the issue of how best to improve the literacy performance of racially minoritized populations, namely Black students, is one that literacy policy advocates must entertain to achieve their stated goals.

FUTURE RESEARCH DIRECTIONS

There is no question about the success of Mississippi's policy efforts to ensure children across the state can read. Mississippi increased Black student performance in reading. That progress must be commended and seen as a guidepost for other state policy actors aiming to strengthen the quality of reading instruction in their respective states. However, a question remains about the extent to which Mississippi is closing the Black/White literacy gap and what policy guardrails are needed to ensure Black children experience the same rate of change in literacy outcomes as their White peers—and this question remains for every other state. Mississippi's rapid success best posits them to address this issue of closing the Black/White literacy gap.

Mississippi's systematic gains point to the need to refine policy proposals to move in a race-conscious way to subvert the years of systematic disenfranchisement of Black students. As states move forward with policy proposals, like those in Mississippi, they must continue leveraging the science of reading. However, if states intend to improve reading outcomes for Black students dramatically—they need to ground policy in what Muhammad (2020) defined as culturally and historically responsive literacy practices. Muhammad contended that literacy has long been imprinted into the fabric of Black life, with literacy societies dating back to the 19th century. Principles from those societies can govern how Black readers and writers are supported today. Muhammad described these actions as identity development, skill development, intellectual development, and criticality. The question becomes, how do we embed such concepts into policy?

CONCLUSION

Indeed, policymakers should revisit existing policies and ground new policy proposals in building reading skills and helping students make sense of themselves and others, as Muhammad (2020) described in her framework. This change would require state policy actors to foreground teaching and learning in texts and resources that allow Black children to see themselves. Further, policies should account for what she described as "criticality," in that students should learn and develop the ability to read through texts that help them understand power, equity, and antioppression. Thus, state actors would have to support a deep investment in high-quality curricula to affirm the racial identity of Black children and curricula that engage with our social context in profound ways. In short, if Black children are to be included fully in the "Mississippi Miracle" and future miracles, state policy must center practices that support Black students fully.

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A BROKEN PROMISE: UNMASKING THE LIMITS OF ONTARIO'S POLICY ON ACCESSIBLE EDUCATION FOR STUDENTS WITH DISABILITIES

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ABSTRACT

People often fail to notice the harmful effects of policy and are often trained to focus on the implications of a policy with a mindset that policy exists to serve citizens and ensure the rights of all citizens are protected. When people fail to notice the harmful effects of policy and instead believe policy has positive intentions, the result is a "broken promise. This article will provide an overview of policy statements within the Policy on Accessible Education for Students with disabilities (2018) and an analysis of the harmful effects of policy. Such analysis will be made using literature by authors in the field of Educational Policy and Disability Studies. This article will begin with a background of the issues that students with disabilities face, a review of literature to illustrate what policy is doing instead of what it implies it is doing, finally, illustrating the negative effects of policy using interviews from a study that took place at a university located in Toronto. Using the 2018 policy, this article will conclude that what policy implies it is doing and what it is doing are two different things, making policy a broken promise.

BACKGROUND

Policies are illustrated as working in favor of all citizens. One example of a policy that is illustrated as such is the *Policy on Accessible Education for students with Disabilities (2018)*. This policy implies it exists to advocate for the right to education for students with disabilities in Ontario Canada. While making this claim, this policy places barriers in front of students with disabilities. It implies it exists to advocate for the right to education for students with disabilities, and within that claim it outlines the point of undue hardship. The parameters of undue hardship will be outlined to illustrate how policy is a broken promise. Moreover, the policy proves to be inadequate when it defines disability through the medical model, an instance in which derogatory words are used to describe disability and the disabled individual. The third and most important way that the *Policy on Accessible Education for Students with Disabilities (2018)* is a broken promise is it claims that it will ensure that academic institutions provide meaningful access to education for students with disabilities while not outlining a definition of meaningful access for institutions to abide by. When institutions do not have a definition of meaningful access to abide by, policy becomes a broken promise. This paper will contextualize the harmful practices brought on by policy through Dolmage (2017), Titchkosky (2022) and Titchkosky (2011) as key authors who talk about disability and education policy. Moreover, this paper will contextualize the harmful practices elicited from policy by drawing on the lived experiences of student participants from a master's study.

LITERATURE REVIEW

As stated earlier, policy is portrayed as working in favor of citizens. This section will review the literature in the fields of education policy and disability studies to illustrate how policy is inadequate when claiming to work in favor of people with disabilities.

> According to Walker (2012), the purpose of the Canadian Human Rights Act includes the principle that all individuals should have opportunities equal with other individuals to make for themselves the lives that they are able and wish to have and have their needs accommodated…without being hindered or prevented from doing so by discriminatory practices (p. 2).

Furthermore, Slee (2018) writes, "inclusive education isn't dead; it just smells funny." (p. 1) This statement is indicative of the harsh reality that what policy claims it is doing and what policy does are two different things making policy inadequate.

Bureaucracy in The Provision of Disability Accommodations

Policy is inadequate given it is bureaucratic. Titchkosky (2011) defines bureaucracy as

> A rationalized form of power accomplished and enforced through procedural requirements impervious to the particularity of unique or individual desire. Thus, a bureaucratic structure governs itself and others by using established protocols and procedures – these are usually put into text as rules and regulations implemented by an office in a predictable fashion (p. 8).

Dolmage (2017) provides insights on the bureaucratic accommodation process. Though Dolmage (2017) writes about accommodation processes from an American policy standpoint, his work is still relevant given the similarities in the ways that students with disabilities are approached as it pertains to accommodations in Canada and the United States. About the higher education accommodation process as a policy guided procedure in the United States, Dolmage (2017) writes

> The "reason" of the medical and legal establishment then, finally decides upon which accommodations are made. What this means in practice is that, in higher education, we witness a large industry of lawyers and HR managers, and administrators paid to determine what exactly can be gotten away with under the rubric of "undue hardship" or "undue burden" of accommodations. (p.77)

McKenzie (2015) contextualizes the discussion by Dolmage (2017) through an institutional ethnography of lived experience navigating accommodation processes alongside analysis of documents outlining accommodation procedures at various institutions attended by McKenzie (2015). McKenzie (2015) cites Smith (1974) who describes ruling relations as "the total complex of activities differentiated into many spheres, by which our society is ruled, managed, administered." Smith (1974) (as cited in McKenzie p. 36). The "ruling relations described by Smith (1974) cited in McKenzie (2015) and the bureaucracy defined by Titchkosky (2011) is illustrated by Harrison, et al, (2018) who write about a study conducted seeking the opinions of post-secondary students with mental health and learning disabilities. Harrison, et al, (2018) argue that post-secondary institutions rely heavily on the opinions and expertise of medical professionals to determine the accommodation needs of students and these professionals are not equipped. Student perspectives need to be included given students are experts on their own needs. Harrison, et al, (2018) further argue that "the accommodations needed to level the playing field for students with mental health challenges may be quite different from those needed by students with other non-evident disabilities already served by DSOs, as symptoms may be transient, curable, or cyclical throughout the school year." (p. 48) Further concluding that given medical professionals are only equipped to diagnose and make medical

recommendations, if an attempt is made to make recommendations for required accommodations the students are at risk of not receiving the appropriate accommodations given the lack of training that the medical professionals have in making recommendations for accommodations.

Similarly to Titchkosky (2011) and Dolmage (2017), Jacobs (2023) highlights that there are indeed laws and policies in place to guarantee the rights to accommodations for post-secondary students with disabilities, though when enacted this involves a high level of bureaucracy given that institutions uphold power in the accommodation process creating a power imbalance and tensions as a result of the system structure. Jacobs writes that "This tension exists because the post-secondary education system has generally been designed according to an ethic that seeks to valorize perfection and ability and which was not created with students with disabilities in mind" (Jacobs, 2018, p. 8).

What is policy doing?

Policy implies it exists to serve all citizens including those with disabilities, though the opposite is evident when practices that are influenced by policy are analyzed (Kirby, 2016). Lavani (2013), as quoted by Kirby (2016), writes "when questioned about inclusion, some teachers saw it as a privilege for students with disabilities to be included with their peers in the general education classroom" (Lavani, 2013, as cited in Kirby, 2016, p. 176). Policy becomes a broken promise when Kirby's (2016) words are viewed alongside the 2018 policy which claims that

> Under the Code, education providers have a legal duty to accommodate the needs of students with disabilities who are adversely affected by a requirement, rule or standard. Accommodation is necessary to address barriers in education that would otherwise prevent students with disabilities from having equal opportunities to access and benefit (The Ontario Human Rights Commission, 2018, p. 41).

Though the removal of barriers for people with disabilities is implied, there is a hidden agenda behind the *Policy on Accessible Education for Students with disabilities* (2018). This policy becomes inadequate when while claiming that every institution has a duty to accommodate, it outlines the point of undue hardship. According to the 2018 policy the point of undue hardship has three parameters. "The code prescribes only three considerations when assessing whether an accommodation would cause undue hardship. [the three considerations are] "cost, outside resources of funding, if any, health and safety requirements if any" (The Ontario Human Rights Commission, 2018, p. 84).

The Definition of Disability

Titchkosky (2022) confronts the ableist and medicalized definition of disability outlined in the *Policy on Accessible Education for Students with Disabilities* (2018) which defines disability as,

> any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect, or illness and without limiting the generality of the foregoing, includes diabetes mellitus, epilepsy, a brain injury, any degree of paralysis, amputation, lack of physical co-ordination, blindness or visual impediment, deafness hearing other remedial impediment, muteness or speech impediment, physical reliance on a guide dog or other animal or on a wheelchair or appliance or device. A condition of mental impairment or a developmental

> disability, a learning disability, or a dysfunction in one or more of the processes involved understanding or using symbols or spoken language, mental disorder, or an injury or disability in which benefits were claimed or received under the insurance plan established under the *Workplace Safety and Insurance Act, 1997* (the Ontario Human Rights Commission, 2018, p. 17).

Confronting the definition provided by the 2018 policy, Titchkosky (2022) moves beyond the medicalized definition and defines disability as

> more than merely a thing gone wrong with one's body or mind or senses or emotions. As a complex blend of human experiences, disability is woven into aspects of our identity, of how we know, and of the actions we take. Disability is infused within an entire universe of sentiments expressed experiences ranging from difficulty to absolutely wondrous elation, from mundane tasks done differently adventurous travels into the heart of struggles (p.1).

Titchkosky notes that disability is seen as a problem and does so in using the language of the *Policy on Accessible Education for Students with disabilities* (2018). Titchkosky (2022) states that "appearing as a calamity, loss, danger and dysfunction, the cultural appearance of disability in everyday life is often negative" (p.1). Viewing the ableist definition provided by the 2018 policy and both the non-ableist and ableist definitions of disability provided by Titchkosky (2022), a critical question that needs to be asked is, how is policy staying committed to meeting the needs of people with disabilities defining disability using words such as dysfunction.

Policies on disability accommodations

Kirby (2017) comments on the insights on inclusion provided by teachers. Though Kirby (2017) focuses on primary education and this article focuses on post-secondary education, Kirby (2017) illustrates not only the reality that policy is a not only inadequate but ableist. Kirby (2017) highlights "when questioned about inclusion, some teachers saw it as a privilege for students with disabilities to be included with their peers in the general education classroom. They saw success in an inclusive classroom as a result of physiological traits of the students" (p. 176).

Furthermore, Prince (2004) makes a comment that is relevant to the *Policy on Accessible Education for Students with Disabilities* (2018) in saying "thus policy analysis from this perspective involves examining and assessing the impact of all programs on the aspiration and capacities of people with disabilities, their families and related networks. This can be described as "disability perspective" (Prince, 2004, p. 62).

There has been an attempt made by policy makers to create change and approach disability in a non-deficit fashion and guide institutions in doing the same in delivering their services. Harrison, et al, (2018) discuss the extensive documentation that post-secondary students with disabilities must provide to receive the accommodations they need. According to Harrison, et al. (2018) "Instead, documentation describing objective, evidence-based procedures, the report recommended that students provide only information regarding the functional limitations experienced as a result of their mental health issues in order to obtain academic accommodations in college or university (p. 186). Taking a closer look at the statement above, it is evident that while there is an attempt to change policy, but change has yet to be made given the framing of policy is still medicalized making disability a functional limitation.

Similarly to Harrison, et al. (2018), Marquis, et, al (2016) outline disability policy development. According to Marquis, et al (2016) "Ontario's government recognized the importance of creating an inclusive and accessible environment through the creation of Accessibility for Ontarians with Disability Act (AODA, 2005). The AODA intends to create universal access for persons with disabilities removing barriers to full participation in society, including workplace and educational opportunities" (p. 43). Marquis, et al. (2016) supports the argument made in this paper that policy has negative impacts and not the positive intentions it implies. The authors do this in the following "the legislation takes a relatively broad (albeit medicalized) definition of disability, including physical, sensory mental health, developmental learning, and invisible or episodic impairment under its mantle." (p. 43) Though policy implies that its goal is to remove barriers that are put forth in front of students with disabilities, there is a hidden agenda behind *The Policy on Accessible Education for Students with Disabilities (2018)*.

Furthermore, Titchkosky (2022) addresses the barriers that result from policy and everyday practices by continuing to define disability as "Hidden by the readily available by the sense that disability is simply unwarranted problem in need of some sort of solution" (p.1). To address how policy does not become a broken promise, Prince (2004) cites the words of Fox and Willis (1989) who talk about what disability policy is or in this case should be, and when does it become adequate. According to Fox and Willis (1989) "disability policy making is or should be about enabling people to function in and contribute to society and about addressing what individuals should be enabled to do for themselves and for others" (Willis and Fox, 1989 as cited in Prince, 2004, p. 62). Furthermore, Prince (2004) makes a comment that is relevant to the Policy on Accessible Education for Students with disabilities (2018) when he says "thus policy analysis from this perspective involves examining and assessing the impact of all programs on the aspiration and capacities of people with disabilities, their families and related networks. This can be described as disability perspective." (p. 62).

There has been an attempt made by policy makers to create change and approach disability as not a deficit and guide institutions in doing the same in delivering their services. Harrison, et al, 2018) discuss the extensive documentation that post-secondary students with disabilities must provide to receive the accommodations they need. According to Harrison, et al. (2018) "a provincially funded research survey investigating appropriate accommodations practices for students with mental health challenges concluded, based on primarily on the opinions of the students polled by the researchers, that students need not to disclose their mental health conditions in order to receive academic accommodations in post-secondary settings. Instead, documentation describing objective, evidence-based procedures, the report recommended that students provide only information regarding the functional limitations experienced as a result of their mental health issues in order to obtain academic accommodations in college or university (Harrison, et al. 2018, p. 186). Taking a closer look at the definition of disability in the *Policy on Accessible Education for students with disabilities* (2018) and the conclusion of the survey cited by Harris, et al. (2018) it is evident that change has yet to be made in the ways in which disability is perceived and more importantly policy continues to be inadequate in its promises and implications.

METHODOLOGY

This study centered the experiences of students with disabilities which were all registered with Disability Services and received accommodations. Using Narrative Inquiry of Clandinin and Connelley (1990), the study prioritized student perspectives to fill in the research gap that was witnessed during the literature review stage of the study.

Research Design

The master's study entitled *Including University Student Perspectives on Meaningful Access and Reasonable Accommodations* was conducted in 2021, during the COVID-19 global pandemic that restricted in person gatherings leading many initiatives such as interviews for this research study to take place online using video conferencing platforms. Table 1 displays the questions asked during the video conferences.

Research Criteria

Student participants were accommodation recipients registered with the Accessibility Services Office. The only requirement for participation in this study was students must have one year or more experience receiving accommodations. This allows students to provide in-depth responses to the interview questions. This study was framed on the belief that to advocate for policy change involving accommodations for students with disabilities, student voices and opinions must be the center of this process. The guiding principle in this argument is a statement that has been used as a slogan in several movements throughout history. Charlton (1993) declared, "Nothing about us without us." (p.3)

Table 1: Interview Questions

How long have you been receiving accommodations? And do you think the accommodations you have meet your needs?
Tell me about an experience in which you felt that the accommodations given to you in your university or college experience met your needs?
What do you think was done to make that happen?
Can you tell me about an experience where accommodations that were given to you were not helpful?
What do you think could be done to improve this experience if you were to go through it again?
What does meaningful access mean to you as a student?
What do you consider to be a reasonable accommodation as a student?

Data Collection and Analysis

Applying Narrative Inquiry of Clandinin and Connelley (1990), this research centred the experiences of post-secondary students with disabilities who "lead storied lives" (p. 2). Bynes (2017) writes, one quality that sets Narrative Inquiry apart from other methodologies is that it relies on "meaning making." (p. 49) This allows the researcher to make meaning and draw conclusions from ordinary conversations. These conversations can be scattered and unorganized, but Narrative Inquiry allows for organizing the discussions, making them whole. This approach was applied in this study, where individual questions were asked during the interviews, which were then used to write complete narratives. This methodology enables the researcher to analyze the data as it is told and make it into a story. This methodology included restorying (Thomas, 2016) as a method of analysis. The data collected during interviews were analyzed using Thomas's (2016) restorying to highlight participants' experiences within academia and discuss student experiences accessing accommodations. Parts of the highlighted narratives were policy-related, supporting the writing of a policy narrative. Moreover, using restorying (Thomas, 2016) in data analysis supported in retelling the overall education experience of participants and selecting parts of their responses that could influence policy,

Recruitment

Eight participants were recruited for semi structured interviews through on-campus advocacy groups. Examples include The Center for Global Disability Studies, Student Barrier-Free Access, and several student groups within academic departments. The study sought to recruit nine students, three students per participating campus (see Table 2 for the participating university campuses). Eight students responded to the study call. Students were various, providing a wide range of experiences based on time spent in post-secondary education (see Table 3). Students were asked seven interview questions about their experience with accommodations (see Table 1). Some participants preferred to provide consent through written means, using a digital form while others preferred verbal consent.

Table 2: Institutions in this Study

Rogers University: is a university located in the heart of Toronto. A few of the participants in this study attended Rogers University before pursuing their studies at the University of Timothy's.
The University of Timothy's is a university that is known to have the largest institute in education in the world. This was an institution that a few of the students that participated in this study attended prior to pursuing studies at the University of Timothy's which was the main participating institution in this study.
Shaw College: is an institution located in a small city outside of Toronto. It is known for offering a wide range of programs. This is one of the institutions that one of the participants in this study attended.

Table 3: Participant profiles

Christine: is a third-year Political science major at the University of Timothy's. Alongside her studies, she is also the president of an on-campus advocacy group for disability.
Sarah: is a graduate student in the Department of Anthropology at the University of Timothy's. Alongside her studies, she is also employed at the main campus of the University.
Jasmine: is a student in Drama, Theatre, and Performance Studies: Critical Studies in Equity and Solidarity. Alongside her studies, she also takes on several leadership roles at the university.
Martin: is a student in the History program at the University of Timothy's.
Elvis: is a second-year master's candidate studying towards a master's in Yiddish at the University of Timothy's at the St. Greg's campus.
Ana: is a Ph.D. student in the Faculty of Information at the University of Timothy's at the St. Greg's Campus. Aside from her studies at the university, she is a strong advocate within the university and her faculty for the needs of students with disabilities and their right to accessibility.
Jackie: is in her fourth- year of the master's in social work program at the University of Timothy's St. Greg's campus. Before her master's she also completed a Bachelor of Social Work at the University of Timothy's. Before her university studies, she completed a college diploma.
Adriana: is a second-year master's candidate in the Department of Curriculum and Pedagogy at the University of Timothy's before her studies at the University of Timothy's, she completed a Bachelor of Arts degree in Disability Studies at Rogers University.

INCLUDING STUDENT PERSPECTIVES: HIGHLIGHTING HOW POLICY IS A BROKEN PROMISE

Participant responses are highlighted in this section. This section is categorized into themes that the responses of the eight participants elicited. This section begins with adequate accommodations which outlines the experiences that students when provided with accommodations that were helpful and adequately met their needs. The section that follows highlights the accommodations that students received that they found inadequate and did not meet their needs. Finally, given that one of the major findings is that meaningful access and reasonable accommodations are not defined by students with disabilities, the final part of this section is a space where students were provided the opportunity to discuss what meaningful access and reasonable accommodations mean to them.

Adequate and Inadequate Accommodations

Christine is a third-year Political Science major at the University of Timothy. When Christine was asked if the accommodations Christine currently has are adequate, it was indicated that accommodations provided to Christine were adequate "for the most part" until the Pandemic which brought many changes to the world that impacted the lives of many including students like Christine who transitioned from learning in a classroom to online learning. This transition resulted in more barriers given Christine had to repeatedly remind professors to turn on closed captioning during online lectures or when viewing video material. Though Christine states that accommodations given prior to covid were all adequate, an instance where Christine's accommodations were inadequate prior to covid was when Christine reminded professors to turn on the F.M system for Christine to hear during lectures. Analyzing Christine's experience with accommodations becoming inadequate

during a critical period of time, one must be critical before concluding that policy exists to ensure the needs of all are protected.

Moreover, one must be critical when viewing experiences like Christine's alongside the "Duty to Accommodate" that is included in the 2018 policy. According to "The Duty to Accommodate" "under the *code*. Education providers have a legal duty to accommodate the needs of students with disabilities who are adversely affected by a requirement, rule or standard" (The Ontario Human Rights Commission, 2018, p. 41). Viewing the above statement and Christine's experience, who at several instances during online learning did not receive the requested accommodation due to professors "forgetting" to provide accommodations such as closed captioning, showcases policy as a written and unfollowed statement that institutions do not abide by and are not being held accountable in such instances instead left creating institutional guidelines. To further discuss the accommodations Christine found adequate, the next question asked Christine to outline a concrete example of a time when the accommodations given to Christine were sufficient. Christine mentions that having an F.M system to hear the professor during lectures, note-takers to assist with in class notes, a laptop to independently take notes, and extra time on tests and assignments were all helpful accommodations. The next discussion was with Sarah, a first-year graduate student in the department of Anthropology at the University of Timothy's. Like Christine, Sarah's accommodations were adequate until a certain point. Sarah talks about feeling capable of achieving goals with the accommodations given during undergraduate. Sarah expresses becoming more needy when transitioning into graduate studies, when accommodations given to Sarah are inadequate due to the bureaucracy involved when Sarah requests accommodations such as extensions on assignments. Sarah recalls feeling like "a problem child" in high school given the way Sarah's type of disability was viewed. This feeling becomes relevant in graduate school as the need for more accommodations increases.

Martin talks about a time where accommodations were not helpful. Moreover, Martin also experiences a lack of accommodations. Martin mentions struggling with anxiety which made verbally participating in class or in-class presentations difficult. When requesting an alternative method of participation such as writing a paper or a short reflection to demonstrate learning and comprehension of the course material, professors rejected and gave a failing grade in the participation category. Given that in one course participation made a large sum of the grade this significantly lowered Martin's overall grade leaving on records what Martin calls "a stain that will never be removed"

Ana experiences the total opposite when receiving standard accommodations given accommodations are provided using a "one-size- fits all" approach. Ana, a PhD student mentions that several of the accommodations provided were inadequate for the PhD level. This is given that the standardized accommodations such as extra time on examinations, extensions on assignments, etc. are not sufficient for students at Ana's level of education.

Another example of a negative experience Elvis had was during the global pandemic, when Elvis as an immune compromised student requested to have the option to take online courses. Despite it being a pandemic and online learning was the norm. Elvis was denied that request even after providing medical documentation. In this example one must be critical of the doing of policy and it is students like Elvis that leads to concluding that policy is indeed a broken promise when the "Duty to Accommodate" becomes unfulfilled. Disability disclosure is amongst the biggest challenges students with disabilities face. This particularly becomes a challenge in post-secondary education where students feel the need to hide disabilities given medicalized approaches that are attached to disability disclosure to access academic accommodations that cause students to be ashamed. This was in a way evident in Elvis's response when Elvis must disclose every time a new professor comes into one of the courses Elvis is in. Adriana recalls asking to record a lecture and despite it being

a documented accommodation, was denied, stating that the privacy of students in the class would be violated and this was done at the price of Adriana not being accommodated and not having the equal opportunity that policy claims to give. The institution believes that it is being accommodating to Adriana by offering alternatives to recording a lecture and instead offering a note taker or one on one meetings with professors to review course content. Adriana explains t such alternatives were not feasible given Adriana's auditory learning styles.

The negative experience that Jackie mentions where accommodations were inadequate was in university when Jackie requested to write a test in a private space as noted in Jackie's accommodation plan. Instead, Jackie was placed in a room with other disabled students which was very distracting. In asking students to submit documentation to support accommodation requests, the policy claims that educators have a duty to accommodate each student individually.

Adequate accommodations

To illustrate how Sarah's accommodations were adequate, Sarah was asked to provide an example of a time when an accommodation or accommodations were helpful. In this question Sarah recalls facing great difficulty with mental health during the pandemic, a time when having extensions on assignments was helpful and alleviated stress. Sarah explains that despite the bureaucracy that remained, involving a request for accommodations for that accommodation to be granted, it was not as difficult as it was prior to covid given everyone, including professors were experiencing "dysfunction" making the approach of professors more empathetic when receiving such requests. Similarly to Christine and Sarah, Martin found extensions on assignments and extra time on examinations helpful. One unique accommodation given to Martin was the permission to bring a favorite picture into tests and exams to keep calm. This accommodation is one that Martin mentions as an example when asked to talk about adequate accommodations. According to Martin the permission to bring a significant picture was an accommodation that was offered in first-year undergraduate. When asked to talk about unhelpful accommodations Martin's response was unique to the others. Another key discussion about helpful accommodations was with Elvis. When asked about helpful accommodations, Elvis begins by saying that simply knowing accommodations were available was helpful. More specifically "having sound canceling headphones and an ADHD couch was a breath of fresh air."

Another experience that could serve as a model and influence policy change and or policy development is Adriana's experience in college. Adriana says, "I say jump, they ask how high." Those words were used to illustrate that Adriana's accommodations were fully granted and adequate. Similarly to Adriana, Jackie had a positive experience with accommodations provided in college and this was particularly helpful given that the lack of accommodation earlier in Jackie's education resulted in Jackie dropping out of high school. Ana mentions "having permission to be late for class" as an accommodation outlined in the accommodation form as helpful as it decreases the level of anxiety that comes with being occasionally late for disability-related reasons. Talking about the standardized structure of academia, Ana makes a powerful statement that "academia is more about performing well and less about learning." In this statement alone, the harms of policy are exposed.

Students define meaningful access and reasonable accommodations

The (2018) policy implies the provision of reasonable accommodations and meaningful access to education and when making such implication the policy not only does not represent student perspectives on such terms but also does not define them. This study sought to find out how post-secondary students with disabilities perceive these terms.

> Christine's definition of meaningful access is, "just me being able to do my work. I do all my assignments and participate in class without worrying about whether I will get my accommodations."

Given that implying that the *Policy on Accessible Education for Students with Disabilities (2018)* is committed to protecting the rights of post-secondary students with disabilities to reasonable accommodations, a clear definition of reasonable accommodation is not given. Students who participated in this study were asked what a reasonable accommodation means to them. This discussion began with Christine who defines a reasonable accommodation as one that is decided and given by the Accessibility Services, who asks the student, "Is this the accommodation you need?"

Viewing Christine's definition alongside what is stated in the policy, one must be critical and question whether policy is keeping the "promises" made. Christine's experience is contextualized by Mckenzie (2015) whose study talks about student struggle in post-secondary education. Following the implication that students will be provided with reasonable accommodations, the policy implies this will be done "to the point of undue hardship" (The Ontario Human Rights Commission, 2018, p. 13). This policy is inadequate and irrelevant to post-secondary students with disabilities when it sets out parameters in the statement of undue hardship. According to the 2018 policy "the *Code* prescribe three considerations when assessing whether an accommodation would cause undue hardship [they are] cost, outside sources of funding, if any, health and safety requirements, if any" (The Ontario Human Rights Commission, 2018, p. 84).

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"Students and teachers are the most impacted by policy and curriculum, but ironically, they're the least consulted" (Simon, 2022, 0:05-0:10). Simon's words laid the foundation for this study and influenced the decision to seek out student perspectives. Simon's words were particularly significant following the discovery that policy does imply that it intends to provide meaningful access to education and reasonable accommodations for post-secondary students with disabilities though student perspectives are not represented and what students consider to be a reasonable accommodation and meaningful access to education is not included within the 2018 policy. This led to asking students like Martin what a reasonable accommodation and meaningful access to education means to them. According to Martin,

A reasonable accommodation is what adjustments can be made to keep the integrity of the academic standards but allow the student to participate in the course in a way that does not compromise their health. One of the observations made in this study was meaningful access and reasonable accommodations are interconnected. This is evident in Martin's definition which states that meaningful access is being given the tools and flexibility to provide meaningful work/ participation in courses that can be adjusted to a student's difficulties. "Meaningful access to me means feeling welcomed and included in the classroom and when I am made to feel that I have the same potential as everyone else."

According to the policy, "Under the Code, education providers have a legal duty to accommodate the needs of students with disabilities who are adversely affected by a requirement, rule or standard. Accommodation is necessary to address barriers in education that would otherwise prevent students with disabilities from having equal opportunities to access and benefit" (The Ontario Human Rights Commission, 2018, p. 41). The above statement shows that policy is inadequately implemented. Like the other participants, Elvis defines reasonable accommodations as "Walking into an academic institution and expressing the desire to be a student and the institution makes it possible by providing you with what you need and removing barriers."

Elvis's definition of meaningful access is one that can lead to change in policy and the ways that accommodations are viewed within post-secondary institutions. According to Elvis meaningful access is "when the provision of accommodations is unquestionable because the institution should already be prepared and use a universal design approach."

Another poignant moment in this study that led to returning to Simon (2022) is when Adriana was asked to define meaningful access and responds, "that's such a complicated question could we return to this question later in the interview?" This occurs given Adriana is among "the least consulted" (Simon, 2022, 0:05-0:10). When returning to "what does meaningful access mean to you as a student?" Adriana defines meaningful access as "When I am being given what I need."

Adriana's definition of reasonable accommodation should be taken into consideration by policy makers as this could address several barriers experienced by students with disabilities. According to Adriana, "A reasonable accommodation depends on each individual circumstance."

This idea of individuality was also expressed in an earlier interview with Martin who is mentioned above in this paper. Similarly to Adriana, Jackie defines a reasonable accommodation as, "What I need, not what you have to offer me."

In those words, Jackie is addressing an experience at Rogers University when Jackie requested to write an exam in a private room but instead was placed in a room with other students with disabilities. Similar to the definition of reasonable accommodation, Jackie defines meaningful access as, "Access that works for me, not what their vision of access is."

All the participants had rich contributions through the responses provided. As stated earlier, Ana had an incredibly unique perspective on accommodation processes, being a PhD student making the standardized accommodations given to other students who may be in college or pursuing undergraduate degrees inadequate for Ana. Another powerful response provided by Ana was when defining a reasonable accommodation. According to Ana, "A reasonable accommodation is letting the student define their academic experience on their own. A reasonable accommodation is less about setting up the student to perform and more about setting up the student up to learn."

The ending of Ana's definition of reasonable accommodation extends on an earlier comment made highlighting that the current education system focuses less on learning and more on performing well. Finally, an interview with Jasmine began with the same order of questions as the other participant mentioned in this paper. Jasmine's experience with inadequate accommodations illustrates the ableism embedded in policy and how that translates into institutional practices within academia.

When expressing concerns about how far a classroom was from the main campus, Jasmine is given permission to occasionally miss class if the distance creates barriers for Jasmine. Moreover, Jasmine's experience is dismissed when told, "You are probably just tired so maybe you should consider walking slower. "

When asked to define reasonable accommodations, Jasmine responded that reasonable accommodations are, "ones that both meet the student's needs and academic requirements."

Jasmine's definition of meaningful access provides a formula for change for policy makers and institutions and speaks out against the bureaucracy embedded in the provision of accommodations as a policy guided procedure. According to Jasmine, meaningful access is, "access that allows you to be successful and not go through hardship to ask for an accommodation multiple time."

As shown in this section, there are empirical examples that show how policy continues to negatively impact students with disabilities. Moreover, using student narratives, this section has illustrated how policy is a broken promise and more importantly how policy intentions should be critically questioned and analyzed with caution before concluding that policy exists in favor of people with disabilities. Therefore, policy has yet to keep a promise and there is more work to be done before a claim can be made that policy has positive intentions.

CONCLUSION

> [The purpose of the Canadian Human Rights Act] includes the principle that all individuals should have opportunities equal with other individuals to make for themselves the lives that they are able and wish to have and have their needs accommodated…without being hindered or prevented from doing so by discriminatory practices (Walker, 2012 p. 2).

When questioning why policy is a broken promise to students with disabilities, a starting point is the medicalized definition of disability mentioned in this article. In analyzing terms such as disfigurement, malformation and many more ableist terms one must be critical before stating that such policy seeks to protect the rights of people with disabilities. A critical lens is required because how is a policy that has positive intentions addressing individuals it seeks to protect as "disfigured"? Therefore, it can be seen that the *Policy on Accessible Education for Students with Disabilities (2018)* is inadequate. Despite policy stating there is a duty to accommodate students with disabilities, it states accommodations will be provided to the point of undue hardship. The point of undue hardship illustrates how policy is a broken promise given that policy provides positive implications that are then followed by bureaucratic measures, making policy-guided procedures such as academic accommodations politicized. When analyzing the 2018 policy through the statement of Undue Hardship, this policy exists in the best interest of the institution. When a closer look is taken at what undue hardship is, the 2018 policy is not only a broken promise, but it also creates barriers and is ableist. This policy is also irrelevant as illustrated through the experiences outlined. In terms

of parameters such as cost, post-secondary students with disabilities endure hardship pertaining to accommodation related costs not the institution.

Secondly, the parameter of outside funding sources shows that this policy is not only one that puts forth barriers but is irrelevant given students are the ones that must locate funding resources to cover the cost related to accessing academic accommodations and often resort to paying out of pocket. This means that when policy "promises" students with disabilities reasonable accommodations this is a false statement making policy inadequate and bureaucratic. The parameter stating that an accommodation is reasonable if it does not involve the institution obtaining outside sources of funding, the students are not only the ones encountering undue hardship when it comes to the financial burden of accessing accommodations, students are being denied accommodations that they have the right to, and institutions have a duty to accommodate and refuse for no legitimate reason. Finally, the parameter of health and safety requirements. Placing a parameter where an accommodation is reasonable only if required for the health and safety of a student. Two students whose experience can be used to measure the accuracy of this parameter are Jasmine and Elvis who requested accommodations if not provided could lead to health and safety concerns. Jasmine requested a classroom change for a class located far from the main campus and walking long distances can lead to Jasmine's health and safety being at risk. Instead of the institution fulfilling a legal duty to accommodate, Jasmine is given permission to miss class or to take breaks on the way to class. Elvis, an immune compromised student requested to attend classes online during the pandemic. The university denied stating this is not possible as classes are in person. Finally, one must be critical before concluding that policy has positive impacts because the opposite is evident.

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DESIGNING UNIVERSAL DESIGN FOR LEARNING EXPERIENCES: TEACHER EDUCATION CANDIDATES' PERCEPTIONS IN ACTIVE LEARNING WITHIN INCLUSIVE SPECIAL EDUCATION COURSES

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ABSTRACT

Although higher education is becoming increasingly diverse, the widespread adoption of Universal Design for Learning (UDL) remains limited. UDL provides a curricular framework designed to reduce barriers, account for learner's intersectional identities, and address variability. Using quantitative and qualitative measures, this research showcases inclusive special education undergraduate courses that utilize UDL design to meet the diverse needs of teacher education candidates. This study addresses the following research question: How do undergraduate students perceive and experience UDL within a face-to-face class throughout the learning process? Both qualitative and quantitative research provided the basis of this study. Qualitative research methods were used to examine the experiences through a variety of methods, including reflections, surveys, and focus groups. Quantitative data came from the surveys and reflections. Through focus groups, surveys, and reflections, data were obtained from 57 completed student data points. The findings suggest the importance of the use of diverse learning opportunities, learning output, and application to the real world as critical to learners' success and making a classroom more accessible. Implications for proactively meeting needs within inclusive higher education using UDL coupled with disability studies in education orientation are discussed. This study extends the limited research on UDL in higher education, showing that intentional UDL integration supports student inclusion by offering diverse learning opportunities, multiple means of expression, and real-world application.

INTRODUCTION

As students become increasingly diverse in institutions of higher education, it is the responsibility of professors involved in the teaching and learning process to determine how to make students' learning accessible. Universal Design for Learning (UDL) is an educational framework designed to support learner variability in classrooms by offering options in learning and output modalities. Azam et al. (2021) defines UDL as a "…curriculum design framework that has its foundations in neuroscience, the learning sciences, and cognitive psychology" (p. 2). This framework is widely evident throughout K-12 learning environments and is making its way into higher education (Baglieri, 2020; Fornauf & Erickson, 2020; Fovet, 2021). It is not only an initiative based upon research, but it is mandated by educational laws such as Every Student Succeeds Act (ESSA), Individuals with Disabilities Act (IDEA), and the Higher Education Opportunity Act (HEOA) (Fornauf & Erickson, 2020). The diversity of students and their needs in higher education are expanding, thus accessibility issues need to be addressed through the lens of UDL (Fovet, 2021). Researchers found limited focus on UDL in a higher education context (Hromalik, Myhill, & Carr, 2020).

The purpose of this study is to examine higher education students' experiences and perspectives to identify what is required to design accessible and inclusive learning environments that address diverse learning preferences, modalities, needs, and accommodations. Using quantitative and qualitative measures, this research explored how the researchers' students perceived their experiences with UDL in a face-to-face special education course. Based on their unique needs and preferences, college learners respond to instruction differently. UDL addresses this variability from the starting point to design effective learning opportunities, providing options for engagement, learning experiences, and products of learning. This study addresses the following research question: How do undergraduate students perceive and experience UDL within a face-to-face class throughout the learning process?

LITERATURE REVIEW

Universal Design for Learning

As student populations become increasingly more diverse in higher education entities, it is up to the professors involved in the teaching and learning process to determine how to best make students' learning accessible. Universal Design for Learning emerged from Universal Design (UD), a movement that originated within the field of architecture (Kumar & Wideman, 2014). It was then described as a valuable way to promote inclusion, so in 2002, the U.S. non-profit organization, Center for Applied Special Technology (CAST), created principles for incorporating UD into education, now known as Universal Design for Learning (Kumar & Wideman, 2014). UDL is an approach to learning that involves offering options and alternatives to account for student variation (Azam et al., 2021). UDL is a pedagogical approach to removing barriers within the instructional design (Jarman et al., 2023). The focus rests on the principle that no two students are identical and that all learners engage in content and learn in diverse ways (Azam et al., 2021; Salend & Whittaker, 2017). UDL accounts for learner variability by considering individual preferences, strengths, and needs, and by incorporating insights from both cognitive and affective learning networks as informed by neuroscience (Fornauf & Erickson, 2020; Meyer et al., 2014).

The research surrounding UDL focuses on the ability to create and maintain an inclusive course design which includes variation in delivery, assessment, and engagement (Hills et al., 2022). These three areas make up the three key principles of the UDL framework. The three principles include Multiple Means of Representation, Multiple Means of Engagement, and Multiple Means of Action and Expression (Rose et al., 2006). In Multiple Means of Representation, the instructor accounts for student differences in how they perceive and comprehend presented information (Rose et al., 2006). Multiple Means of Engagement emphasizes the different ways that students connect with the material being presented and sustain their motivation and persistence in learning (Rose et al., 2006). Finally, Multiple Means of Action and Expression account for the different ways that students navigate the learning environment and express what they know about the content (Rose et al., 2006). The focus is on changing the environment and not the learner, thus creating a more inclusive classroom environment (Bedrossian, 2018).

Universal Design for Learning in Higher Education

Although UDL is commonplace in K-12 classrooms, it is not commonly practiced in higher education (Baglieri, 2020; Fovet, 2020, Kumar & Wideman, 2014). Kumar & Wideman (2014) explain, "In the academic community, it stands to reason that faculty and institutional buy-in with respect to UDL would be furthered by strong evidence of its effectiveness" (p. 127). Along with that, much of the research conducted around UDL in the classroom comes from K-12

practitioners (Hromalik, Myhill, & Carr, 2020). Through a review of the literature, UDL is evident in higher education through the perspectives of faculty members, not necessarily the perspectives and experiences of students. UDL researchers urge post-secondary instructors to shift their mindset on UDL; see UDL not just for students with disabilities but as a curricular tool for adjusting the teaching and learning process to account for the diversity of learners that are now seen within the higher education context (Fovet, 2021). UDL is not just for students with disabilities but helps to support international students, Indigenous students, culturally diverse students, and first-generation college students (Fovet, 2021).

Absences in Higher Education

UDL literature related to higher education focuses mainly on the implementation process and the perspectives of faculty members. The literature suggests that it is important for higher education classes to implement UDL to reach a diverse student population (Hills et al., 2022; Kirsch, Bryan, & Hoferer, 2024). This literature provides insight on the implementation of the design and the implications for teaching (Hills et al., 2022; Kirsch, Bryan, & Hoferer, 2024). In higher education, UDL tends to be implemented by individual instructors or led by departments, not campus wide (at the university level) (Fovet, 2021). Colleges and universities tend to function at the school or department level, thus heightening the silo mentality with professors coming from diverse backgrounds and theoretical stances (Fovet, 2021). Higher education tends to see UDL used more with Teacher Education faculty because that department prepares teacher candidates for instructing a diverse group of students and promoting inclusion (Azam et al., 2021). Multiple studies focus on the faculty perspective of UDL implementation (Hills et al., 2022; Kirsch, Bryan, & Hoferer, 2024; Smith, 2012). One study in particular, Smith (2012), looked at the actions taken by the professor in response to the student perspectives. In the study, the instructor's reflections and perceptions were evident through the influence of student responses. The literature on faculty perspectives of UDL implementation also supports the idea that implementation is nestled into the university culture, including support for UDL development, training, funding, and other resources (Hills et al., 2022; Kirsch, Bryan, & Hoferer, 2024). There is a need for instructors to look beyond their content area and specializations and learn more about pedagogical content knowledge relating to student diversity and inclusion, at the higher education level (Azam, et al., 2021; Fornauf & Erickson, 2020). In higher education, UDL needs to be nested into the culture with more access to UDL development and training (Hills et al., 2022).

Need for UDL in Higher Education

Researchers concluded that there is a need for more research involving UDL in the higher education classroom (Fornauf & Erickson, 2020; Hromalik, Myhill, & Carr, 2020). Researchers stated, "There is limited evidence from articles in this review that UDL in higher education is being conceptualized as an avenue for inclusive pedagogy that considers educating students with diverse abilities as a justifiable end, student variability at the outset of course design, and disability as an asset" (Fornauf & Erickson, 2020, p. 192). After the COVID-19 pandemic, we saw an amplification of disparities between learners in higher education, therefore needing more inclusive practices (Hills et al., 2022). Learner variability in higher education is now the norm (Basham, 2022); higher education consists of a diverse student population including multilingual learners, nontraditional students, students in the military, first generation college students, and students with disabilities (Monne de la Pena et al., 2021). Thus, professors need to find ways to teach the variety of learning needs, so that we do not hinder students' learning and the instructional effectiveness (Boothe et al.,

2018; Salend & Whittaker, 2017). Fovet (2021) found that "the issue is not the exceptionality of the learner; it is the design of the learning experience" (p. 28). Implementing UDL in higher education requires altering and adjusting the learning environment, providing options for understanding, and offering varied ways to demonstrate knowledge so that students from diverse linguistic, cultural, socioeconomic, and ability backgrounds can access, thrive in, and progress through learning.

Not only is implementation of UDL imperative in higher education, but it is also mandated by various Federal laws (Basham, 2022; Fornauf & Erickson, 2020). The Americans with Disabilities Act and Section 504 of the Rehabilitation Act call for institutes of higher education to make universities accessible to all individuals (Boothe et al., 2018). Every Student Succeeds Act and the National Technology Plan further expand to include personalization intermixed with UDL in higher education (Basham et al., 2016). UDL ensures programmatic and learning access, as well as allowing for flexible, learner-centered systems that meet the needs of all students (Basham, 2022; Bedrossian, 2018; Fovet, 2021; Martinez & Porter, 2020). Basham (2022) found that not only does UDL enhance the teacher role, but it also enhances the students' role in their educational journey. "UDL helps each learner understand how they learn, when they need more, and how to evaluate the effectiveness of their learning" (Basham, 2022, p. 34). As a result, UDL is more attractive to higher education instructors because of the practicality compared to differentiation and to students developing metacognition of learning strengths and needs, thus creating a learner framework applicable from early education on to graduate education (Fovet, 2020).

Evmenova et al. (2024) provide observed student perspectives on the implementation of UDL in higher education. The authors of this research echo the need for UDL in higher education due to the ever-changing population of students and the need for inclusive and responsive classrooms (Evmenova et al., 2024). This study provided a wealth of knowledge on the different strategies and activities to include in an online environment or face to face environment to enhance the UDL components but only provided observed outcomes from student perspectives. The authors generalized student reflections without significant data presented from the data gathering tools. Another study by Beck Wells (2022) provides data on student perspectives, in which the students discussed the prevalence of UDL techniques and the strategies that impacted their learning opportunities. Unfortunately, this study only focused on an online, virtual learning environment. Our study focuses on filling these gaps in the literature. We first focus on the usage of UDL within a traditional, face to face higher education course and then present the stories of the students from surveys, reflections, and interviews.

THEORETICAL FRAMEWORK

This study utilizes a disability studies in education (DSE) theoretical framework to understand the ways in which the college classroom is universally designed to meet the needs of learners. Disability studies focus on the barriers present within academic settings and how these barriers can affect engagement and ableist inequities (Jarman et al., 2023). Disability studies emerged within education as a way to offer an alternative to a flawed system of traditional special education (Baglieri et al., 2011). DSE allows us to center the lived classroom experiences of students with disabilities, thinking about the intersectionality of disability with race, ethnicity, culture, language, and socioeconomic status. DSE scholars believe that disability should be viewed through a social, cultural, and political frame, looking to disrupt imbalances (Connor et al., 2008). DSE encourages educators to shift from deficit-based perspectives to strength-based perspectives of viewing students, thereby advancing a movement away from models of marginalization to more inclusive models of education (Baglieri et al., 2011). DSE scholars draw upon interdisciplinary theoretical approaches

to identify the variability of student experiences within the educational environment (Baglieri et al., 2011).

Through this framework, students are viewed using an intersectional lens, which supports the intentional design of learning environments that explicitly address learner variability. This allows us, as college instructors, to adopt and implement inclusive classroom pedagogical practices that lead to equitable educational outcomes for students with disabilities and all students. Rather than determining students as unfit for college, DSE enables professors to reframe and flip this perspective by exploring changes and adjustments that make the learning environment, materials, teaching methods, and assignments accessible for students with a range of strengths and learning needs. Further, DSE serves as an underlying orientation to critically analyze the current college learning system, address learner variability, construct equitable learning opportunities, and transform the college experience for students who have been traditionally marginalized.

PURPOSE OF THE STUDY

The purpose of this study is to examine participants' perceptions and experiences of universally designed curriculum in face-to-face undergraduate courses. The findings can inform how pedagogical practices and curricular enhancements are better aligned with the principles of UDL.

RESEARCH QUESTION

The following research question is developed to address UDL in higher education: How do undergraduate students perceive and experience UDL within a face-to-face class throughout their learning process?

METHODOLOGY

Research Design

Both qualitative and quantitative research design provided a basis for this study. The qualitative design focuses on the use of phenomenology. The researchers looked at the experiences constructed through the students' views of the world. The perception of the students was the focus (Krathwohl, 1998). Bogdan and Biklen (2007) concur, "People act not, however, according to what the school is supposed to be...but rather according to how they see it" (p. 37). Qualitative measures focused on the systematic design of the instruments along with open coding of the data. The participants included any higher education students currently enrolled in both researchers' special education teacher preparation courses. Participant data were collected using multiple instruments, including end of course reflections, end of course surveys, and focus groups. See Table 1 for the questions included in each data collection instrument.

Table 1 Data Collection Measures

End of Course Reflection	Survey	Focus Groups
● Did you feel that this course was inclusive to all learners and embodied a strong, safe, and positive classroom community? ● What learning supports have been helpful for you so far this semester? ● What learning supports could be implemented to further assist your learning?	● Did you feel that this course was inclusive to all learners and embodied a strong, safe, and positive classroom community? ● Do you feel that this course was accessible and met your learning needs? ● Discuss which accommodations were most useful to your academic progress and success in our course. ● Do you feel that the course heightened your interest and motivation in the topics presented? ● What are the specific things the instructor did to provide multiple means of engagement? ● Do you feel that the content was represented in a variety of ways? ● What are the specific things the instructor did to provide multiple means of representation? ● Do you feel that you were able to show your knowledge in a variety of ways? ● What are the specific things the instructor did to provide multiple means of action and expression?	● Talk to us about the learning community in your class. ● Tell us about your experience with Universal Design for Learning in the class sessions. ● Engagement: What made you motivated, engaged, or interested in class? ● Representation: What led to your comprehension of information in the class? ● Action and Expression: How did you use different tools to show your content knowledge; what was the output of your learning; how did you show what you learned? ● Tell us about what worked well for you in this class. ● Tell us about what other supports (more of something) would have helped overcome a challenge you had during this course.

Note. Table 1 includes data collection measures stemming from three instruments-end of course reflection, survey, and focus groups.

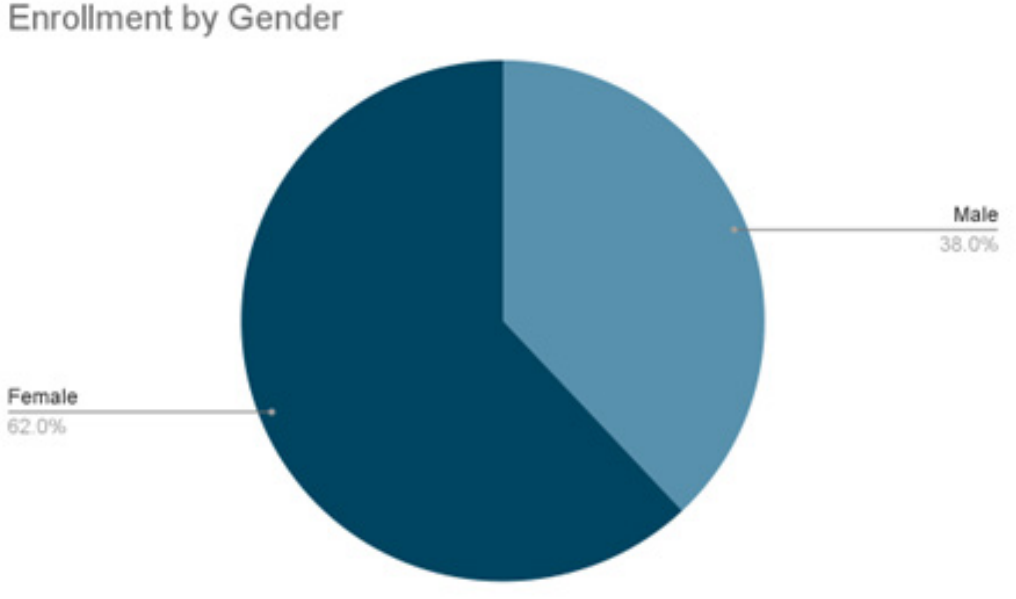
Quantitative data came directly from the surveys and reflections, which included both closed-ended and open-ended questions. Qualitative data included the results from open-ended questions on the reflections and surveys, as well as focus group transcripts. Data collection commenced following Institutional Review Board (IRB) approval at both universities. Each student enrolled in the two researcher's classes had the option to consent to participation and thus enrolled in the data collection measures. All students enrolled in the courses received the same instruction and access to curriculum regardless of their consent to participate.

Participants

The setting included two universities, presented using pseudonyms, located in the Northeast. Bonded University is a public university that has more than 160 undergraduate and graduate programs. It has a strong interdisciplinary approach to liberal arts curriculum across programs. With just over 9,000 full time and part time students enrolled, Bonded University caters to a variety of student populations. It was founded in 1969 and caters to a diverse student population with a commitment to cultural diversity. Many of the students were identified as Caucasian/White and Female (see Figure 1 and 2 for student enrollment demographics at Bonded University), with many of its students claiming in-state residency.

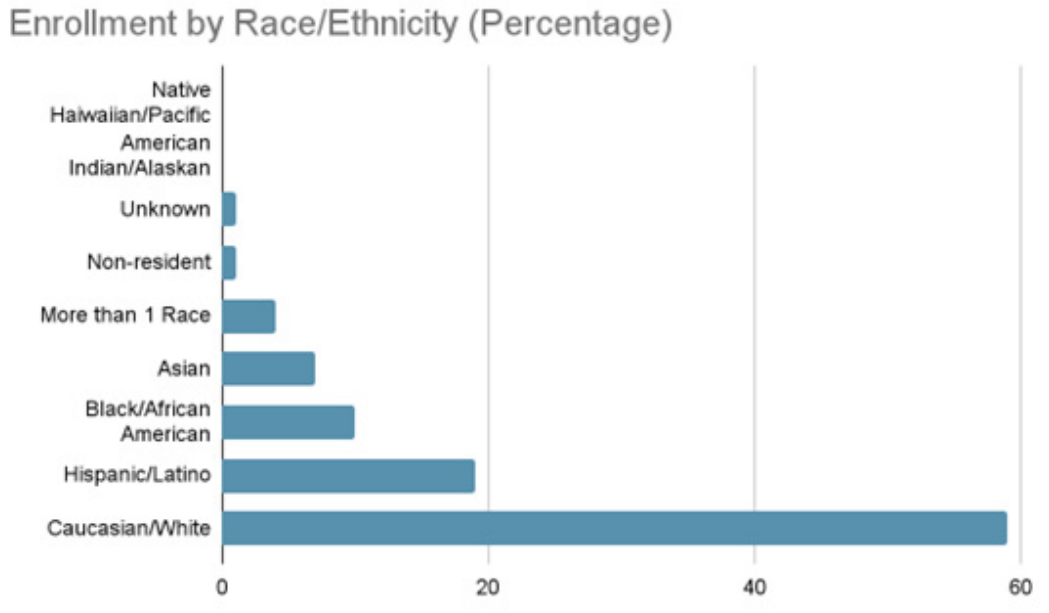
Figure 1

Bonded University: Enrollment by Gender



Note. Figure 1 depicts the enrollment data for Fall 2023 for gender at Bonded University.

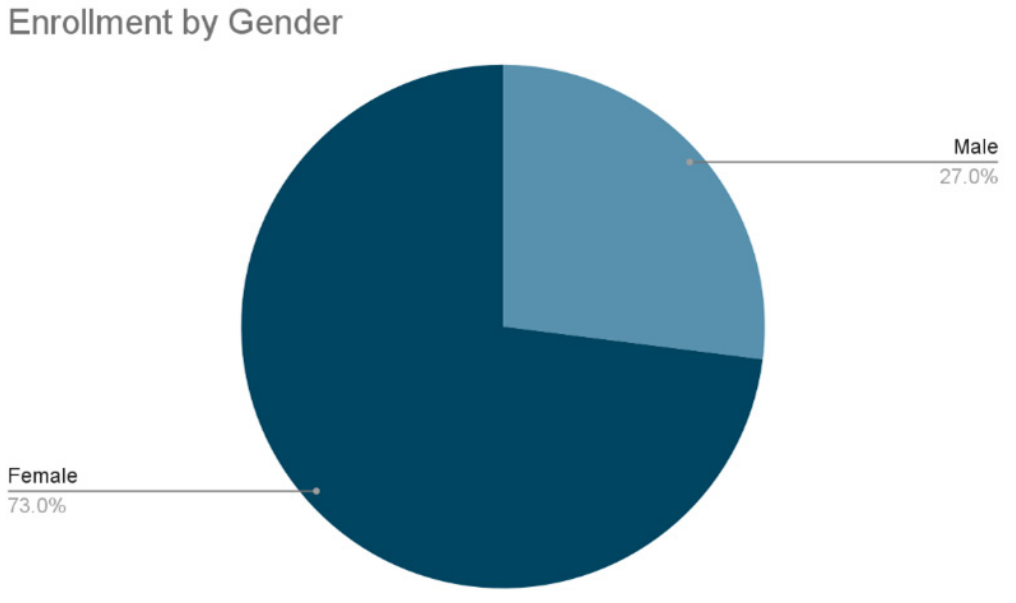
Figure 2
Bonded University: Enrollment by Race/Ethnicity



Note. Figure 2 depicts the enrollment data for Fall 2023 for race/ethnicity at Bonded University.

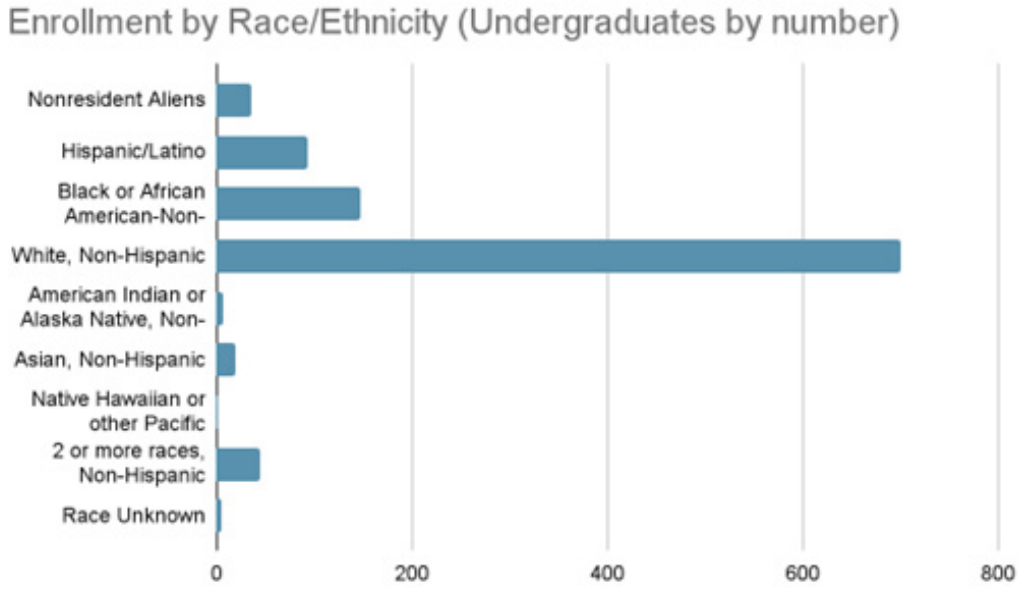
The other university taking part in this research is Edward University. Edward University is a Christ-centered university anchored in Liberal Arts. Edward University, founded in 1866, began as a seminary and now houses a university for undergraduate and graduate degrees, and the original seminary. As of 2022, there were 1,579 students enrolled, including undergraduate and graduate students. Many students enrolled self-identified as women and are White, non-Hispanic (See Figures 3 and 4 for student demographics at Edward University).

Figure 3
Edward University: Enrollment by Gender



Note. Figure 3 depicts the enrollment data for the 2022-2023 school year for gender for Edward University.

Figure 4
Edward University: Enrollment by Race/Ethnicity



Note. Figure 4 depicts the enrollment data for the 2022-2023 school year for race/ethnicity for Edward University.

The participants for this study were enrolled in the two researchers' face-to-face undergraduate special education courses. Researcher A is a Professor of Inclusive Special Education at Bonded University. The course included in this study is a required education course for any education major including tracks for early childhood education, elementary education, and secondary education in all content areas. This course also enrolls students seeking a Disability Studies or Childhood Studies minor as well. Researcher B is an Associate Professor for Teacher Education at Edward University. The course included in this study is a required education course for all education majors including majors in early childhood education, childhood education, adolescent education in all content areas, Physical Education, Music Education, Art Education, and English to Speakers of Other Languages.

Data Collection and Instrumentation

The original study consisted of the analysis of the data in two directions, which elicited two different papers. The data collection methods included end-of-course reflections, end-of-course surveys, and six focus groups. The researchers jointly created three research instruments that directly related to the focus of the study (in order to ensure validity). The study utilized an end-of-semester reflection, survey, and focus group protocol. The researchers devised the questions for all three instruments as a team. The end-of-semester reflection focused on questions ranging from classroom culture to the types of support offered to the participants. The survey allowed participants to express their experiences regarding the accommodations provided and the opportunities to engage in the three

UDL principles. The focus group questions were open-ended questions allowing the participants to share what they felt helped them the most throughout the courses. The reflection and survey administration occurred through Google Forms, therefore the researchers could ensure reliability. The researchers conducted the focus groups together to also ensure reliability of questioning. There were 20 participants for the reflections, 21 participants for the surveys, and 16 participants in the focus groups. Data were obtained from 57 completed student instruments. The end-of-course reflections elicited both quantitative and qualitative data focusing on the students' lived experiences in the above-mentioned courses. The survey elicited both qualitative and quantitative data due to the open-ended and closed-ended nature of the questions. The survey focused on the learning opportunities of the participants and how it is related to UDL and accessibility. Finally, the focus groups allowed participants a space to discuss their experiences while taking the two courses. The focus groups were led by both professors of record. They were video recorded and transcribed by both researchers, with an average length of 61 minutes. The focus groups followed a semi-structured protocol format (the focus group interview protocol can be found in Table 1).

Data Analysis

Data analysis for the research included analysis of the end of course reflections, surveys, and focus groups. The quantitative data in the reflections and surveys came from a five-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree). These reflections and surveys completed in Google Forms elicited summary data across all responses and broke down into ordinal data. The authors analyzed the data by looking at each scale, identifying how many participants picked that number and comparing it to the total number of participants. The authors coded the focus group transcripts and reflections together and separately, looking for pertinent ideas and themes to elicit qualitative data. The authors proceeded through the first transcript together to create a code book. Then, codes were added to the code book as the authors coded the remaining transcripts. Themes emerged from the coding of the transcripts. The authors then compared their themes and collapsed them into theme categories. Open coding provided codes that reappeared throughout the data previously not captured with the initial codes (Bogdan & Biklen, 2007).

After coding the raw data, the authors compared salient themes to the three principles of UDL. The authors correlated each theme to the specific UDL principles. The themes included diverse learning opportunities, learning output, and application to the real world. Table 2 shows the correlation of major themes to the three principles of UDL.

Table 2

Development of Themes from the Raw Data

Theme	Correlation to UDL Principles
Diverse Learning Opportunities	Multiple Means of Engagement; Multiple Means of Representation
Learning Output	Multiple Means of Engagement; Multiple Means of Action and Expression
Application to the Real World	Multiple Means of Engagement; Multiple Means of Representation

Note. Table 2 depicts the themes in relation to the UDL principles.

Trustworthiness

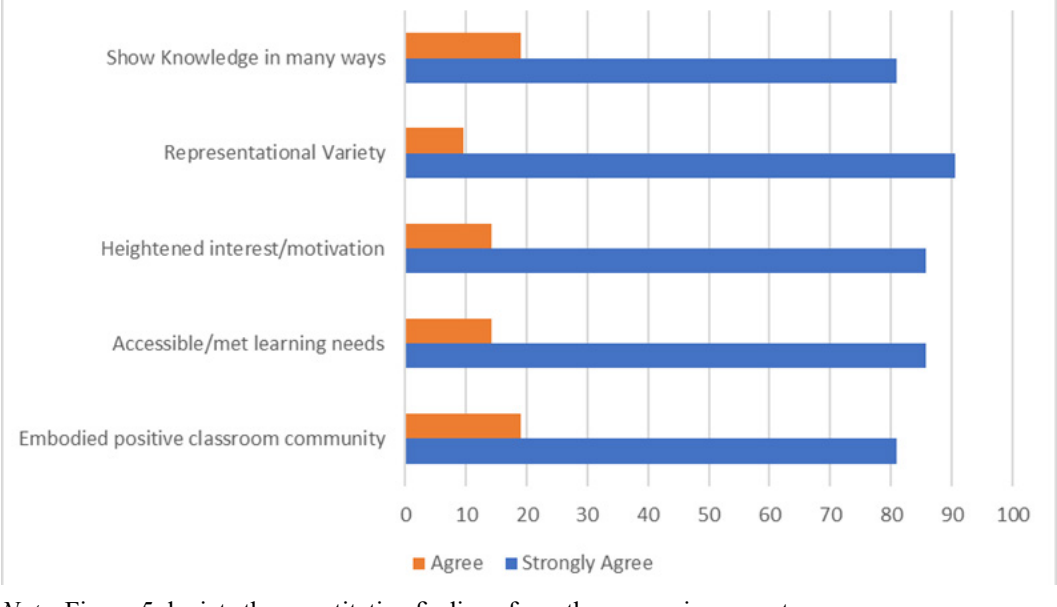
Ethical considerations for research studies should include four main components: credibility, transferability, dependability, and confirmability (Shenton, 2004). The authors ensured credibility of the study through the accurate representation of the students' experiences (Shenton, 2004). The student participants explained their perceptions of UDL and their classroom experiences through the end of course reflections, surveys, and focus groups. The use of multiple data collection instruments facilitated the triangulation of the data (Mawson, 2007). The researchers found this study transferable to other courses they teach, as well as use in other colleges and universities (Shenton, 2004). Professors continuously look for new ways to support learner variability and improve their content delivery. The researchers ensured dependability through the detailed process of the research methods and the execution (Shenton, 2004). Finally, the researchers ensured confirmability by establishing member checks through the multiple focus groups (Shenton, 2004). This helped ensure trustworthiness, thus strengthening the reliability and validity of the study.

FINDINGS

Participant data ranged from end of course reflections, surveys, and focus groups. Both the survey and the end of course reflection generated a combination of qualitative and quantitative data. Figures 5 and 6 portray the quantitative findings from the surveys and end of course reflections. All participants either strongly agreed or agreed to the prompts asked. Themes appeared looking across the qualitative data presented in the survey, end of course reflection, and focus groups. Table 2 (from above) reflects the themes extracted from these different data collection methods. The themes included diverse learning opportunities, learning output, and application to the real world. The authors correlated each theme to the three principles of UDL.

Figure 5

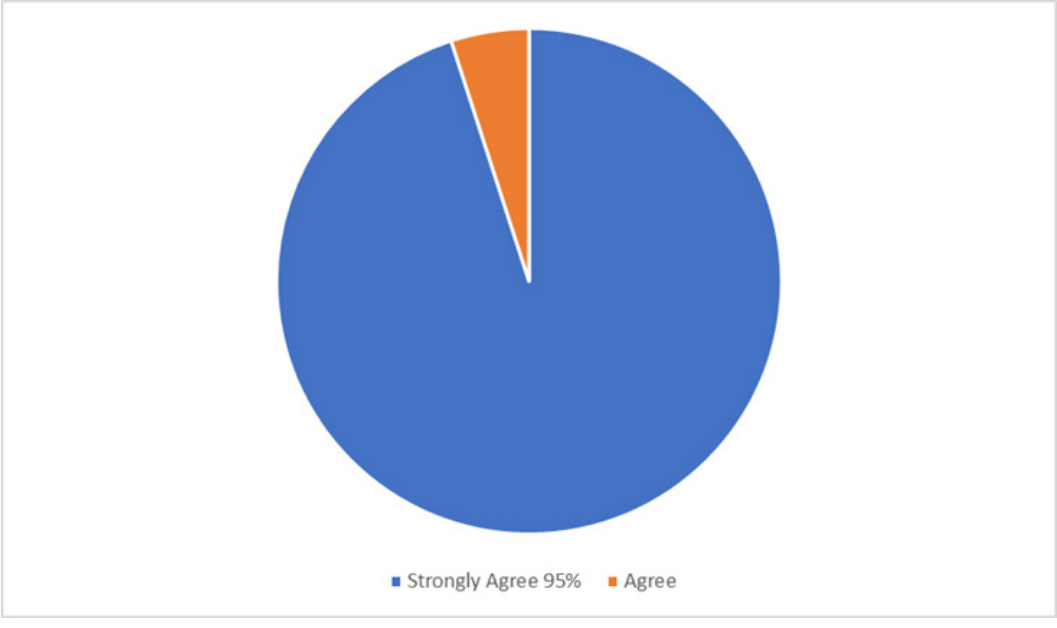
Quantitative Findings for Survey



Note. Figure 5 depicts the quantitative findings from the survey in percentages.

Figure 6

Quantitative Findings for End of Course Reflection



Note. Figure 6 depicts the quantitative findings from the end of course reflection in percentages.

The first theme highlighted throughout the data focused on diverse learning opportunities. This theme fits within the UDL principles of Multiple Means of Engagement and Multiple Means of Representation. Under Multiple Means of Engagement, CAST focuses on providing options for welcoming interests and identities, sustaining effort and persistence, and emotional capacity (CAST, 2024). The diverse learning opportunities provided participants options for building the "what" of their learning through perception, language and symbols, and building knowledge. As depicted by Participant A, "We did a wide variety of different activities in this class. It was never us writing notes and listening for hours on end. We did walk and talk, brainstorming, walking billboards, dinner party, watched documentaries, and so much more. Every single class was different than the last." These findings are supported by the survey results, as all participants agreed with the item, "Do you feel that this course was accessible and met your learning needs?" (85.7% strongly agreed and 14.3% agreed), indicating clear consensus. One participant, Participant B, explained that the built-in support helped with their learning and was what they needed at that point in their life.

> There were so many learning supports used in this class. There was a variety of visual aids, presentations, hands on learning, and group work. There is something for everyone. We were able to bring our unfinished assignments to class and get them not only peer reviewed but also looked at by the professor as well. During the semester, I was having a family emergency with my grandpa and the professor was extremely helpful with giving me extensions for the assignments. I didn't need much extra learning supports during the semester, but I found all her supports provided to the whole class to be extremely helpful.

In addition to the learning supports, 85.7% of participants strongly agreed and 14.3% agreed that the courses increased their interest and motivation in the topics. Furthermore, 90.5% of participants strongly agreed and 9.5% agreed that the content was represented in a variety of ways. Participant C explained that the "...variety in different lessons helped create success for different learners." The diverse learning opportunities provided to the participants aided in the building of their content knowledge.

The second theme revolved around the participants' opportunities to show their knowledge and understanding of the content. This theme directly correlates to integrating Multiple Means of Engagement and Multiple Means of Action and Expression. Participants expressed that the variety and options available to them helped to heighten their understanding of the topics presented. Participant D expressed, "By allowing a full range of opportunities for growth, we as groups were able to select the teaching style or method that best resonated with us. We were not held back or given a specific method - that range allowed for full expression." This theme is also connected to the considerations in Multiple Means of Engagement. The researchers built in options for welcoming interests and identities, sustaining effort and persistence, and emotional capacity (CAST, 2024). This theme also allowed for Multiple Means of Action and Expression by providing options for interaction, expression and communication, and strategy development (CAST, 2024). Molly expressed the importance of the assignments, "...assignments helped to learn from your own learning." The survey results indicate strong student consensus regarding opportunities to demonstrate their knowledge in different ways. 81.0% of participants strongly agreed and 19% agreed that the professors allowed for Multiple Means of Action and Expression.

The final theme focused on real world experiences. Participants expressed that the content taught in the classes allowed them to make connections to teaching in the "real-world." Participant F expressed, "We were able to see and hear about real world situations that connected us to topics." This theme reflects two UDL principles, Multiple Means of Engagement and Multiple Means of Representation. Specifically, this type of learning allowed for optimizing relevance, value, and authenticity (welcoming interests and identities), as well as maximizing transfer and generalization (building knowledge) (CAST, 2024). One participant, Mike, stated, they had a "...renewed perspective and appreciation for learning." Latisha also explained how important real life experiences were, "The fact that we get to see real people or hear about real people definitely makes it feel more real than rather just being a hypothetical example in a textbook, makes it easier to comprehend." The survey results stated above support the findings that participants believed that their engagement and representation opportunities were strongly reflected within the classroom structure.

Through the reflections, surveys, and focus groups, the researchers extracted data surrounding the perceptions and experiences of the student population. The data provided favorable information about the importance of supporting individual student needs by creating an accessible and inclusive environment. As UDL research suggests, it is important to account for learner variation and uncover and overcome barriers (Basham, 2022). As reflected in the data on the end of class reflection, 95% of participants strongly agreed, and an additional 5% agreed, that these courses were inclusive to all learners and embodied a strong, safe, and positive classroom community. Participant E said it best, "I'm not even exaggerating when I say that this course included everything under the sun." Since UDL in higher education is still very new (Monne de la Pena, 2021), it is imperative that this research be disseminated. These findings address the need for higher education faculty to

better understand the perceptions and experiences of their students in order to build an accessible classroom learning environment. This is the main gap in the literature, the non-existence of the students' word. This gap in literature is addressed in the discussion.

DISCUSSION

Building the structure of UDL within a classroom environment aids in improving and optimizing teaching and learning (CAST, 2018). The UDL principles and considerations provide students with equitable access to engage, build upon, and internalize learning opportunities by engaging in the "why," "what," and "how" of learning (CAST, 2018). Analysis of the literature indicates that there is limited evidence and few documented cases supporting the usage of UDL in higher education as an avenue for inclusive education (Fornauf & Erickson, 2020; Hromalik, Myhill, & Carr, 2020). Also, previous research is missing the student perspective and experience. As a result, the researchers of this study decided to look into their own higher education classroom environments, specifically focusing on the participants' perspectives of the techniques and strategies utilized by the instructors. Through the data collected during the surveys, end of course reflections, and focus groups, multiple participants expressed to the researchers that their classes provided access to the three UDL principles through the usage of various teaching strategies and instructional methods. The researchers coded these access points into three main themes and then correlated these themes with the UDL principles and considerations. Within the first theme, learning opportunities, both Multiple Means of Engagement and Multiple Means of Representation were evident. Multiple participants said they found their classes interactive, offering a variety of learning opportunities, multi-dimensional, and engaging explicit instruction. These data examples all support the ability to recruit and sustain interest in the learner (Multiple Means of Engagement). Participants also noted that collaboration and community were evident within the classroom. Participants noted that they were expected to engage collaboratively in the learning process and to feel safe and supported in expressing their thoughts and opinions, thereby learning from each other. This in turn helped to sustain effort and persistence. Finally, the classes promoted emotional capacities by teaching the content in a way that supported each learner's style and continuous learning opportunities. The heightened means of engagement not only affected the "why" of their learning, but it also built upon how the material was presented (Multiple Means of Representation). Participants expressed that there were a variety of learning experiences and materials that helped to represent the information being taught in a variety of ways (perception). This was strengthened by the way that the information was taught and the specific materials used to build upon those language and symbol options. The researchers often used anchor charts, scaffolding of content through diverse activities, collaborative notes, and repetition to support learner variability. The diverse learning opportunities provided to the participants allowed for needs to be met and aided in the creation of an accessible learning community, as proved by the perceptions and experiences of the participants.

The second theme extracted from the data revolved around the participants' application of the content and showing their knowledge and understanding. This theme directly correlates to Multiple Means of Engagement and Multiple Means of Action and Expression. Participants expressed that the variety of options and choices helped in sparking their interest. Researchers provided varied assessment measures and opportunities for learning via partner, small group, and whole group learning times. Also, during the application of their knowledge, participants received feedback from their professors and peers, which helped sustain effort, provide motivational support, and build persistence. Finally, students built upon their emotional capacities by engaging

in assessments that promoted reflection and critical thinking. Not only did this theme prove that there was heightened engagement, but it was also directly connected to providing Multiple Means of Action and Expression. Researchers built opportunities for interaction through a variety of ways for participants to engage with the content, which allowed for varied methods of responses through different access avenues (technology usage). This was supported through gradual levels of support and guidance by the professors allowing for scaffolding and checks for understanding (expression and communication). To set the participants up for success, the researchers focused on building their executive functioning skills. This "hidden curriculum," the unacknowledged tools that contribute to college learning success, help to build the students' norms, values, and beliefs about classroom learning. The aim of the researchers was to help the students become more independent within their learning, understand the institutional jargon and procedures that are needed in college, and break down systematic barriers that might have prevented optimal learning for groups of marginalized college students. Researchers recommend UDL to heighten inclusivity and break down these systematic barriers (Baglieri, 2020), but what was missing from the research was whether UDL can allow this access within a higher education setting. Through the feedback provided by the participants, the instructors found that their classes did in fact provide inclusive measures for learning and showing knowledge. The researchers provided support by making the class collaborative, promoting the use of an agenda and checklists, providing clear expectations and repetition regarding assignments, goal setting, and allowing for student interpretations and expression. These opportunities helped expand upon the participants' "how" of learning.

The final theme was the opportunities the participants had to apply their knowledge to real-world experiences. Azam (2021) suggests that this is typically evident in Teacher Education programs due to preparing teachers for instructing a diverse group of students and promoting inclusion. This theme supported building Multiple Means of Engagement and Multiple Means of Representation in the classroom. Specifically, the researchers' purposes include content and teaching skills that helped to optimize the topic's relevance, value and authenticity. The content presented was relatable for the participants and the researchers helped them make connections to what they saw in the field. These connections help students to see what is happening in the classroom is related to what they are learning in their teacher preparation program. This not only supported their engagement with the material, but it also helped with representation of the material, specifically building knowledge. Researchers promoted transferability and generalizations of the content through modeling of teaching, assessment experiences, and allowing the participants to take on the teaching role.

After coding and development of the themes presented in Table 2, the researchers noticed that in practice, UDL cascades throughout all three UDL principles. The themes presented do not provide a clear-cut picture of whether the strategies correspond to a specific "teaching action" or "learning experience." Instead, the themes often contain attributes/portions of multiple UDL considerations that fall within multiple guidelines.

As researchers suggest, higher education needs to be flexible and learner-centered to address the diversity of the student population (Basham, 2022; Boothe et al., 2018; Monne de la Pena, 2021). It is imperative that in higher education, UDL is encouraged to account for student diversity and inclusion (Azam et al., 2021). The creation of accessible and inclusive higher education classrooms is imperative in supporting not just students with disabilities but all students. To accomplish this, the UDL guidelines must be reflected within the classroom setting (Baglieri, 2020). As Hills et

al. (2022) supports, this inclusive course design must be evident within the variation of delivery, assessment, and engagement (three UDL principles). As depicted above, the diverse options and choices for the participants of this study positively impacted their perceptions and experiences that they had. Therefore, this research confirms that higher education needs to incorporate UDL into their curriculum, planning, and assessment in order to account for the variety of learners and the only way to know what works is to ask the students themselves. As explained by the participants, the implementation of a UDL-centered classroom positively impacted their learning opportunities. The caveat is that higher education needs philosophical buy-in from all parties (Fornauf & Erickson, 2020). Instructors must recognize that learner variability exists and that we must provide the appropriate accommodations for all students to succeed (Fornauf & Erickson, 2020).

IMPLICATIONS FOR FUTURE RESEARCH

This study stems from the importance of providing an accessible and inclusive environment for all students in higher education. UDL promotes flexible, learner-focused classrooms, and curriculum (Basham, 2022), which is quite common in K-12 learning environments. After a review of the literature, little research around UDL in higher education is available, and this research contributes to this scant body of literature focusing on UDL in higher education. Therefore, this research proves to add to the literature about what students find to be important and needed within a higher education context. Students in higher education classrooms seek out diverse learning opportunities, various learning output modes, and application to the real world. These factors were central to participants' classroom experiences and were reflected across the various data sources.

This study focused on the perspectives and experiences of traditional undergraduate students in their higher education special education course due to the limited literature available on student perspectives in higher education surrounding the implementation of UDL. It was through the participants' experiences that themes emerged on how they felt supported within the classroom environment. This study extends the limited research on UDL in higher education, showing that intentional UDL integration supports student inclusion by offering diverse learning opportunities, multiple means of expression, and real world application. Reflecting on the intentional UDL integration in the course design, the researchers compiled a list of examples to show how they supported students in relation to the three UDL principles. Table 3 provides examples of different activities and strategies provided to the participants throughout the semester.

Table 3

UDL Activities and Strategies

Representation	Engagement	Action and Expression
Perception -use of learning management system -in-person classes -diagrams -posters -videos -podcasts -written & video based -discussions -children's books -field trips -guest speakers -person first narratives -peer reviewed articles -professional texts -modeling classroom strategies and good practices	**Welcoming Interests & Identities** -community circles -getting to know you activities -flexibility in due dates -annotation of syllabus -choice in how to complete an assignment (one pager) -student teaching	**Interaction** -use of AI -use of physical manipulatives -use of technological platforms (Kahoot, Quizizz, Padlet, Moodle discussions, google forms)
Language & Symbols -use of multiple media -read text and then discuss text in class through activities or lectures -person first and identity first language	**Sustaining Effort & Persistence** -feedback from students and professor -goal setting -collaborative activities and presentations	**Expression & Communication** -traditional discussions -presentations -lectures -papers -creation of projects -jigsaws -stations
Building Knowledge -read text and then discuss text in class through activities or lectures -student presentations -graphic organizers -guided notes -collaborative notes	**Emotional Capacity** -expectations continuously explored and explained in multiple modalities -self assessment and reflection -critical consciousness	**Strategy Development** -goal setting -monitoring progress -modeling of creating executive functioning tools (checklists, rubrics, etc.) -agenda usage

Note. Table 3 includes built-in UDL strategies used in our classrooms.

These strategies and activities are not intended as an exhaustive checklist but rather emphasize the options designed by the researchers and the mindset underlying their classroom culture. One area for future research could involve examining how these different strategies and learning experiences influenced student learning outcomes.

Another area of future research could investigate why students felt supported and engaged in the manner that they did. The various data collection methods provided necessary information on the ways in which the students felt supported and engaged and one common response was the creation of a classroom community for students to feel accepted, included, and engaged within the learning environment. A common sub-theme that connected the major themes of this study was that the students felt supported within the classroom due to the classroom community established by the researchers. This sub-theme would be another area to focus on in future research because it was a common data point brought up by participants. These future studies would help expand UDL within the higher education context. More research is needed in this area, so a further dive into the results of this study would help expand the knowledge base of educators in post-secondary institutions.

LIMITATIONS

The limitations of this study revolve around the number of participants and the data size. The professors opened participation to all their students within their current special education traditional undergraduate courses. If all participants consented to the project, the sample size could have been around 70 participants. Unfortunately, not all participants consented to the project; participants shared with researchers that heavy course loads, child or parent care taking at home, and having to work multiple jobs during the semester limited their availability to participate in this study. Therefore, the sample size was much smaller. As a result, the researchers opened the project to current and past students who took the same iteration of the course. In the end, we were able to gain more participants due to this slight change.

CONCLUSION

UDL and higher education are typically not intrinsically linked in conversation. As learner variability in higher education changes, institutions, instructors, and curriculum needs to change. It is important for higher education institutions to view students through an intersectional lens to account for the variability of lived experiences, needs, and classroom demographics. In response to this mindset shift, higher education instructors are looking to make their classrooms more inclusive and accessible. It is in this realm that UDL can make a difference.

The key to supporting all students and making changes to instruction is flexibility and allowing instruction to be learner centered. It is inevitable that learner diversity will increase over time, as the landscape of higher education changes. UDL provides a proactive approach to teaching in which student needs will be addressed from the onset. Incorporating research on UDL, along with students' perspectives, enables higher institutions to better accommodate learner variability and ultimately provide a supportive, inclusive, and accessible learning environment for all students.

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THE STATUS OF TEACHING SOFT SKILLS IN THE POLYTECHNIC COLLEGES OF ETHIOPIA

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ABSTRACT

The study explored trainees' perceptions of the current status of soft skills in polytechnic colleges in Ethiopia. A convergent mixed methods design was employed to conduct the study. Data were collected from 348 sample trainees from ten polytechnic colleges selected using simple random sampling, and seven job creation and counselor officers selected using purposive sampling. The quantitative data were collected using a modified standardized Graduate Skills and Attributes Scale questionnaire developed by Coetzee (2012), and the qualitative data were collected using key informant interviews. The quantitative data were analyzed using descriptive statistics such as percentages and mean scores, while inferential statistics such as an independent t-test, a one-way ANOVA, post-hoc analysis for pairwise comparisons, and regression analysis were used. The qualitative data were analyzed using thematic analysis. Finally, the results revealed that the current status of teaching soft skills was at an average level with no significant gender difference. Besides, the findings disclosed that all seven factors predicted 79.6 % of the problem-solving and decision-making skills. Further policy implications of the findings are also indicated in the study.

BACKGROUND OF THE STUDY

The United Nations Educational Scientific and Cultural Organization (UNESCO) and the International Labor Organization (ILO) recommendation of 2000 defined Technical and Vocational Education and Training (TVET) as a means of preparing youth for occupational fields and effective participation in the world of work (Oviawe, et.al., 2017). Graduates' employability has become a research agenda, as most college graduates fail to get jobs. Like many other countries in the Sub-Saharan region, Ethiopia lacks the necessary resources to provide trainees with a broad foundation of skills that are required for getting employment in the formal sector (Afeti, 2017; Yamanda & Otchia, 2021). The employability of TVET graduates is not just about getting a job; it is about developing attributes, techniques, or experience for life (Hyams-Ssekas & Harvey, 2013). According to Trought (2011), a degree allows a graduate to enter the sector, but it is soft skills that will differentiate them from the crowd and make them more likely to secure the position. Raftopoulos et.al., (2009) suggest that as we are moving from an industrial to an information era in the world of work, workers are required to be able to use logical-abstract thinking to diagnose problems, research and apply knowledge, propose solutions, and design and implement those solutions.

The term soft skills is interchangeably used with other terms such as transferable skills, generic skills, employability skills, behavioral skills, enterprise skills, key competencies, core skills, common skills, work skills, essential skills, and people skills (Abas-Mastura, et.al, 2013; Abdullah et., 2024; Gill, 2018; Warwick & Howard, 2015; Yusoff et al., 2012).

The early concept of soft skills links soft skills to job readiness (Sung et al., 2013). However, the work-oriented focus is increasingly linking the impact of soft skills to organizational outcomes, which in turn are linked to workers' career mobility and wage gains (Gill, 2018).

Similarly, from the Ethiopian context, soft skills refer to skills, attitudes, and behaviors, other than technical capability, to capacitate people to participate and advance in the changing demands of the work setting and to remain an asset to employers (Salleh et al.,2017). These are skills that cut across all jobs from entry-level to chief executive officer (Abas-Mastura, Imam & Osman, 2013) and that are necessary for both personal and career success and fundamental to good performance in the job (Salleh et al., 2017). Soft skills are also further classified into two broad groups: the ability of the student to get a job after graduation and the capacity of the student as a lifelong learner (Hillage and Pollard, 1998; Harvey, 2001).

Soft skills, being a cluster of personality traits, social graces, and facility with language, habits, friendliness, and optimism, complement hard skills, which are the technical requirements of a job or the abilities to perform a certain type of task (Cimatti, 2016; Suneela, 2014). Robinson (2009) also classifies soft skills into three broad categories: (i) basic academic skills – e.g., reading, writing, arithmetic; (ii) higher order thinking, e.g., reasoning, thinking, creativity; and (iii) personal qualities – e.g., self-control, team spirit. According to the European Center for the Development of Vocational Training (CEDEFOP), enhancing soft skills should be at the heart of work-readiness measures. Such interventions could relate to (1) job search, (2) CV preparation, (3) interview techniques, (4) getting to know the workplace, (5) relationship building, (6) conflict resolution, (7) leadership skills, (8) communications skills, (9) citizenship, (10) health and well-being, (11) problem-solving, and (12) self-regulation.

Various literature (e.g., Raftopoulos et.al., 2009; Rahmat et.al, 2016; Saad & Majid, 2014) identified communication skills, personal qualities, teamwork skills, critical thinking, and problem-solving skills as dimensions of soft skills. Others (Salleh et al., 2017; Suneela, 2014; Tanius, 2018) explain technology skills, organizational skills, and continuous learning skills as types of soft skills valued by employers, employees, and institutions. Although few studies have focused on today's TVET graduates' soft skills, showing their relationships with other variables (Groh et al., 2015; Heckman & Kautz, 2012) , most of them have ignored the role soft skills play in graduates searching for and getting jobs. Most importantly, the views of trainees on the status of teaching these skills are underrepresented in research. Thus, this study tries to fill in the gap in the polytechnic colleges of Ethiopia. The findings from the study will help policymakers pay attention to the importance of soft skills and include them in the TVET policy, create awareness of the status of soft skills, and also add some insights into the existing literature related to the TVET sector in Africa.

REVIEW OF THE LITERATURE

In this era of Globalization, a balance of generic and job-specific skills is required for training systems and organizations to stay competitive. In this respect, it is worth mentioning the practice of South Africa's National Skills Development Strategy, which focuses on the re-establishment of linkages between learning and work (Murrar et.al. 2022). According to Aris et. al (2013), Hanapi et.al.(2014), and Perera and others (2017), the increasing challenges of graduate unemployment have been related to the low level of soft skills that are not compatible with employers' expectations. Mathur (2017) adds that graduates are hired for their technical skills but fired for their lack of soft skills. Similarly, Salleh et al. (2017) and Merrifield (2013) state that employees need to develop soft skills not only to get a job but also to keep them and to move from one job to another.

Though there is increasing recognition in the literature that soft skills enhance graduates' employability, employers seriously complain that graduates are deficient in these skills required of the workforce as a result of the unsuccessful development of the skills during their stay in the university (Abas-Mastura, Imam & Osman, 2013; Groh et al., 2016). They are not yet ready to enter and face the complexities and challenges of the world of work (Sung et al., 2013). Lack of such readiness leads to an apparent insufficiency of skills in the work settings, and the skills, behaviors, and attitudes needed by job entrants (Mathur, 2017; Rahmat, Ayub & Buntat, 2016; Salleh et al., 2017).

Employers are convinced that academia and educational institutions are the most responsible for equipping graduates with the required soft skills and preparing them to be more employable in the 21st century (Abas-Mastura, Imam & Osman, 2013; Mathur, 2017; Rahmat et.al, 2016; Tanius, 2018). However, to discharge their responsibility of equipping the graduates with the required soft skills, HEIs need to study labor market outcomes, student transitions, learning pathways, and strong industry partnerships that will also allow students to benchmark their assumptions against the realities of the workplace (Tanius, 2018).

In conclusion, soft skills contribute to individuals' holistic development and lifelong experiences that are nurtured through career planning and school-to-work transition programs. However, there is an increasing concern that a gap exists between what academic institutions teach and the type of attributes and skills that employers look for in graduates (De La Harpe et.al., 2000; Spencer et al., 2021). This has led to a worldwide call for institutions of higher learning, such as polytechnic colleges, to demonstrate that the quality and outcomes of their learning programs meet the skills demands of employers (Beyer, et.al, 2010; Coetzee, 2012).

History of TVET in Ethiopia

The first attempt to introduce technical education in Ethiopia was made by Emperor Tewodros II (1855-1868) to assist European workmen involved in the manufacture of mortars. The first technical school was established at Gafat in the early 1860s (Bahru, 2002). However, there was an interruption in the development of the sector until 1942, when the first technical school in Ethiopia, the Addis Ababa Technical School, commonly known as Tegbare Ed, was established. Students who finished their junior secondary education were enrolled in a four-year training program at that time. The school began by offering four courses: auto mechanics, carpentry, welding, and electricity (Ayele, 2024). This was followed by the establishment of the second Technical school, the Asmara Vocational School, in 1952.

The curriculum of the TVET schools of the 1940s and 1950s offered both general and technical courses (Habtamu, 2016). From 1974 to 1991, students were enrolled either in senior secondary education (grades 11 and 12) or a three-year (10+3) TVET program for those who opted for the vocational programs. Some of the comprehensive secondary schools were changed into polytechnic vocational training centers to prepare individuals for occupations at the paraprofessional level (Girma, 1994). Following the introduction of the 1994 education and training policy, diversified technical-vocational training was recommended for school leavers from any level of education (MOE, 1994). TVET was provided parallel to the general education system and offers training at various levels. Initially, a two-year TVET program was initiated for students who had completed general education (MOE, 1994); later changed to a three-year program. A modular-based TVET curriculum was developed following the concept of the Modules for Employable Skills (MES) scheme of the International Labour Organization (Habtamu, 2016).

Recently, there has been a considerable expansion in TVET institutions in Ethiopia, and the number of TVET institutions has increased tremendously. During the years 2004 – 2009, the average annual increase in enrolment in TVET was 30.5% (MOE, 2008). In the year 2008/09, there were a total of 458 TVET institutions that enrolled a total of 308,501 students in regular, evening, summer, and distance programs. In 2007, Ethiopia stood second in Africa in terms of the number of training institutions.

Today, the TVET system aims to emulate the German apprenticeship-based system, where students have to spend 70% of their time in the program. TVET colleges are tasked by the government to identify potential employers who can provide apprenticeship experience for TVET students (MOE, 2008). TVET is offered at four types of TVET centers: TVET Institutions (provide only level I and II training), TVET Colleges (provide only level I-III training), and polytechnic TVET colleges (providing levels I-V) (Habtamu, 2016). Currently, there are 642 public and 720 private TVET colleges in Ethiopia.

STATEMENT OF THE PROBLEM

Youth unemployment has become a priority issue over the last few decades in Ethiopia. Recently, the government has undertaken a series of reforms to reorganize the structures, strategies, programs, and initiatives to minimize problems of youth unemployment. Particularly, TVET graduates lack soft skills, and this limits their access to employment and retention. The missing link that acts as a barrier and denies job seekers the opportunity to access jobs is their lack of soft skills. According to the 2020 CSA survey report, the unemployed population in urban areas of Ethiopia was 2,018,479, with an unemployment rate of 18.7 percent, most of whom were TVET graduates. According to the 2010 Ministry of Education report, only 20-23 percent of the TVET graduates got employment opportunities, and this has been a consistent indication that the problem is nationwide. The Ethiopian TVET Policy and Strategy (2020), identified challenges and problems to TVET graduate employability and indicated that graduates lack soft skills in such areas as reading, writing, mathematics, computing, communication, teamwork, problem-solving, customer relations, and foreign languages as one of those challenges hindering the graduates' employability in Ethiopia.

Very few studies, for instance, Zeleke (2022), Woldesemayat and Geressu (2023), and Melesse et. al (2022) have examined the employability of TVET graduates in Ethiopia, but none of these studies examined the status of teaching soft skills and TVET trainees' perception of these skills. This study thus tries to explore the current status of teaching soft skills as perceived by polytechnic trainees in Ethiopia using the Graduate Skills and Attribute Scale developed by Goetzee (2012) and modified to the Ethiopian context.

KEY QUESTIONS

The study was guided by the following key questions:

1. What is the current status of teaching soft skills as perceived by trainees in the polytechnic colleges?
2. Are there statistically significant gender differences in the mean ratings among the trainees in the polytechnic colleges?
3. Are there statistically significant differences in the mean ratings on soft skills between respondents from the different polytechnic colleges in Ethiopia?
4. Which one of the clusters of soft skills most predicts the status of soft skills as perceived by the trainees?

CONCEPTUAL FRAMEWORK OF THE STUDY

Many scholars attempt to contextualize soft skills from different perspectives. Gladstone and Brown (2022), for instance, explain soft skills as those skills taught to trainees and serve as a means by which an employee completes the assigned work. The authors go on to list soft skills such as critical thinking, problem-solving, attention to detail, communication, ownership, leadership, interpersonal skills, teamwork (Payscale, 2016), listening skills, presentation skills, collaborative skills, time management skills, decision-making skills, etiquette, professionalism, creativity, analytical thinking, emotional intelligence, goal-setting, entrepreneurial skills, negotiation skills (Rao, 2018), and writing skills (Saunders & Bajjaly, 2021).

Coetzee (2012) identified eight soft including Interactive skills, Problem-solving, and decision-making skills, Continuous learning orientation skills, Enterprising skills, Presenting and applying information skills, Goal-directed behaviors, Ethical and responsible behavior, and finally, Analytical thinking skills. Hence, trainees' perception of these soft skills determines the current status of soft skills in the polytechnic colleges, as indicated in the following diagram.

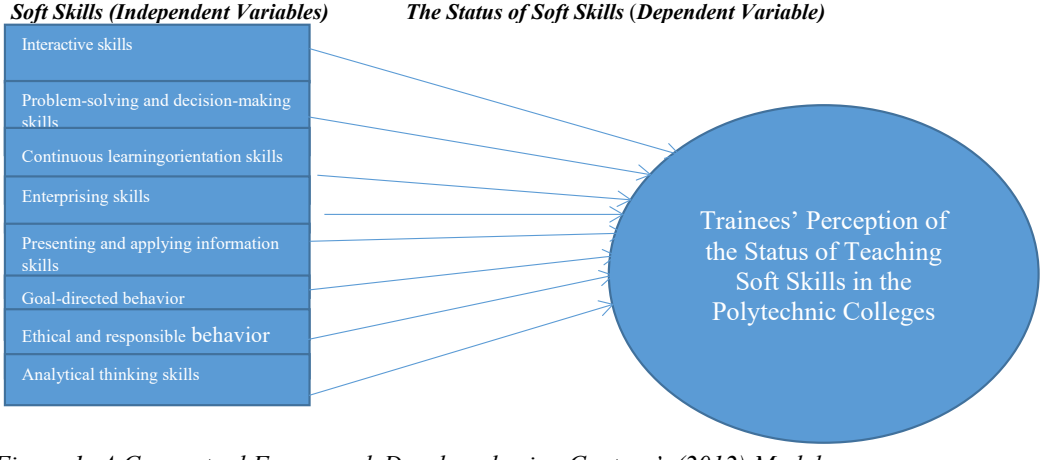

Figure 1: A Conceptual Framework Developed using Coetzee's (2012) Model

As put in the above diagram, the eight categories of soft skills and trainees' perception of each of these soft skills (independent variables), measure the status of soft skills in the polytechnic colleges (the dependent variable) of the study.

METHODOLOGY

Research Design

The study employed a convergent mixed methods design that enabled the researchers to collect both quantitative and qualitative data at a time and analyze and use them together to answer the key questions (Cresswell & Cresswell, 2018). Both questionnaires and key informant interviews were used to collect pertinent data for the study.

Data Collection Tools

A Graduate Skills and Attribute Scale (GSAS) questionnaire developed by Coetzee (2012) was used in the study. The questionnaire has eight dimensions of soft skills: Interactive skills, Problem-solving, and decision-making skills, Continuous learning orientation, Enterprising skills, Presenting and applying information skills, Goal-directed behavior, Ethical and responsible behavior, and Analytical thinking skills. A total of 64 items were included in the questionnaire and pilot tested in one of the polytechnic colleges in Addis Ababa. However, the Cronbach Alpha (r) value for most of the items was below 0.5 and were deleted from the final study. Then, the number of items was reduced to 31. The rating scales for graduate employability relative to each specific skill and attribute skills consist of (5, Always; 4, Often; 3, Sometimes; 2, Rarely; & 1, Never). The overall reliability test for the questionnaire was Cronbach's Alpha (r) = 0.94 for the modified questionnaire. Data were also collected from sample experts and authorities using KI, where the items focused on respondents' views related to the concepts of soft skills, the relevance of these skills for graduate employability, whether the current polytechnic curriculum embedded these skills, and challenges in teaching the skills in these colleges. The content validities for both tools were checked by experts in the field and proved to be valid.

Sampling

Out of the total 99 polytechnic colleges in Ethiopia, the study included 10 polytechnic colleges randomly selected from four Regional States and one City Administration. The colleges were Sodo Polytechnique, Arbaminch Polytechnique, and Hawasa Polytechnique colleges from southern Ethiopia, Burayu Polytechnique, Shashemene Polytechnique, and Adama Polytechnique colleges from Oromia regional state, JigJiga from the Ethio-Somali region, Misrak, Wingate, and Entoto Polytechnique colleges from Addis Ababa, the capital. The study focused on trainees in the final year of their graduation. The total number of trainees in their final year was estimated at 50,000, which is the total population of the study. A sample size of 381 trainees was determined and selected using a simple random sampling technique from the polytechnic colleges. Besides, seven job creation and counselor officers from the colleges participated in the key informant interview using purposive sampling. The sample size for selecting trainees for the questionnaire was determined using a sample size determination table at a 95 % level of confidence or (0.05 α) by Cohen et.al. (2007).

From the total 381 questionnaires distributed during the data collection, only 348 were filled in and returned, and used in the data analysis. Looking into the sex of respondents, the result indicates the domination of males, i.e., 210 (60.3 %), with the remaining 131 (37.6 %) for females. Age-wise, the majority (87.7 %) of the respondents were in the age range of 20-25 years, with very few of them below 19 years old and above 26 years. Since these trainees in the polytechnic colleges have joined after the successful completion of 12 years of schooling, it is wise to observe that the age of the majority of study participants is in the second category.

Data Analysis

All quantitative data were entered into a computer, and descriptive and inferential statistics were generated using SPSS-24. An independent t-test was used to compare if there are statistically significant mean differences between male and female trainees, while a one-way ANOVA was used to examine mean comparisons among the polytechnic colleges. Post-hoc analysis for pairwise comparisons was used for comparisons between colleges for those statistically significant mean differences to sort out those polytechnic colleges different in their mean values. A pairwise correlation

analysis was used to provide insights into the relationships between different mean factors. The regression model for the prediction of problem-solving skills as predicted by the remaining variables was further conducted to see the prediction of the other seven skills on problem-solving and decision-making skills. Regarding qualitative data, individual interviews were transcribed for thematic analysis, supplemented with field notes and documentary surveys.

RESULTS

Qualitative data for the study were collected through key informant interviews to solicit information with reference to soft skills.

The Meanings and Relevance of Soft Skills are Discussed below.

According to one of these respondents, soft skills refer to:

> Having a positive attitude in the interviews, and being flexible to environments. It also includes smiling and being hospitable in the workplace, which is about appreciating and helping colleagues in the workplace, etc. These skills (soft skills) include essential abilities and personal attributes that supplement hard skills, that is, the technical knowledge required of an individual in the workplace.

Another participant further mentioned that soft skills are:

> Non-technical skills, abilities, and traits required to function in a specific employment environment to work effectively as a member of a team, and understand and adapt to the cultural norms in the workplace, including problem-solving and communication skills.

Interview participants were also asked their views on the contributions of soft skills for TVET graduates, and the following were some of their responses:

One of the study participants during the interview mentioned that:

> Soft skills are one of the most crucial components for the employability of our graduates, in addition to the technical skills they gain in their respective colleges. The respondent further added that soft skills are required at different stages, including during the selection and recruitment of new employees in different sectors, and in working with other team members in their organizations after employment.

Still, another interviewee explains that:

> Soft skills such as good communication skills, interpersonal skills, the ability to work in a group setting with colleagues, and a positive attitude toward their team members and their jobs are highly required by employers in today's organizations.

The Status of Teaching Soft Skills in the Polytechnic Colleges

The following soft skills were rated in this study by polytechnic trainees.

- Factor 1: Interactive skills (Use of English language and technology when communicating with others and personal efficacy in communicating and interacting with people from diverse cultures, backgrounds, and authority levels).
- Factor 2: Problem-solving and decision-making skills (Creativity and proactivity in the process of solving a recognized problem or problematic situation).
- Factor 3: Continuous learning orientation (Cognitive openness towards and awareness of, and proactive engagement in, the process of acquiring new knowledge, skills, and abilities throughout one's life and career in reaction to and in anticipation of, changing technology.

- Factor 4: Enterprising skills (Venture some application of critical reasoning, initiative, and proactivity in the engagement of economic activities or undertakings).
- Factor 5: Presenting and applying information skills (Communicating knowledge, facts, ideas, and opinions clearly and convincingly to offer solutions for one's benefit, or for the benefit of one's community or workplace.
- Factor 6: Goal-directed behavior (Proactivity and initiative in achieving one's goals, accomplishing tasks, or meeting deadlines).
- Factor 7: Ethical and responsible behavior (Responsible leadership in upholding the code of moral beliefs and values of one's profession, community, and/or workplace in all one does).
- Factor 8: Analytical thinking skills (Skillful logical and critical reasoning and analysis in explaining information and data, and drawing insightful conclusions from the data analysis).

Table 1
Current Status of Teaching Soft Skills as Perceived by Trainees in Polytechnic Colleges

	N	Mean	Std. Deviation
Interactive skills	348	3.84	.76
Problem-solving and decision-making skills	348	4.15	.77
Continuous learning orientation	348	4.09	.83
Enterprising skills	348	3.87	.83
Presenting and applying information skills	348	4.02	.83
Goal-directed behavior	348	3.91	.84
Ethical and responsible behavior	348	4.28	.84
Analytical thinking skills	348	3.86	.99

The data indicate that all eight skills were rated between 3.84 to 4.28, showing an average status with interactive skills, analytical thinking skills, enterprising skills, and goal-directed behavior that are rated lower compared to other skills. This indicates the need to improve soft skills to some extent.

Data in Table 2 below indicates the mean comparisons between male and female students using an independent t-test across the eight factors. The t-test results indicate statistically no significant differences between the two groups of respondents since ($p > 0.05$ alpha) for all the factors. This indicates similarities in their mean ratings between the two groups. A critical examination of each mean rating indicates average results (3.5 to 4.49), which further designates the level of employability skills as perceived by the polytechnic trainees through their ratings as a medium. A close look at each factor indicates that in factor 1, which refers to the interactive kills, the mean scores for females ($M = 3.82$) and males ($M = 3.87$) are quite similar, with a small difference. The statistical analysis confirms this, as the p-value ($p = 0.562$) is well above the conventional edge of 0.05. Therefore, we can conclude that there is no significant difference between males and females for this factor.

Gender Differences in the Mean Ratings on Soft Skills

Table 2

Gender Differences in the Mean Ratings on the Eight Factors (Graduate Skills and Attribute Scale (GSAS)) using an Independent t-test

Factors	Sex	N	Mean	Std. Deviation	Std. Error Mean	t	df	P
MeanFactor1	Female	131	3.82	.70822	.06188	-.581	338	.562
	Male	209	3.87	.73896	.05112			
MeanFactor2	Female	130	4.15	.76081	.06673	.443	336	.658
	Male	208	4.11	.82230	.05702			
MeanFactor3	Female	128	4.11	.84977	.07511	.507	334	.613
	Male	208	4.06	.86943	.06028			
MeanFactor4	Female	130	3.88	.82778	.07260	.133	337	.894
	Male	209	3.87	.81539	.05640			
MeanFactor5	Female	130	4.11	.80641	.07073	1.517	336	.130
	Male	208	3.97	.83577	.05795			
MeanFactor6	Female	130	4.02	.86605	.07596	1.954	336	.051
	Male	208	3.84	.80029	.05549			
MeanFactor7	Female	129	4.35	.83946	.07391	1.057	330	.291
	Male	203	4.25	.82709	.05805			
MeanFactor8	Female	130	3.92	1.00927	.08852	.883	336	.378
	Male	208	3.82	1.00719	.06984			

Similarly, the data in the Table indicates that for all the Factors, none of the p-values are statistically significant since ($p > 0.05$), except for Factor 6, which is at the margin indicating no significant gender differences across the factors. However, it is difficult to give the exact decision although the p-value (0.051) is slightly greater than 0.05 alpha. This finding could have implications for various domains, such as education, psychology, or workforce dynamics, where understanding potential gender differences is important for creating inclusive environments and designing targeted interventions.

Respondents who participated in the interviews also stated the importance of soft skills for the graduates, in getting job opportunities. According to the participants, employers consider soft skills as important as hard skills for TVET graduates. In addition, they show that although the candidate has not been trained in the job for which he is applying, he can still be a valuable employee.

During our interviews with job creation and counselor officers, it was underlined that soft skills are not given due attention in their training programs, and very few of these colleges started offering short-term orientations to their trainees in the final years of their graduation.

According to one of the job creation and counselor officers:

> Our existing polytechnic curriculum is embedded with a limited portion of the soft skills. It is widely dominated by hard skills where little heed is paid to the soft skills, to acquaint trainees with these skills. Besides, most of our staff in the polytechnic colleges are not aware of the importance of these skills to assist their graduates in getting job opportunities over the hard skills.

While the above statements from the expert indicated the low attention given to the role of employability skills for the graduates, the majority 68.3 % of the respondents replied through the questionnaire for the open-ended items that they did not go through any training program on employability skills while less than one-third, 31.7 % replied that they have passed through some employability skills training.

Still, another expert who participated in the key informant interview discussed that:

> Although the TVET curriculum has incorporated some soft skills amalgamated with some courses, our polytechnic colleges lack qualified trainers who can offer soft skills to our trainees. This led to our graduates being deficient in these skills after their graduation or during their early employment years in the workplace. We also observed that our employers complain to our colleagues about our failure to equip the graduates with the basics of these skills.

Data in Table 3 compares whether there were significant mean differences in the mean ratings among the ten polytechnic colleges using a one-way ANOVA. As the result shows, there were statistically significant mean differences between these colleges since ($p< 0.05$) for all eight factors. This implies variations in the mean ratings for all the factors. In summary, across all factors (Mean Factor 1 through Mean Factor 8), there are significant differences between the means of the polytechnic colleges. However, the effect sizes vary, with some factors showing larger differences between group means compared to others. These findings suggest that the factors have an impact on the dependent variable being studied, but the strength of this impact differs among the factors.

Mean Differences in the Mean Ratings between the Polytechnic Colleges

Table 3

Mean Comparison by Polytechnic Colleges using a One way-ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
MeanFactor1	Between Groups	19.078	9	2.120	4.239	.000
	Within Groups	168.001	336	.500		
	Total	187.078	345			
MeanFactor2	Between Groups	32.672	9	3.630	6.248	.000
	Within Groups	194.063	334	.581		
	Total	226.735	343			
MeanFactor3	Between Groups	18.855	9	2.095	2.978	.002
	Within Groups	233.525	332	.703		
	Total	252.380	341			
MeanFactor4	Between Groups	14.459	9	1.607	2.468	.010
	Within Groups	218.069	335	.651		
	Total	232.528	344			
MeanFactor5	Between Groups	19.780	9	2.198	3.418	.000
	Within Groups	214.761	334	.643		
	Total	234.541	343			
MeanFactor6	Between Groups	16.177	9	1.797	2.730	.004
	Within Groups	219.889	334	.658		
	Total	236.066	343			
MeanFactor7	Between Groups	16.458	9	1.829	2.710	.005
	Within Groups	221.371	328	.675		
	Total	237.829	337			
MeanFactor8	Between Groups	28.989	9	3.221	3.428	.000
	Within Groups	313.813	334	.940		
	Total	342.802	343			

Each factor, as delineated by Mean Factor 1 through Mean Factor 8, exhibited distinct effects on the development or manifestation of soft skills crucial for employability. For instance, the Mean rating for interactive skills (Factor 1), which pertains to the use of the English language and technology when communicating with others and personal efficacy in communicating and interacting with people from diverse cultures, backgrounds, and authority levels, emerged as a significant determinant of soft skill development. Similarly, Mean Factor 2 represents (problem-solving and decision-making skills referring to creativity and proactivity in the process of solving a recognized problem or problematic situation) and was found to have a notable impact on the acquisition or demonstration of soft skills. Furthermore, Mean Factor 3 through Mean Factor 8 also demonstrated significant effects on the development of soft skills essential for employability.

In such cases where there are statistically significant differences among the colleges, the statistics force us to conduct a post hoc analysis to indicate exactly the polytechnic college that significantly differs from the others using the Tukey HSD test for each factor. Although the Tukey HSD test shows significant differences for all the factors, to minimize the number of Tables and manage the data analysis, data only for two of these factors were considered for our discussions, i.e., Factor 1: Interactive skills and Factor 2: Problem-solving and decision-making skills.

Table 4

Post-hoc Analysis for Pairwise Comparisons between Colleges for Factor 1 (Interactive kills)

Dependent variable	Name of Polytechnic College	Name of Polytechnic College	Mean Difference (I-J)	Std. Error	Sig.
Factor 1: Interactives kill	Shashemene Poly technique	Sodo Polytechnic	-.56124	.18345	.072
		Arbaminch Polytechnic	-.78235*	.17338	.000
		Hawasa Polytechnic	-.60335*	.16591	.012
		Burayu Polytechnic	-.57480*	.16343	.018
		JigJiga Polytechnic	-.58987*	.15106	.004
		Misrak Polytechnic	-.34447	.16343	.523
		Wingate Polytechnic	-.41838	.16343	.241
		Adama Polytechnic	-.86161*	.16725	.000
		Entoto Polytechnic	-.66228*	.17338	.006

Taking an interactive skill as a dependent variable, the mean rating at Shashemene Polytechnique College was statistically different from the other polytechnic colleges since the p-values were less than 0.05, except for three of these colleges (Sodo, Misrak, and Winget Polytechnic colleges) where statistically no significant differences were observed ($\alpha > 0.05$).

The mean difference in interactive skills between Shashemene Polytechnic College and Arbaminch Polytechnic College is statistically significant ($p = 0.000$). Shashemene Polytechnic College tends to have lower mean scores in interactive skills compared to Arbaminch Polytechnic College. Similarly, there is a statistically significant difference in interactive skills between Shashemene Polytechnic College and Hawasa Polytechnic College ($p = 0.012$). Shashemene Polytechnic College has lower mean scores in interactive skills compared to Hawasa Polytechnic College. The data also indicated that the mean differences in interactive skills between Shashemene Polytechnic College and Burayu Polytechnic College, JigJiga, Adama, and Entoto colleges are also statistically significant ($p < 0.05$). In each case, Shashemene Polytechnic College shows lower mean scores in interactive skills. However, there are no statistically significant differences in interactive skills between Shashemene Polytechnic College and Misrak and Wingate Colleges ($p > 0.05$).

Table 5

Post-hoc Analysis for Pairwise Comparisons between Colleges for Factor 2: Problem-solving and Decision-making Skills)

Dependent variable	Name of Polytechnic College	Name of Polytechnic College	Mean Difference (I-J)	Std. Error	Sig.
Factor 2: Problem-solving and decision-making skills	Shashemene Poly technique	Sodo Polytechnic	-.83607*	.19875	.001
		Arbaminch Polytechnic	-.85942*	.18795	.000
		Hawasa Polytechnic	-.90531*	.17994	.000
		Burayu Polytechnic	-.73538*	.17728	.002
		JigJiga Polytechnic	-.32649	.16404	.607
		Misrak Polytechnic	-.45760	.17728	.231
		Wingate Polytechnic	-.50006	.17858	.141
		Adama Polytechnic	-1.06240*	.18138	.000
		Entoto Polytechnic	-.58356	.18795	.063

Still, the post-hoc analysis for problem-solving and decision-making skills indicated the mean rating at Shashemene Polytechnic College was statistically different from six of these colleges since the p-values were less than 0.05 alphas. The mean differences in problem-solving and decision-making skills between Shashemene Polytechnic College and other colleges (Sodo, Arbaminch, Hawasa, Burayu, and Adama) are statistically significant ($p < 0.05$). This suggests that Shashemene Polytechnic College tends to have lower mean scores in these skills compared to these colleges. However, for JigJiga, Misrak, Wingate, and Entoto, there are no statistically significant differences in problem-solving and decision-making skills between Shashemene Polytechnic College and these colleges ($p > 0.05$).

Table 6

Pairwise Correlation among the Mean Factors

	MeanFactor2	MeanFactor1	MeanFactor3	MeanFactor5	MeanFactor6	MeanFactor8
MeanFactor2	1.000**	.642	.681	.672	.654	.600
MeanFactor1		1.000	.535	.557	.583	.503
MeanFactor3			1.000	.661	.643	.535
MeanFactor5				1.000	.703	.619
MeanFactor6					1.000	.621
MeanFactor8						1.000

** Sig. at .01

The pairwise correlation results in the table indicate the correlations between the eight factors were positive and strong correlations between the factors. The One-way ANOVA result in Table 6 further indicates statistically significant differences since the p-value was less than 0.05. For example, Mean Factor 2 shows a strong positive correlation with Mean Factor 3 (0.681) and

Mean Factor 5 (0.672), suggesting that higher scores in Mean Factor 2 tend to be associated with higher scores in Mean Factor 3 and Mean Factor 5. Similarly, MeanFactor1 shows a moderate positive correlation with MeanFactor2 (0.642) and MeanFactor5 (0.583), indicating some degree of association between these factors. Mean Factor 6 shows weaker correlations with other factors compared to Mean Factor 2 and Mean Factor 1. Overall, the pairwise correlation analysis provides insights into the relationships between different mean factors. These correlations can help identify patterns and potential underlying concepts shared between the factors. However, it's important to remember that correlation does not imply causation and further analysis would be needed to understand the underlying mechanisms driving these relationships.

Table 7
One way-ANOVA Result

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	142.889	5	28.578	115.625	.000[b]
	Residual	82.798	335	.247		
	Total	225.687	340			

a. Dependent Variable: MeanFactor2

b. Predictors: (Constant), MeanFactor8, MeanFactor1, MeanFactor3, MeanFactor6, MeanFactor5

In summary, the regression model with Mean Factor 1, Mean Factor 3, Mean Factor 5, Mean Factor 6, and Mean Factor 8 as predictors significantly predicts Mean Factor 2. However, further analysis of individual predictor coefficients and their associated p-values is necessary to understand the unique contribution of each predictor to the model. Overall, this regression analysis provides valuable insights into the relationship between these factors related to soft skills and Mean Factor 2.

Table 8
The Regression Model for the Prediction of Problem-solving Skills as Predicted by the Remaining Variables.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.796[a]	.633	.628	.49715	.633	115.625	5	335	.000

a. Dependent Variable: MeanFactor2

b. Predictors: (Constant), MeanFactor8, MeanFactor1, MeanFactor3, MeanFactor6, MeanFactor5

This model summary essentially tells us how well the regression model fits the data and how much of the variation in the dependent variable (Mean Factor 2; problem-solving and decision-making skill) is explained by the predictors (Mean Factor1, Mean Factor 3, Mean Factor 5, Mean Factor 6, and Mean Factor 8). As data in the Table indicates, R = .796 means the identified predictor variables account for 79.6% of the variation in problem-solving and decision-making skills.

DISCUSSIONS

The findings from the qualitative data indicate that the interview participants have a good knowledge of the concept of soft skills, including their importance for graduates' employability. These definitions coincide with those given by Moss and Tilly (1996) and by Geel (2017) for soft skills described as the individual's development of communication, numeracy, information technology, and learning how to learn. The relevance of soft skills was also underlined by Gerson and Gerson (2014) since they help show how the candidate is different from all the other applicants. The findings further revealed that the current status of soft skills was rated average by the trainees, with communication skills with lower ratings, with statistically no significant gender differences for all of the factors. These findings agree with studies by Carnevale and Smith (2013) and Ortiz et.al (2016), emphasizing the importance of soft skills for employability. Nguyen (1998) stresses the importance of the ability to communicate effectively with peers, employers, clients, and the community; and graduates should be bilingual. A study by Omar and Rajoo (2016) also underlined the importance of this skill during recruitment processes and indicated that both employers and graduates perceived that having poor communication skills is one of the main reasons for graduates being unemployed, which is also true to the findings of this study.

The qualitative findings also indicated that the TVET curriculum has some elements of a soft skills component. However, due to a lack of qualified instructors, it was difficult to offer soft skills training in their respective polytechnic colleges. This finding is consistent with the findings of Zeleke (2022), who stated that new TVET graduates lack soft skills as perceived by private firms in Addis Ababa, Ethiopia.

The quantitative findings further suggest that a combination of soft skills significantly influences Mean Factor 2, i.e., Problem-solving and decision-making skills. Hove (2011) also states that these skills, which he calls critical thinking, enhance the employability of graduates and enable any individual to survive in unaccustomed surroundings. The findings again indicated that all the soft skills explain 79.6% of the problem-solving and decision-making skills, which implies that these skills are dependent on other factors. This further implies that improving these skills will improve the problem-solving and decision-making capacities of polytechnic college trainees. ICTVT (2017:340) also states that "Job seekers in the 21st century must be able to find logical solutions to the problems and they also must be able to make effective decisions". Studies by Karla et.al (2022) also underlined the importance of problem-solving skills. All the above discussions highlight the significance of problem-solving and decision-making skills in the workplace for employees to cope with the fast-changing working conditions during this time of globalization.

CONCLUSIONS AND IMPLICATIONS

The data in this study indicated average mean ratings for all eight soft skills, meaning the competencies of the polytechnic colleges are not good enough to enable the graduates to get employment after their graduation. The ratings further indicated no significant differences between males and females across the eight employability skills, suggesting similarity or agreement among the two groups of respondents. On top of this, Shashemene Polytechnic College tends to have lower mean scores in interactive skills compared to several other polytechnic colleges, as indicated by the statistically significant mean differences, except for only two polytechnic colleges, i.e, Misrak and Wingate Polytechnic colleges in the capital, Addis Ababa. This further requires an in-depth investigation of why Shashemene Polytechnic College is significantly different from other colleges in Ethiopia. In general, the policymakers at different levels ought to pay attention to incorporating employability skills in the existing polytechnic college curriculum and develop the capacity of

the instructors in the colleges to teach these skills to their trainees before their graduation. Above all, concerted efforts are demanded to be put in place between the federal government, regional governments, TVET agencies at different levels, NGOs working on the TVET sector, and polytechnic colleges to improve the current status of the employability skills being offered in these colleges in Ethiopia.

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ACCOUNTABILITY PRACTICES IN ETHIOPIAN PUBLIC RESEARCH UNIVERSITIES

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ABSTRACT

This study assesses the practice of accountability dimensions and their mechanisms in public research universities in Ethiopia. The study employed a mixed-method survey design. The primary quantitative data were collected from 343 respondents (instructors) through a questionnaire, while for the qualitative data, 29 participants (vice presidents, deans, directors, division heads, instructors, and student union leaders) were consulted through interviews. Furthermore, secondary data were gathered from various documents. The analysis of the data shows that there is a deficiency in the practice of accountability domains at public research universities. In addition, the study indicates that the existing policy document frameworks could not devote attention to the accountability system implementation in the respective universities. It also finds out that the academic leader's reaction to the deficiencies in accountability is a lack of commitment and dedication. This study recommends that the universities and the government prioritize the development and enforcement of robust policy frameworks. Future research should also explore various strategies that enhance the effective implementation of accountability systems in public research universities, thereby ensuring the quality of graduates from these institutions.

INTRODUCTION

Higher education institutions play crucial roles in the socioeconomic and political development of a country. To effectively contribute to these goals, they require a robust and efficient governance framework. Accountability is a vital component of this governance model (Jreisat, 2018). In a broad sense, accountability is often used interchangeably with various evaluative yet fundamentally contentious concepts such as effectiveness, responsiveness, and responsibility. However, in this article, "accountability" is defined more specifically as the relationship between a governing body (the government) and actors (the research universities). In this context, the actor must justify and explain their actions, while the governing body has the authority to inquire, make decisions, and potentially impose consequences. This relationship emphasizes ex post facto governance mechanisms over ex ante inputs (Boverns, 2007).

The realization of an accountability system requires a transparent strategy and consequences established by the government through policy documents to ensure that public higher education institutions achieve their goals (Kai, 2009; O'Mahony, 2020). A strong accountability system is believed to enhance educational quality in several ways through informing the public about the state of higher education, setting clear expectations, influencing the behavior of administrators and students, and emphasizing students' outcomes (Leveille, 2006). Consequently, much of the emphasis on accountability in government policy documents tends to be rhetorical (Huisman & Currie, 2004). While governments advocate for accountability measures, they often fail to implement the policy tools effectively. Furthermore, consequences are infrequently enforced, and processes are typically prioritized over outcomes (Raza, 2009). As a result, actualizing accountability measures in operational settings remains unrealistic. For instance, Dea and Oumer (2017) found that despite numerous government initiatives aimed at ensuring accountability in public universities, the institutions often

lack transparency and accountability. Moreover, Salmi (2009), noted that public universities often lack accountability in their operation for achieving their intended goals. Therefore, examining the accountability practices in Ethiopian public research universities could enhance the effectiveness of university governance.

The modern higher education is young and growing sector in Ethiopia which began in 1950's with the establishment of University College of Addis Ababa. It faced on going challenges in the areas of quality, resource, relevance, academic freedom and equity. Moreover, there is also lack of systematic quality assurance strategy (Molla, 2019; Tareke et al, 2024). Ethiopian's governance system of the forty-six (46) public universities is centralized. Ministry of Education oversees public universities through developing policies, rules, procedures and guidelines for administration, academic standards and providing resources. They categorized into four types based on their missions: research universities, universities of applied sciences, comprehensive universities, and science and technology universities (Hunde, 2023). This study focuses on research universities, which are allocated substantial resources to achieve their objectives. Public universities in Ethiopia were governed and funded from the government budget by the Higher Education Proclamation 1152/2019. Since private and other research universities are funded and owned by shareholders and sole owners, issues of accountability like public institutions related to resource utilization is not as such their concern. But ensuring accountability for the actions and decisions of leaders in public institutions is crucial for supporting their effectiveness and efficiency. Besides, accountability mechanisms are essential for measuring and tracking resource utilization, evaluating the quality and relevance of training, assessing research outcomes, and understanding the roles universities play in the local economy.

Various studies, including those by Salmi (2009), Lerra (2019), Zeleke and Dea (2017), Lerra and Oumer (2017), and Al-Hasan (2021), indicate that the practice of accountability in higher learning institutions in Ethiopia and other developing countries is inadequate. While existing studies address accountability in all higher learning public institutions, they lack a specific focus on public research universities, which consume significant resources from the government. This work contributes to the limited research and literature on accountability system practices in public research universities. Thus, ensuring accountability in these universities is essential for achieving their goals. Consequently, this study aims to assess the practice of accountability systems in public research universities in Ethiopia. Filling in this gap will provide us with useful information about how the accountability system works and contribute to the literature on accountability practices in developing nations.

LITERATURE REVIEW

Accountability Classification

It is better to comprehend the many forms of accountability in higher education institutions. This article employs Romzek's (2000) all-inclusive framework to analyze various accountability relationship types as degree of autonomy (high or low) and expectation sources (internal or external). Furthermore, the author classified accountability into political, legal, professional, and hierarchical dimensions. Internal controls and close supervision of employees with limited job autonomy form the basis of hierarchical accountability relationships. It is a relationship between a supervisor and a subordinate. Moreover, the most evident instances of hierarchical accountability are regular performance reviews and direct supervisors. Legal accountability relationships require rigorous external performance inspection. This type of accountability is taken as the most transparent form of accountability, as it emphasizes compliance with policy directions (Christie, 2018).

In several countries, the focus has shifted from professional to political accountability as national governments began to grant higher education institutions greater autonomy while simultaneously pushing them to work at higher standards. Unlike legal or hierarchical accountability systems, political and professional accountability systems consider situations when an individual or organization has far more freedom to carry out relevant tasks. Professional accountability is about compliance of professional officials to a set of norms, rules and practices of a professional character that is technical and ethical, which is distinctive of the profession, established by the profession itself (Bovens, 2007). But political accountability tends to use outcomes as the main factor for evaluation or performance instead of conformity with professional leaders rules and procedures. In this regard, all dimensions of accountability system contribute to the effectiveness and efficiency of the public universities.

Despite the positive contribution of accountability system practice for the goal attainment of public research universities, scholars in the area, like Briskin, J. L., & Gunsalus (2025) and Robishaw (2020), argued that it often leads to an overemphasis on compliance with rules, which can muffle creativity and innovation in public institutions. Besides, its realization also faced criticism for compromising institutional autonomy. Therefore, public research universities need to seek a balance that enhances their achievement of objectives in research, teaching, and community service operations.

Accountability Mechanisms

In higher education institutions, accountability systems are essential for guaranteeing academic leaders' decisions and actions answerable. Accordingly, Saint (2009) identified five strategies for holding higher education responsible for its performance. Following a period of testing and assessment, university strategic planning is a well-known method for guaranteeing responsibility in higher education institutions (Ekong & Plante, 1996). According to Ethiopia's Higher Education Proclamation Law of 2019 article 45 sub-article 2 (b), for example, one of the duties of university governing boards is to study, examine, approve, and oversee the implementation of the institution's annual and strategic plans. It is a crucial tool for evaluating the institution's performance in relation to the goals established in the years of its strategic plan, including the annual goals.

The other strategy is to increase an institution's "social accountability" by including members of many stakeholders that represent investors or beneficiaries to the governing board (Salmi, 2007). This makes it possible for groups that are worried about the university's performance to voice their concerns, offer possible adjustments, and track institutional fortunes from the board of governance. In recent years, there has been a global tendency to increase the number of board members from outside the university campus while simultaneously limiting the number of members within the university community. One emerging new trend is the use of stakeholder representation on university academic boards. This seems to be done to ensure that employer perspectives are considered in the scholarly debate on minimum standards, course design, and curriculum content. This also includes the actual fulfillment of political and judicial accountability. The purpose of financial audits is to reassure the government and the public that their funds are being used wisely and effectively. Consequently, practically in every country, colleges are mandated by law to present audited annual financial statements. Both the Auditor General and internal audit of each university oversee financial auditing of universities in Ethiopia.

To ascertain whether stakeholders are receiving educational value in exchange for their financial investments, quality audits (also known as academic audits) are conducted. In Ethiopia, as indicated by Higher Education Proclamation 2019, the performance audit higher education

institutions is also aligned with the financial audit run by internal auditors within the universities and externally handled by the Federal Auditor General Office as well as Education and Training Authority (in charge of academic aspect).

One way to ensure responsibility for institutions is through developing regulations requires universities to release reports on their accomplishments of short-term and long-term objectives. According to Ethiopian Higher Education Proclamation, public universities are required to provide reports to the respective Boards, Ministry of Education and Capacity Building Standing Committee on a quarterly, semiannual, and annual basis. As a result, the respective boards, agencies, and standing committee can impose accountability based on the report generated in juxtaposition with the goals of strategic plan.

The Ethiopian Education Policy of 2023, Higher Education Proclamation No. 1152/2019, the Ethiopian Federal Government Procurement and Property Administration Proclamation No. 649/2009, and the Federal Government of Ethiopia Financial Administration Proclamation No. 648/2009 determine public university funding from the government treasury and its utilization for their operation. These policy documents lack due attention to accountability system realization. They overlooked the explicit mechanisms to be used for ensuring accountability in public research universities.

BASIC QUESTIONS

1. To what extent is the accountability system practiced in public research universities in Ethiopia?
2. What mechanisms of accountability systems are in place in public research universities in Ethiopia?

METHODOLOGY

Research Design

This study employed a concurrent mixed-method approach that combined both quantitative and qualitative data. The quantitative data were collected using a questionnaire, while the qualitative data were collected using semi-structured interviews and document analysis. Concurrent mixed method design involves collecting and analyzing data simultaneously in this study. This kind of design provides the opportunity for better understanding of the problem questions (Creswell, 2012; Neuman, 2006) and helps to minimize the risk of reliability, validity, and subjectivity issues (Philip & De Bruyn, 2013; Skordoulis, 2004).

It is widely agreed that mixed methods designs generate more reliable and credible findings than any single method used (Boyd et al., 2012; Molina-Azorin, 2012). This study gave equal emphasis to both quantitative and qualitative data. According to Creswell (2012), mixed methods help gain a broader perspective from diverse sources of data or from various study groups within the study.

Population, Sample and Sampling Techniques

The population of this study was the eight research universities, since they consume substantial amount of resources from the government. Moreover, they are first generation and well experienced higher learning institutions in the country. Hawassa University, Bahir Dar University, and Haromaya University were randomly selected as a sample for this study. The target population was the entire academic community of the three sampled public research universities that comprises academic leaders (vice presidents, directors, deans, and department heads); active academic staff

(both Ethiopian and expatriate); administrative staff (internal audit directors, institutional quality enhancement directors, and finance directors); and student council members who had served for at least one year. To maintain the anonymity of the institutions, each university was identified by RU1, RU2, and RU3; RU stands for Research University. Additionally, other important actors in ensuring accountability were included as data sources to offer various perspectives. These were the Education and Training Authority, the Ministry of Finance, the Ministry of Education, and the Federal Auditor General.

Based on the standard table of estimation, the confidence level of intervals of 95% and 5% recommended by Cohen (2018, p. 206), 365 samples considered from a target population of 5,426 comprised of the three sampled universities. Furthermore, 10% (37) were added to the sample size, which was increased to 402 in order to minimize the sampling error and avoid unexpected technical complications. 60% of middle-level academic leaders were sampled due to their small proportion of the total population.

Participants for quantitative data of this study were academic leaders and academic staff, while those for qualitative data were vice presidents (one from each sampled university), six deans, fifteen directors (quality enhancement, academic program, finance, internal auditors, federal auditor general, and education and training authority), three student council leaders who had worked at the sampled universities for more than a year, six senior instructors, one division head from the Ministry of Finance, and two experts from the Ministry of Education. To maintain the anonymity of participants, acronyms VP1 to VP3 for vice presidents, D1 to D6 for deans, DI1 to D15 for directors, SC1 to SC3 for student council leaders, SI1 to SI6 for senior instructors, DH, and E1 and E2 for experts are used.

The selection of academic leaders and administrative and academic staff was done using a multi-stage sampling technique. Departments were randomly chosen from their respective colleges, schools, and faculties following the random selection of colleges, schools, and faculties. A random sampling technique was used to choose middle-level academic leaders and instructors from each sampled university. On the other hand, key informants for the interview were purposely selected based on their position, their experience, and their expertise related to the topic under study.

Data Collection Instruments

This study employed three data collection instruments. These are a survey questionnaire, a semi-structured interview, and a checklist for document analysis. A 5-point Likert-type questionnaire consisting of 23 items for the four accountability dimensions (hierarchical, legal, professional, and political) was developed. In addition to the closed-ended questions, the questionnaire also includes some open-ended questions to allow the respondents to express their opinions on the practice of the accountability system in their universities.

Table 1: Cronbach Alpha Results for Survey Instrument

Constructs	Items	Cronbach's alpha
Hierarchical Accountability	5	0.89
Professional Accountability	6	0.92
Legal Accountability	6	0.84
Political Accountability	6	0.84

The items were reviewed by the panel of four senior experts in the area from Addis Ababa University to ensure content validity. The experts reviewed the items for clarity, relevance, and alignment with the research objectives. Face validity was established, and the instrument's reliability was assessed using Cronbach's coefficient alpha. As can be seen in Table 1, according to Ahdika (2017), the inter-item reliability of all dimensions of the questionnaire is very high.

Qualitative data was collected using two methods: document analysis and semi-structured interviews. Document analysis was aimed at identifying and providing evidence of the formal accountability mechanisms in public universities. The documents reviewed were the Ethiopian Higher Education Proclamation (2019), the Ethiopian Education Policy (2023), Ethiopian Federal Government Procurement and Property Administration Proclamation No. 649/2009, the Federal Government of Ethiopia Financial Administration Proclamation No. 648/2009, the sample universities' legislation, and different books and articles. The semi-structured interview protocol was developed to get in-depth insight into the actual practices of the accountability system.

Data Analysis Methods

The researchers collected and analyzed the quantitative and qualitative data concurrently. The data collection was made at a convenient time for respondents. The data were organized and managed using SPSS Version 24.0. The data were then computed for descriptive statistics, including frequencies, percentages, means, and standard deviations.

Qualitative data were collected using semi-structured interviews. By establishing good rapport with the interviewees, we scheduled interviews at times that were convenient for them. Accordingly, we conducted the twenty-nine interviews at informants' chosen locations, with each session lasting between one hour and twenty minutes and one hour and forty minutes. Some interviews were tape-recorded. All qualitative data were transcribed and categorized into themes based on the research questions. The researchers then employed content and thematic analysis to uncover insights into the dimensions and mechanisms of accountability practices and synchronized views to respond to the research questions from various informants. The key findings from both the quantitative and qualitative data were combined to create a comprehensive synthesis of accountability practices in public research universities in Ethiopia. Ultimately, we drew conclusions and validated our findings as the analysis unfolded (Cohen et al., 2007).

Since this study involved interactions with human beings, it strictly adhered to ethical protocols for data collection and analysis. The researchers engaged with relevant stakeholders at all administrative tiers to confirm participants' willingness and support for the data collection activities. Participants were assured of the confidentiality of their responses. Additionally, to ensure anonymity in the analysis, acronyms were used to represent participants.

RESULTS AND DISCUSSIONS

The analysis and interpretation of quantitative and qualitative data types were conducted simultaneously, enabling us to triangulate findings and enhance the validity of our results. The analysis and interpretation of quantitative and qualitative data types were conducted simultaneously, enabling us to triangulate findings and enhance the validity of our results. The findings were also discussed in relation to other scholars empirical findings and theories.

Hierarchical Accountability

It refers to the structured relationships of the university organs where individuals and work units held accountable for their actions and decisions. Table 2 below shows that descriptive statistics

for hierarchical accountability practice as perceived by respondents.

Table 2: Descriptive Statistics for Hierarchical Accountability

No	Items	Participants							
		Instructors			**Academic Leaders**			**Av. Mean**	**SD**
		N	**M**	**SD**	**N**	**M**	**SD**		
1	Adherence to established legal rules and procedures	244	2.36	1.10	99	2.43	1.14	2.38	1.12
2	Periodic performance review	244	1.63	..91	99	1.53	.89	1.60	.90
3	Fair and just treatment of staff	244	2.41	2.90	99	2.41	1.13	2.41	2.52
4	Institutionalized accountability arrangements to prevent corruption	244	1.68	.89	99	1.71	.92	1.69	.90
5	Mechanisms to which academic leaders hold themselves accountable	244	1.59	.80	99	1.83	1.03	1.66	.88
	Average Mean and Std. Deviation							2.35	.85

NB: Mean (M) < 2.5= low; mean ≥2.5 and <3.5 = medium; and mean ≥3.5 = high; N = 343.

As indicated in Table 2, items 1 and 3, the practice of adherence to established legal rules (M=2.38) and procedures as well as fair and just treatment of staff (M=2.41) were not favorably rated by the majority of the respondents, as the mean scores are under 2.5 of the average mean value that indicates the practice is languishing. In the same table, item 2, the practice of periodic performance review (M = 1.6, SD = .90), and item 4, institutionalized accountability arrangements to prevent corruption (M = 1.71, SD = .92), were also rated as low by the majority of the respondents. This shows that working with established rules and procedures, fair and just treatment of staff, periodic performance reviews, and institutionalized accountability arrangements to prevent corruption needs more enhancement and improvement. In this sense if the accountability system was not institutionalized and robust enough in these public institutions prevalence of corruption was unquestionable. This finding corroborates Larre's (2019) finding, which found that the trends of hierarchical accountability were not well recognized and need to be ameliorated.

Regarding Item 5 of Table 2 about mechanisms by which academic leaders hold themselves accountable, the majority of the respondents were rated low (M = 1.66, SD = .88). Academic leaders rate themselves concerning their own accountability mechanism, and in this case, they may think that it is softer than the instructor's rating, respectively (M = 1.89 and M = 1.50). Moreover, as indicated in the table above, the standard deviation values for all items are near to 1. This suggests that the dispersion of the data is consistent, in which they are clustered closely around the mean. Thus, mechanisms in which the academic leaders hold themselves accountable need to be redesigned in a way that they can realize accountability. The analysis of data indicated that the hierarchical

accountability is poor (Average M = 2.35, SD = .85). This indicates that the practices of hierarchical accountability were not well standardized. In this dimension of accountability, the practice of what is indicated in the policy document becomes loose, since the actors up the ladder couldn't give due attention for the issue of accountability. It may show the practices of inequity, poor accountability, mal-governance, and corruption. This outcome aligns with Al-Hasan's (2021) findings that showed institutions exhibit a weak status of accountability, characterized by inequality, mismanagement, and corruption.

The qualitative data also indicate that, although the principle of hierarchical accountability exists, it is not often reflected in practice. Majority of the interview participants pointed out that hierarchical accountability is not as per the rules and regulations. Moreover, most of the key respondents indicated that despite the designed policy document like HEP1152/2019, the universities' compliance with the established rules and procedures was under question. The expert from Ministry of Education stated his perception on this issue as:

> I think there is no problem with the written directives on hierarchical accountability. The issue is about insufficient measures taken to realize it. In my view, to practice accountability efficiently, more action is needed. I mean, measures that can be a lesson to others need to be taken, (E1).

Most of the key informants revealed that the accountability mechanisms that hold academic leaders responsible and accountable for their actions are not systematized and no one is enforcing them in the real world of work. Moreover, they emphasized that the culture of working in a fair, open, and transparent system to realize accountability has deteriorated.

Therefore, despite the rules and regulations document that is designed as a guiding legal framework for academic leaders to attain the university's goal, the practice of hierarchical accountability and its mechanisms was poor. This finding supports Romezk's (2000) analysis of accountability, which emphasized that while the concept is straightforward in theory, it becomes more complex and elusive in practice.

Professional Accountability

Professional accountability is the other domain of accountability. To assess the practice of this accountability domain, six items were rated by the respondents. As presented in Item 1 of Table 3 below, the role of academic leaders in compliance with established technical standards in the profession was not rated favorably by most of the respondents (M= 1.65, SD= .90). Similarly, the respondent's rating to the issue 'academic staff evaluation is grounded in academic standards of competence' was low (M=1.90, SD=1.05). Most of the respondents' ratings for Items 3 (M=1.72, SD=.93) and 4 (M=1.67, SD=.88) show that the academic staff were not invited to give input as well as feedback for both state and institutional policies and procedures respectively. This result shows that the professional contribution of the scholars in the higher learning institutions for national and institutional policy improvement is very limited. In this regard the invitation and the participation process to contribute their professional input seem problematic in public research universities.

Moreover, assisting staff in professionalizing management practices in a desirable way was rated below the average mean (M= 1.69, SD= .91). The practice of discharging responsibilities with professionalism and integrity and to the best of their capabilities of the academic leaders was not favorably rated by the majority of the respondents (M=1.99, SD=1.05).

The practice of professional accountability as a dimension was rated below the average mean (M = 2.39, SD = .87) by most of the respondents. Moreover, as indicated in the table above, the standard deviation values for all items were around 1. This suggests that the dispersion of the

data is consistent, in which they are clustered closely around the mean. Thus, notwithstanding the conceptualization of professionalism and code of conduct, the culture of putting the theory into practice is still at the infant stage in those universities. Besides, the practice of academic staff assessment based on the core missions needs to be improved with attention. The trend of inviting academic staff to give inputs and criticize the design and improvement of both state and institutional policies and directives is not motivating. Therefore, utilizing the scholar's potential to give feedback for policy development and improvement should be the role of the government and the institutions.

Table 3: Descriptive Statistics for Professional Accountability

No	Items	Participants							
		Instructors			**Academic Leaders**			**Ave.**	**SD**
		N	**M**	**SD**	**N**	**M**	**SD**	**M**	
1	Compliance with established technical standards in the profession	244	1.69	.95	99	1.57	.79	1.65	.90
2	Staff assessment is competence grounded in academic standards of	244	1.91	1.05	99	1.89	1.07	1.90	1.05
3	Invite academic staff to provide inputs on state policies	244	1.76	.96	99	1.62	.85	1.72	.93
4	Invite scholars to provide feedback on institutional policies and practices	244	1.70	.91	99	1.61	.81	1.67	.88
5	Assist staff in professionalizing management practices in a desirable way	244	1.67	.90	99	1.75	.95	1.69	.91
6	Discharge their responsibilities with professionalism, integrity, and to the best of their capabilities.	244	2.00	1.06	99	1.98	1.03	1.99	1.05
	Average Mean and Std. Deviation							2.39	.87

NB: Mean (M) < 2.5= low; mean ≥2.5 and <3.5 = medium; and mean ≥3.5 = high; N = 343.
Source: Field data, 2024.

The qualitative data analysis happened to strengthen the findings of the quantitative data. Most of the participants in the interview affirmed that adherence to the professional standard, evaluation of academic staff based on the core activities, invitation of the scholars to criticize both the state and the institution policies, and assisting the staff in professionalizing the management practice are not successfully practiced, even though they were stated on the policy document. This result agreed with the empirical finding of Zeleke and Dea (2017) which showed that the organizational culture of professional accountability and vibrant intellectual discourse and scholarly dynamism that characterize academic life in universities was not comprehended. The opinion from the director of the Education and Training Authority expressed below would best support the result.

> My opinion about the professional accountability issue is theoretically just perfect. When we see the practical aspect, really it has been deteriorating from time to time. To me, one of the best mechanisms is quality auditing to ensure professional accountability. Quality has become a nationwide agenda as knowledge and skills graduates acquire is inadequate. This is vivid nationwide challenge. In my view, the realization of this accountability type is under question (D11).

Nearly all interview participants agreed that the inadequate implementation of quality audits is prevailing currently in public research universities. Since quality audit is the key mechanism for ensuring professional accountability, it requires more focus from the Education and Training Authority. Hence, the absence of an effective accountability system to ensure responsibility for actions and decisions, the reluctance of academic leaders to fulfill their roles, the imbalance between autonomy and accountability, and the lack of a comprehensive monitoring and evaluation framework were clearly acknowledged in public research universities of Ethiopia.

Legal Accountability

Legal accountability is one of the dimensions of the accountability system. It is concerned with the realization of policies, rules, and regulations to meet the needs and expectations of the stakeholders of public universities. The establishment of internal disciplinary measures and a robust accountability system forms the foundation of governance in public universities, fostering an environment where academic leaders recognize their legal responsibilities (Sadker & Zittleman, 2010). Moreover, legal accountability primarily focuses on the degree to which all stakeholders in public universities are responsible for their strategic decisions and actions in alignment with established priorities (De Waal, 2011). In this regard, Table 4 below presents the rating of six statements used to assess the extent of legal accountability practice in their respective universities.

Table 4: Descriptive Statistics for Legal Accountability

No	Items	Participants							
		Instructors			**Academic Leaders**			**Av.**	**SD**
		N	**M**	**SD**	**N**	**M**	**SD**	**M**	
1	Respect academic freedom and fundamental rights	244	2.44	1.08	99	2.58	1.18	2.51	1.11
2	Create codes of ethics to guide University communities	244	2.38	1.06	99	2.41	1.02	2.39	1.05
3	Prevent discrimination, harassment, and violence	244	2.36	1.17	99	2.23	1.14	2.32	1.16
4	Disclosure of relevant documents, procedures, and policies	244	2.31	1.12	99	2.35	1.10	2.32	1.11
5	Carry out your duties in accordance with the highest ethical and scientific standards	244	2.47	1.17	99	2.33	1.13	2.43	1.16
6	Legal mechanisms to hold accountable	244	2.33	1.14	99	2.51	1.06	2.38	1.12
	Average Mean and Std. Deviation							2.27	.79

NB: Mean (M) < 2.5= low; mean ≥2.5 and <3.5 = medium; and mean ≥3.5 = high; N = 343.
Source: Field data, 2024.

As shown in Table 4 above, most of the respondents (M=2.51, SD=1.11) rated the practice of respecting academic freedom and fundamental rights of academic staff as medium. On the other hand, creating professional codes of ethics to guide university communities was rated below the average mean (M=2.39, SD=1.05). One can observe from the same table that most of the respondents rated the practices of prevention of discrimination, harassment, and violence; disclosure of relevant documents, procedures, and policies; discharge of their responsibility with the highest ethical and scientific standards; and availability of legal mechanisms that hold academic staff and leaders accountable for their actions slightly below the average mean. It indicates that despite the positive trends in public research universities regarding the respect for the academic and fundamental rights of staff, there is a deficiency in the policy and procedural documents concerning legal accountability mechanisms. The Ethiopian Education Policy of 2023 couldn't indicate the accountability domain in the governance of educational institutions.

The qualitative data also strengthen these findings. Most of the interview participants pointed out that academic and fundamental rights were relatively respected in their respective universities. But nearly all of the key informants emphasized that the enforcement of a legal framework to ensure legal accountability is still in its infancy. One of the challenges they pinpointed was that informal

group networks become more influential than formal ones as ethnic-based nomination of the university leaders is in practice. The other challenge they emphasized is that leaders lack dedication and belonging for institutional development and fighting corruption. The division manager from the Ministry of Finance stated,

> In my opinion, public research universities are working within the rules and directives of the ministry, especially regarding financial resources, but the challenge is poor enforcement of the procedures to ensure efficiency through financial auditing. Both the ministry and the Federal Auditor General are poor at acting. But everyone talks about written policies without measure, which can be a lesson for others (DH1).

The qualitative findings avowed that the failure of the university leaders to enforce the available policy documents emanated from lack of commitment and dedication on the part of academic leaders and ethnic and political commitment-based nomination of university leadership. This finding is consistent with the finding of Dea and Oumer (2017), which revealed that the practice of legal accountability is weak in public universities in Ethiopia. Besides, even though Ethiopian Higher Education Proclamation 1152/2019 dictates the auditing and reporting system of the public higher learning institutions, it couldn't explicitly show the accountability mechanisms.

Political Accountability

Political accountability is one of the dimensions of accountability in public research universities, which can be enforced by external stakeholders to meet their needs and expectations from the institutions. The main concern for this domain is the responsiveness of the government to the nation's needs and expectations (Brinkerhoff, 2001). Thus, this section analyzes the seven variables of political accountability, which measures the extent of its practice in public research universities.

As can be seen from Table 5 the realization of political and programmatic provisions from the government was rated favorably by most of the respondents (M=2.58, SD=1.16). This implies that leadership in public research universities is committed and dedicated to realizing provisions and directions given by the state. This may be because their assignment was also driven by the political party commitment. The academic leader's transparency in information disclosure was rated not favorably by most of the respondents (M=2.30, SD=1.13). It infers that although transparency is the pillar for accountability, its practice was not well adapted in the public research universities.

The participation of academic staff in decision-making was rated below the average mean by most of the respondents (M=2.33, SD=1.20). Similarly, tolerances for different views and opinions were also rated below the average mean by most of the respondents (M=2.38, SD=1.09). It can be inferred that the academic leaders' reluctance toward participatory decision-making stems from a limited tolerance for divergent thinking in public research universities.

Table 5: Descriptive Statistics for Political Accountability

No	Items	Participants							
		Instructors			**Academic Leaders**			**Av.**	**SD**
		N	**M**	**SD**	**N**	**M**	**SD**	**M**	
1	Implementation of political and programs from the government	244	2.60	1.18	99	2.51	1.12	2.58	1.16
2	Transparency in information dissemination	244	2.22	1.13	99	2.48	1.16	2.30	1.13
3	Participative decision making	244	2.32	1.21	99	2.34	1.17	2.33	1.20
4	Tolerance towards different views and positions	244	2.37	1.09	99	2.41	1.09	2.38	1.09
5	Internal and external supervision and control mechanisms	244	2.21	1.09	99	2.40	1.10	2.27	1.09
6	Fulfillment of socioeconomic and political rights	244	2.37	1.14	99	2.53	1.16	2.41	1.14
	Average Mean and Std. Deviation							2.43	.82

NB: Mean (M) < 2.5= low; mean ≥2.5 and <3.5 = medium; and mean ≥3.5 = high; N = 343.
Source: Field data, 2024.

The practices of internal and external supervision and controlling mechanisms based on university performance were low as rated by most of the respondents (M=2.27, SD=1.09). Correspondingly, the intention of working to fulfill socioeconomic and political needs and expectations of nations in public research universities was rated below the average mean by most respondents (M=2.41, SD=1.14). In general, the practice of political accountability was not rated favorably by most of the respondents (Average M= 2.43, SD= .82). Moreover, as indicated in the above table, the standard deviation values for all items are around 1. This suggests that the dispersion of the data is consistent, in which they are clustered closely around the mean. The findings indicated that there are non-productive internal and external supervision mechanisms in practice that only focus on the ranking of the universities, and the institutions were not committed to satisfying the interest of the public at large; rather, they were dedicated to realizing the political interest of the state.

Besides quantitative data, qualitative data show that the responsiveness of the public research universities was not up to the expectations of their stakeholders. From the document review of Higher Education Proclamation (2019) and the sample universities' legislation, the issue of internal and external supervision and control is indicated, but the practice was poor. Most of the interviewees also indicated that the supervision and control from both internal and external bodies was just to fulfill the procedural requirement rather than taking tangible corrective measures. This

notion could be best supported by the following explanation from one of the directors in Federal General Auditor Office, expressed as:

> All public institutions work towards satisfying the interest of the public, but in our follow-up supervision, we observed how far the research universities were reluctant to accept their fault and take the corrective action. In my view, these is because of poor or no measure from the government side as well as do to the fact that their budget is program-based rather than performance-based (D13).

Moreover, nearly all of the interview participants affirmed that public research universities were more motivated to implement what is demanded by the state, especially when it has a political motive. Similarly, they pointed out that academic leaders' practices of participatory decision-making skills were poor and that they are less tolerant to divergent views from the stakeholders. To put it in other words, public research universities are characterized by the practice of political accountability—as academic leaders give more focus to political orientations than the core activities of their respective institutions. The findings of this study are consistent with the local empirical research conducted by Zeleke and Dea (2017), which identified a significant deficiency in genuine political accountability practices. Their study highlighted how this lack of accountability undermines trust in public institutions and hampers effective governance.

Almost all the interview participants explained that the strategic plan, the financial audit, the academic audit, and the performance report are the accountability mechanisms supposed to be used in the universities of Ethiopian. One of the informants (an associate professor) explained his view on the issue as:

> I am not familiar with the issue of accountability, but I heard that in a given discussion, a quality audit will be applied in our department shortly; kind of saying, I questioned what a quality audit is and who is responsible for doing it. No one is clear about it. I believe with knowledge, the answerability of our actions and decisions is needed to ensure the quality of our services (SI2).

Regarding the extent of the practice of accountability mechanisms, most of the interviewees pointed out that the strategic plan and performance report were sent to the ministry as per the policy and directives that require all universities to follow the same procedure, but they are uncertain about the impact of the review and follow-up of its implementation. Salmi (2009) also affirmed that many universities in different nations complained that the government should have put clearer planning and reporting requirements and guidelines into place. Concerning the financial and academic audit, nearly all the participants revealed that the financial audit was done by internal auditors and the report was sent to the president and the Ministry of Finance, but the measure is lagging. Not only the internal audit but also the external (Federal Auditor General) sends the audit reports to the Government Expenditure and Finance Standing Committee, though its impact has not been observed in the institutional improvement yet. One of the directors from the Education and Training Authority elaborated on it as:

> Regarding quality of academic audit, the Authority is currently designing the framework that would help us to conduct audit to both public and private universities. It is our mandate to perform this type of audit, but still, we are asking the universities to prepare their document as per the framework for the audit (D9).

It can be deduced that the accountability mechanisms practiced in public research universities were not as operational in contributing to institutional effectiveness. A strategic plan, financial audit, and performance report were tried to be implemented as per the policy directives, but the academic audit was at the infant stage. This outcome is consistent with the Ethiopian Education

Sector Development Road Map study by Tefera et al. (2017), which shows a lack of strong accountability mechanisms between policymakers, education and training providers, and users. Furthermore, the range of accountability mechanisms employed in public research universities in Ethiopia is limited. However, utilizing a variety of mechanisms could enhance the efficiency and effectiveness of the services provided by these institutions.

In a nutshell, the findings from both quantitative and qualitative methods confirm their convergence across four dimensions of accountability—hierarchical, professional, legal, and political. Even though these dimensions of accountability are stated in policy documents, their practice remained poor—though limited types of accountability mechanisms like strategic plans, financial audits, and performance reports were in place, and their practice was not successful enough to contribute to the respective public universities' efficiency and effectiveness.

CONCLUSIONS

This study assessed the practice of accountability domains and their mechanisms in public research universities in Ethiopia. The result of the research revealed that the implementation of all the accountability dimensions (hierarchical, professional, legal, and political) has significant gaps in respective universities. Besides, accountability mechanisms are not well implemented as stipulated in the policy documents, and this in turn has implications for the effectiveness of respective universities. The current Ethiopian Education Policy (2023) and Ethiopian Higher Education Proclamation (2019) do not give due attention to the issue under investigation. Overall, both institutions and the government have shown insufficient commitment to implementing an effective accountability system.

These findings would be useful for policymakers as they give insight into the current state of accountability. It could serve to help them revise the policy documents or incorporate robust accountability mechanisms and measures as well as an implementation manual. Instructors and university leaders could use the results to work on transparency and performance improvement in their respective universities. Moreover, future researchers may use these results as a springboard to conduct a related topic on public higher education institutions.

IMPLICATIONS AND RECOMMENDATIONS

The study has implications for policy makers and for educational planners and leaders. The results of this study indicate that the practice of the accountability system and its mechanisms was poor. The current policy documents do not explicitly pinpoint or address the implementation approach of accountability in public research universities. This may be because of insufficient commitment from the institutions and the government to the effectiveness of accountability systems in respective institutions.

The study suggests that policymakers should have to revisit the policy documents focusing on how to implement accountability dimensions and mechanisms in public research universities. Furthermore, they should indicate that performance-based budgeting is one of the accountability mechanisms for these public institutions rather than program budgeting. Implementing these changes could lead to ensuring the quality of education and the expected level of graduates' skills and knowledge from the respective universities. Educators and academic leaders should consider that their commitment and dedication have a lion's share in realizing the stipulated accountability mechanisms in the policy documents in attaining the goal of their respective universities. This research contributes to a better understanding of accountability domains and mechanisms in the public higher education institutions of developing nations. Further studies should explore

accountability realization in all categories of public higher learning institutions separately using samples from different stakeholders to deepen the understanding of accountability and address the problem of inefficiency in resource utilization and the gap in goal attainment across the developing nations.

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WORK ENGAGEMENT AS A MEDIATOR: LINKING ORGANIZATIONAL STRUCTURAL CHANGE TO STAFF JOB PERFORMANCE IN ETHIOPIAN RESEARCH UNIVERSITIES

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ABSTRACT

This study aims to establish the mediating effect of work engagement between changes in organizational structure and staff job performance at Ethiopian research universities. A cross-sectional, quantitative survey research method was employed. A total of 893 participants, comprising academic and non-academic staff, were randomly selected and completed the questionnaire. Descriptive and inferential statistics, including exploratory factor analysis, first-order regression, mean values, standard deviations, and structural equation modeling, were used for analysis. The findings indicate that changes in organizational structure and work engagement parameters, such as vigor, absorption, and dedication, have a significant and positive causal relationship with employee job performance. Additionally, the results show that changes in organizational structure and work engagement collectively enhance staff job performance, while work engagement mediates the relationship between changes in organizational structure and staff job performance. The study concludes that research universities exhibit a considerable degree of organizational structure change and employee involvement, which can enhance performance. Therefore, university leaders and managers should motivate employees, nurture strong working relationships, prioritize the importance of a smooth organizational structure, and encourage collaboration to unlock employees' mental and physical potential to improve their job performance.

INTRODUCTION

The world is changing into a global village through globalization, where organizations continuously compete with one another. Universities worldwide navigate this unpredictable and dynamic environment, facing increasing demands from both internal and external actors (Tipurić, 2022). To stabilize this fluctuating work environment, which impacts the culture of higher education, operational efficiency, and mission fulfillment, it is essential to strengthen workers' emotional and physical commitment. In recent decades, corporate and educational institutions have demonstrated a strong interest in long-term sustainability (Florea et al., 2013). To achieve sustainable development, industries must implement a comprehensive and long-term strategy that considers economic, environmental, and human factors (Stranzl et al., 2021). While all components are crucial for long-term organizational performance, the human factor currently receives less attention than other aspects of corporate sustainability. This human dimension includes the social environment and employee well-being, making structural cohesion and worker engagement (WE) vital for organizational survival (Kim et al., 2016). These reasons have prompted organizations to examine their peak performance and the importance of positive mental states, such as WE and healthy relationships, in promoting social well-being (Shimazu et al., 2018).

A diverse group of scholars interested in examining organizational structure change (OSCH) by offering interconnected definitions. The fundamentals are described below: effective organizational strategies depend on following policies, rules, and regulations (Hage & Aiken, 1967). John and Shafi (2020) also identified OSCH as a framework that enables task allocation and

promotes positive working relationships among employees. Additionally, John and Shafi defined it as a formal structure of roles and power relationships that governs and guides employee behavior to achieve company objectives. It is an organization's physical and spiritual anatomy, providing a skeletal framework that outlines the tasks and interactions among members and how its goals may be accomplished. Regardless of their complexity, most profitable companies have demonstrated a precisely designed operating system leading to remarkable achievements (Castillo et al., 2023).

Work engagement enjoys popularity in academia, reflecting its rise in industries and consultation. It describes an employee's relationship with their job and encompasses a connection to their organization. According to Kahn (1990), there is a dynamic, dialectical interplay between an individual who invests personal energy in their work and the work activity that enables them to express themselves. Others who view WE as the positive counterpart to burnout take a different approach. In contrast to those who experience burnout, some maintain a positive, constructive relationship with their jobs and do not perceive tasks as stressful. Consequently, the current study defines WE as "a positive, satisfying, work-related condition of mind that encompasses dedication, vigor, and absorption" (Schaufeli & Bakker, 2010).

Staff performance assessments have been a significant concern in academic research due to their substantial influence on the public and private sectors. Çalişkan and Köroğlu (2022) define SJP as follows: organizational policies and expected behavior while fulfilling duties. Borman and Motowidlo (1997a) identified two types of SJP: task performance (TP) and contextual performance (CP). TP refers to the responsibilities outlined in a person's job description, also known as in-role performance. In contrast, CP is defined as extracurricular activities that extend beyond the requirements of a formal job description (Biswas & Varma, 2012).

Scholars assert that the interaction among the constructs (OSCH, WE, and SJP) is mutually beneficial (Kaur & Jain, 2020; Meenakshi Sharma, 2023). Furthermore, a recent study has highlighted the significance of OSCH in enhancing WE on the job (Jiang & Men, 2017). The relationship between OSCH, WE, and SJP is complex; however, it affects an organization's effectiveness and overall performance. According to Meenakshi Sharma (2023), employees with high WE tend to be efficient and creative at work. In essence, such employees are generally more engaged than their peers. Nevertheless, previous research indicates that the association between WE and SJP remains ambiguous. Some scholars argue that when individuals are engaged at work, their mental, emotional, and proactive behaviors improve, leading to enhanced performance (Meenakshi Sharma, 2023; Wang & Chen, 2020). Indeed, few empirical studies examine their interaction as non-interdependent variables, despite a growing consensus regarding their interconnection (Sulaiman et al., 2023).

STATEMENT OF THE PROBLEM

The OSCH influences SJP by defining the roles and interactions needed to achieve objectives. They also shape engagement, communication, and employee autonomy, which further impact motivation and performance at work (Castillo et al., 2023). Successful companies often demonstrate the advantages of an effective structure that builds confidence among management, employees, and external stakeholders. Furthermore, the structure influences employees' perceptions of their roles, impacting their engagement and alignment with corporate objectives (Abdulrahaman, 2019).

This problem worsens because of management's inadequate commitment to the strategic plan, insufficient staff competency to ensure procedural and regulatory compliance, and low employee trust, all of which contribute to poor WE and productivity (Wossenu et al., 2019).

Ethiopia ranks lower on the world's innovation index, surpassing only Nigeria among comparable Sub-Saharan African nations in terms of higher education achievement (Salmi et al., 2017), which helps explain the performance of individuals. Despite this, a comprehensive review significantly contributes to the literature, offering critical insights for management bodies and recommendations for enhancing SJP in public HEIs. It establishes a foundation for job completion and achievement (Castillo et al., 2023). However, if not appropriately managed, a weak organizational structure can create an environment that hinders performance improvement and effective service delivery.

There are a few local studies on educational governance approaches (Befikadu & Bultossa, 2018; Mengistu, 2018; Wossenu et al., 2019). However, this local empirical research has predominantly focused on OSCH, or the one-dimensional version of SJP, failing to predict the causal effect path and the severity of correlations between OSCH, WE, and SJP. Indeed, there is little consensus among leading studies in the field. For instance, some studies find a favorable association between organizational structure and SJP (Abdulrahaman, 2019; George et al., 2019), while others report the opposite (Alipoor et al., 2017; Salmi et al., 2017). In light of this, the purpose of the current study was to investigate staff perceptions regarding discrepancies in the links among OSCH, WE, and SJP at Research Universities of Ethiopia (RUE).

RESEARCH QUESTIONS AND HYPOTHESES

1. What are the relationships among OSCH, WE, and SJP in the RUE?
   $\mathbf{H_0}$: There is no significant relationship among OSCH, WE, and SJP in the RUE.
2. To what extent do OSCH and WE dimensions contribute to SJP independently and jointly in the RUE?
   $\mathbf{H_0}$: OSCH and WE do not have a significant effect on SJP, either independently or jointly.
3. Is there a statistically significant mediation effect of OSCH on SJP via WE in the RUE?
   $\mathbf{H_0}$: WE do not mediate the relationship between OSCH and SJP in the RUE.

LITERATURE REVIEW

Organizational Structure Change

According to Castillo et al. (2023), organizational structure dictates how individuals are grouped and how their tasks are assigned and managed. An organization's structure establishes its hierarchy and authority. The structure reflects work practices, responsibility control, and communication systems. As to Ajagbe (2007), organizational structure refers to the formal division, grouping, and coordination of job tasks, and can dictate how its members behave, what attitudes to encourage, and what goals they aim to achieve. The organizational structure is separated into formalization and centralization. Centralization includes authority sharing within an organization among the hierarchy of authority and in decision-making (Johari & Yahya, 2019). Centralized decision-making occurs when authority to decide is accumulated at the top tier. The extent of formalization through which an organization dictates behavior via rules and procedures can be assessed by its level of formalization.

The changes in the organizational structure emphasize the significance of internal controls and focus on the organizational framework, departmental designations, and authority structure. This established system of work and reporting relationships governs, coordinates, and motivates employees to collaborate in achieving an organization's goals.

Staff Job Performance: An Overview

The current study focused on SJP from the perspectives of (a) task performance and (b) contextual performance. Task performance refers to actions that directly contribute to the production of products or services. As a result, several scholars view task performance as explicitly defined job behaviors, such as job duties mentioned as part of a job description (Pradhan & Jena, 2017; Yousaf et al., 2015). Conversely, contextual performance refers to actions taken by employees that go beyond their formal job descriptions (Díaz-Vilela et al., 2015). It also includes behaviors that create the social, organizational, psychological, and voluntary behaviors that positively impact the organizational environment (Aboagye et al., 2022; Kumar et al., 2021; Palenzuela et al., 2019). Contextual performance refers to actions taken by employees that go beyond their formal job descriptions (Díaz-Vilela et al., 2015; JIANG et al., 2022).

Work Engagement

Organizational practitioners have greatly credited WE for its positive effects on employee performance and well-being (Aldabbas et al., 2023; Borst et al., 2020). Experts in engagement research (Kahn, 1990) describe WE as a state where individuals use and express their physical, cognitive, and emotional selves while performing their duties. WE is a positive, overall emotional and mental state related to work, linked to persistence and dispersal. The terminologies such as dedication, vigor, and absorption characterize a positive, emotional, and motivating state of mind known as WE (Aldabbas et al., 2023; Kahn, 1990; Schaufeli & Bakker, 2010).

These terminologies carry a range of psychological and physical implications. Vigor means having significant energy and mental strength when working, a willingness to invest effort in one's tasks, even when encountering challenges. Dedication reflects being deeply engaged in one's work, which leads to feelings of inspiration, motivation, pride, and purpose (Kahn, 1990). Absorption describes being focused and happily immersed in one's work, making time seem to fly by, and creating difficulty in setting the work aside (Aldabbas et al., 2023; Kahn, 1990).

Organizational Structural Change and Staff Job Performance

According to Castillo et al. (2023), an organization can choose how its members behave, which attitudes to encourage, and what goals to pursue. It can also promote the development of cultural norms and values to achieve these desired behaviors, attitudes, and objectives. Johari and Yahya (2019) state that changes in an organization's structure impact its performance. Similarly, they observed that strong performers tend to adapt to the structure of a poorly designed system. Furthermore, Castillo et al. (2023) emphasize that managers must make several critical decisions regarding the organization's structure to implement the operational plan effectively. The organizational structure must support the strategies in place. Making decisions about relationships, communications, and activities among internal stakeholders is vital in structuring an organization.

Work Engagement and Staff Job Performance

Employees are responsible for taking initiative and sharing accountability for their WE levels. Work engagement describes the motivations, enthusiasm, and job satisfaction within organizational structures (Sypniewska et al., 2023). Understanding the connection between WE and performance levels is crucial, as every aspect of the organization affects workers and the work process. This connection has been illuminated by several experts (Aldabbas et al., 2023; Schaufeli & Bakker, 2010). According to Qalati et al. (2022), when employees feel they have greater control over their work steps, they can significantly influence the company's success or failure. In other words, high levels of WE can enhance performance. Previous research indicates that WE significantly boost SJP (Jufrizen et al., 2024; Sypniewska et al., 2023).

METHODOLOGY

In the current study, a cross-sectional survey design based on a quantitative research model was employed to assess the mediating effect of WE in the relationship between OSCH and SJP in Ethiopian research universities. The purpose is to provide a "quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population," which is beneficial for both the efficiency of the design process and the rapid acquisition of data (Creswell & Creswell, 2018).

Population, Sample, and Sampling Techniques

This study was conducted in Ethiopia, a country with over 122 million people located in the Horn of Africa. It is the world's most turbulent and strategically important sub-region. The country is home to more than 85 different ethnic groups distributed across 11 regions and two municipal governments, primarily structured along ethnolinguistic lines (Semela & Tsige, 2023). Ethiopia is one of Africa's fastest-growing countries and the second most populous, after Nigeria. The history of higher education in the country is a recent phenomenon, dating back to the 1950s. However, Ethiopia has established eight (8) of its 45 public institutions as "research universities", traditionally called first-generation universities. The three universities were selected to participate in this study using a simple random sampling technique. These universities are among the oldest in Ethiopia and are located in various regions: Haramaya University in the east, Jima University in the southwest, and Arba Minch University in southern Ethiopia.

On average, each of these universities enrolls over 25,000 students and employs more than 2,000 active academics and 4,000 non-academic staff across various campuses and programs. Samples were collected from schools, colleges, centers, institutions, and departments using a stratified sampling method, followed by simple random sampling at each university. First, the sample size was allocated to each university based on its proportion of the target population, which was calculated using percentages. The sample was then randomly selected from the different strata until respondents from the three universities were represented.

Despite having a similar academic environment, these unique university units were selected based on two key criteria. First, the diversity of colleges and other institutions would enhance and streamline data collection by allowing researchers to connect with knowledgeable non-academic and academic professionals. According to Creswell (2013), such universities can employ numerous academics and support staff, allowing researchers to build relationships and gather the data required to study the phenomenon. Secondly, we can identify experienced non-academic and academic individuals who comprehend the subject of the study.

Kline's (2018) proportional approach identified the population of interest and determined the sample size. Consequently, the minimum sample size generally recommended for fundamental structural equation modeling studies is 200. A guideline for sample size is derived from the ratio of the total number of individuals involved (N) to the number of parameters to be estimated (q), represented as (N:q), with 20:1 as the maximum ratio and 10:1 as less optimal. Generally, the credibility of SEM findings decreases as the N:q ratio falls below 10:1. Among the initial measurement models analyzed in this study, the variables had the highest number of estimable parameters: 60. Models with multiple parameters would be suitable for those with fewer parameters. This consideration accounts for individuals who were unwilling or unable to complete the survey, as well as missing or incorrect responses, which were estimated to constitute 20% of the total sample (i.e., 20% of 780 = 156). Consequently, 936 academic and non-academic staff participated in the survey. Since SEM software, specifically Analysis of Moment Structures, only provides complete analysis results and modification indices for datasets without missing values, 43 cases with missing values were excluded. This exclusion reduced the number of respondents in the study to 893.

Data Collection Tools

A survey questionnaire served as the tool for data collection in the study. The surveys were adapted from previously utilized instruments. During the adaptation process, we removed some items and rephrased others to better align with the current study's objectives. The instruments have been validated across various sectors, professions, and contexts. The questionnaire is organized into four sections: Section 1 inquires about respondents' demographics; the second section addresses OSCH; the third explores respondents' opinions on SJP; and the fourth section solicits staff attitudes toward WE. The second section of the questionnaire adapted the instrument developed by Hage and Aiken (1967) to assess the OSCH factor. The OSCH construct was assessed using 16 questions, as previously employed by Johari and Yahya (2019). The items in this section were assigned to sub-scales using a five-point Likert scale (not at all = 1, to a very great extent = 5).

The third part of the survey evaluates SJP, which is considered a dependent variable. The researchers employed a questionnaire that was designed and validated by Koopmans et al. (2014), and later by Çalişkan and Köroğlu (2022). It consists of 18 items, using a five-point Likert scale that ranges from "strongly disagree" to "strongly agree."

Section 4 seeks staff feedback on WE. For example, the instrument developed by Schaufeli and Bakker (2010) was adapted to evaluate the variable. As previously indicated, twelve questions were incorporated into the WE construct (Yao et al., 2022). This section categorizes the items into sub-scales using a 5-point Likert scale (Strongly Disagree-1 to Strongly Agree=5). As a result, all dimensions of the dependent and independent variables have an appropriate level of scale reliability (i.e., Cronbach's alpha greater than 0.70), as the lower boundary is established by Hair et al. (2006).

Data Analysis

This section outlines how the research data collected from survey participants were analyzed. Quantitative techniques were applied using descriptive statistical methods such as the mean, standard deviation, and percentage. For inferential statistics, analytical methods like exploratory factor analysis (EFA), structural equation modeling (SEM), correlational studies, and first-order regression were used.

RESULTS

Demographic Characteristics of the Participants

Table 1 shows demographic features of the survey respondents. The study included 31.2% female participants and 68.8% male participants. Among the respondents, 36.5% were under 35, while the majority (63.5%) were over 35. Furthermore, 56.9% of respondents had been with the company for over ten years, while 43.1% had been there for less than ten years.

Table 1: Demographic characteristics of respondents

Demographic Variables	Category	Frequency	Percentage	Cumulative Percentage
Institutions	Jima University (JU)	319	35.7	35.7
	Arba Minch University (AMU)	283	31.7	67.4
	Haramaya University (HU)	291	32.6	100
	Total	**893**	**100**	**100**
Staff Categories	Academic Staff (AS)	483	54.1	54.1
	Non-academic Staff (NAS)	410	45.9	100.00
	Total	**893**	**100**	**100.00**
	Male	614	68.8	68.8
	Female	279	31.2	100
	Total	**893**	**100**	**100.00**
Education Level	PhD	120	13.4	13.4
	MA/MSc	483	55.7	69.1
	BA/BSc	276	30.9	100.00
	Total	**893**	**100**	**100.00**
Age in Years	25-30	106	11.9	11.9
	31-35	220	24.6	36.5
	36-40	231	26	62.5
	Above 40	336	37.5	100
	Total	**893**	**100**	**100.00**
Work Experience	5-10	385	43.1	43.1
	11-20	433	48.5	91.6
	>20	75	8.4	100
	Total	**893**	**100**	**100.00**

Among the 603 participants, 69.1% hold a master's degree or higher, while the remaining respondents, primarily non-academic staff, possess only a bachelor's degree. Additionally, academic personnel make up the majority of respondents at 54.1%, while non-academic workers account for just 45.9%. Therefore, the respondents are well-equipped to provide the necessary information for the current research.

Measurement Models

Assessment of Model Accuracy for Organizational Structure Costs and Work Engagement Factors

The current section examines the measurement models of variables, including OSCH and employee WE. Factor loadings for each item were equal to or greater than the minimum criterion of 0.50, and the average variance extracted (AVE) values were above 0.60. These findings provide evidence for the presence of composite validity and convergent reliability. Additionally, the correlation coefficients between variables are significantly lower than the square root of the AVE for each concept. Similarly, the squared results of the construct associations appear lower than their AVE values. This observation supports the existence of discriminant validity and illustrates its appropriateness. These results were obtained using confirmatory factor analysis, a robust method for establishing reliability and validity.

Exploratory Factor Analysis for Organizational Structural Change and Work Engagement Factors

The construct of OSCH and WE was examined using exploratory factor analysis (EFA). Consequently, the measurement instruments underwent EFA. The results indicated that KMO was .891, and Bartlett's test ($p = .000$) demonstrated that the correlation matrix contained latent features. EFA identified seven components, accounting for 78.538% of the variation. However, four items were excluded from the OSCH construct due to low loading values of less than 0.50. The refined model includes four dimensions of OSCH: Factor 1: decision-making (DM), Factor 2: hierarchy of authority (HA), Factor 3: job codifications (JC), and Factor 4: rule observation (RO). Additionally, the three factors of WE are referred to as vigor (Vi), absorption (Ab), and dedication (De) (see Figure 1).

Confirmatory Factor Analysis (CFA) of OSCH and WE Factors

The CFA of the organizational structure variable and WE factors was evaluated, as shown in Figure 1.

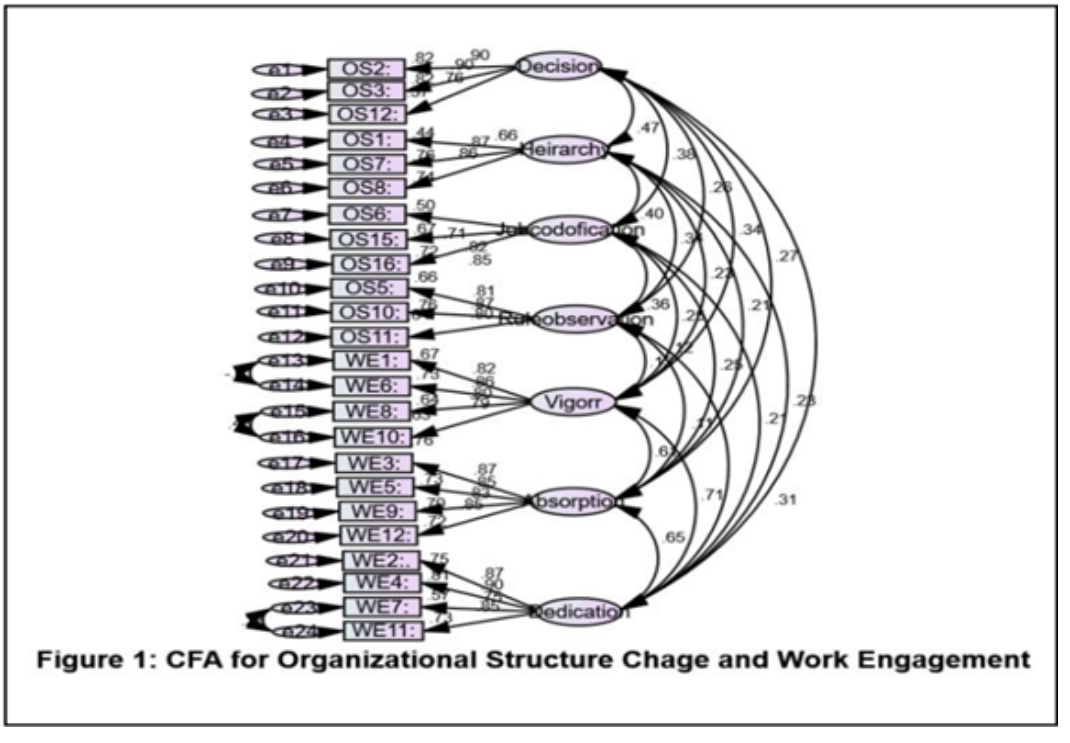

Figure 1: CFA for Organizational Structure Chage and Work Engagement

The measurement properties of the OSCH and WE variables in Figure 1 are investigated. To reach similar conclusions, CFA was also employed.

Table 2: Outcomes of the goodness-of-fit model of CFA for WE and OSCH

No.	Index	Critical value	Results	Model fit
1	Chi-Square	The smaller the better	473.707.	less fit
2	CMIN/DF	< 5.00	2.078.	Fit
3	CFI	>.90	.983	Fit
4	TLI,	>.90	.979	Fit
5	SRMS	≤ 0.60	.0290	Fit
6	RMSEA	≤ 0.08	.035	Fit

Source. Researcher survey data, 2024

The model's standardized mean square residual (SRMR) is .0290, which is below the minimum criteria. Additionally, the comparative fit index (CFI) is 0.983, and the model's Tucker. As a result, Table 2 displays the CFA model of structural change and WE to indicate goodness-of-fit. The CFA model's RMSEA value is 0.035, which is within the close fit range defined by Cudeck et al. (1993). The OSCH and WE, CFA model effectively fit the data at [χ^2 (228) = 473.707, $p < 0.001$; PCLOSE = .992]. The composite of the 12 reasonably high-quality items aligns with the four OSCH sub-dimensions of the structural model. The second variable, WE, comprises three sub-dimensions and 12 quality items. The Lewis index (TLI) is 0.979, which exceeds the recommended minimum of 0.90, indicating that the model fits well.

Assessment of Model Accuracy for the Staff Job Performance Construct

The research findings on construct reliability and validity indicate that the items used to measure the constructs are appropriate. Cronbach's alpha values exceed 0.860, demonstrating a high level of consistency. The item factor loadings meet the minimum desired level, and the AVE values are above 0.50. These results suggest the presence of composite reliability and convergent validity. Furthermore, the Pearson correlation coefficients for each factor are significantly lower than the square root of each construct's AVE. Similarly, the squared correlation metrics of the constructs are substantially less than their corresponding AVEs. Therefore, we can conclude that this parameter possesses discriminant validity.

Exploratory Factor Analysis for Staff Job Performance

For the EFA, the version of the instruments used to measure SJP, the KMO value was .935, and the result of Bartlett's test was significant ($p = .000$), indicating that multiple latent factors influence the correlation matrix. It also identified two components that accounted for 57.152% of the variance. The first component is task performance, while the second refers to contextual performance. The two components of SJP in the CFA model fit the data well at [χ^2 (72) = 111.509, $p < 0.001$] following the initial model adjustment (see Figure 2).

Confirmatory Factor Analysis (CFA) for the Construct of Staff Job Performance

The CFA for the SJP variable is assessed, as shown in Figure 2.

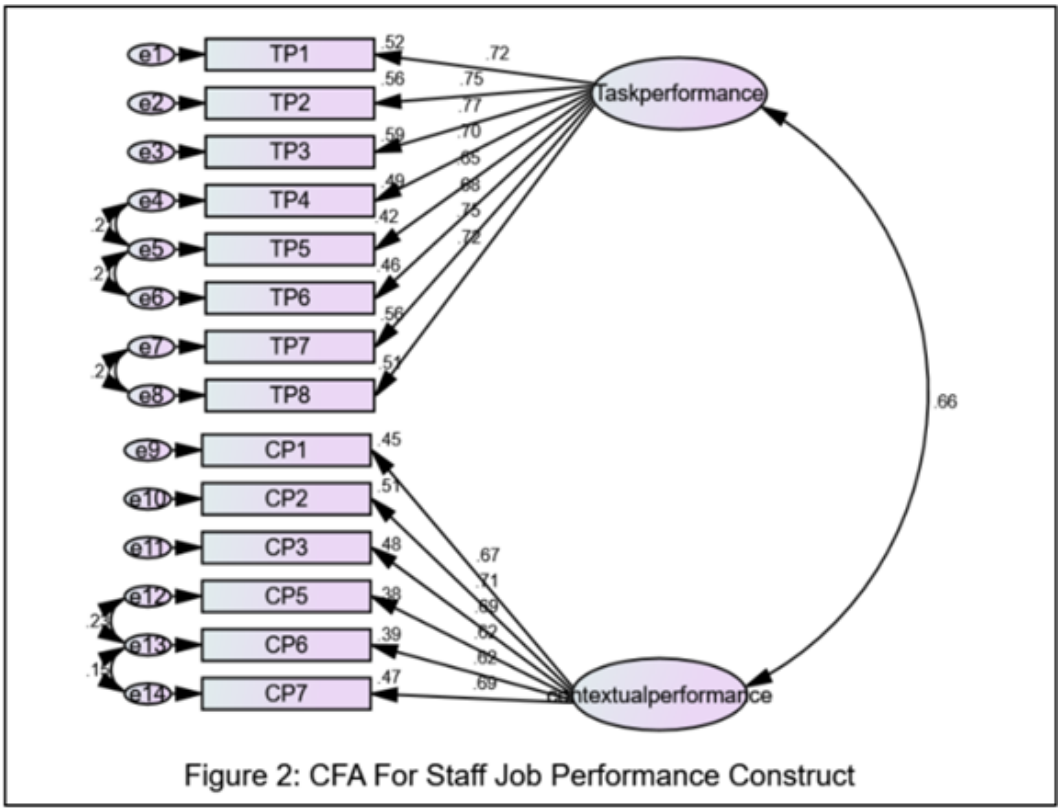

Figure 2: CFA For Staff Job Performance Construct

A comprehensive assessment of the measurement parameters for the SJP component in Figure 2 is also provided in the test description of Table 3. CFA, a robust method for evaluating data quality and reliability, is utilized. Consequently, the goodness-of-fit of the SJP for the CFA model is illustrated in the same table.

Table 3:
Outcomes of the goodness-of-fit model for CFA for SJP

No.	Index	Critical Value	Results	Model Fit
1	Chi-Square	The smaller the better	111.509	less fit
2	CMIN/DF	< 5.00	1.571.	Fit
3	CFI	>.90	.993	Fit
4	TLI,	>.90	.991	Fit
5	SRMS	≤ 0.60	.0204	Fit
6	RMSEA	≤ 0.08	.025	Fit

Source. Researcher survey, 2024

Descriptive fit indicators aligned the sample's covariance matrix with the predicted covariance matrix and evaluated the model's fit following the CFA. The RMSEA statistic for the model is 0.046, which is within the acceptable range of < 0.08, indicating an optimal fit. Cudeck et al. (1993) recommend a cutoff value below 0.08, designating this model as satisfactory. Similarly, the CFI is 0.966 and the TLI is 0.960, demonstrating fit to the model (PCLOSE = .898). The other 14 high-quality items represent the two dimensions of the path model.

Status of Changes to Organizational Structure, Employee Engagement, and Staff Job Performance

The first research question of this study aims to assess the status of key variables, including OSCH, staff WE, and SJP.

Table 4.
The status of organizational structural change, work engagement, and staff job performance (N=893)

Variables	Dimensions	Minimum, Maximum score	Obtained Mean	SD	Expected mean	T	ES
Organizational structural change	Organizational structural change	(1.58, 4.75)	3.22	.519	3.165	3.046**	.102
Work engagement	Vigor	(1.25, 5)	3.49	.829	3.125	13.487***	.451
	Absorption	(1, 5)	3.69	.857	3.00	24.356***	.814
	Dedication	(1,5)	3.57	.862	3.00	20.027***	.670
	WE Dimension	(1.33, 5)	3.59	.724	3.169	19.270***	.572
SJP	SJP Dimension	(1.5, 5)	3.78	.574	3.25	27.855***	.931

Notes: ES= effect size, **p<.01, ***p<.001, SD=Standard deviation, SJP= Staff job performance

Table 4 displays descriptive statistics for the study's primary factors. The current status of these variables was determined by comparing the observed mean scores to the expected average means. A one-sample t-test assessed whether the difference between the observed and expected means was statistically significant. Consequently, scores with means significantly higher than predicted indicated strong engagement with the variables, while scores notably lower than expected suggested low engagement. Variables with a mean difference between expected and observed scores that was not statistically significant were categorized as demonstrating moderate engagement.

Table 4 compares the expected and actual means for the dimensions of OSCH to evaluate the extent of change based on the study's primary factors. The mean score for OSCH was significantly higher than anticipated (t=3.046, p<.01, ES=.102). This suggests that OSCH is relatively common.

As shown in Table 4, the three dimensions of WE: Vigor were significantly higher than predicted (t=13.487, p<.001, ES=.451), while Absorption far exceeded the expected mean (t=24.356, p<.001, ES=.814), and Dedication was also significantly above the expected mean (t=20.027, p<.001, ES=.670). Generally, the overall dimension of WE was greater than the expected mean (t=19.270, p<.001, ES=.572). Conversely, these findings indicate that WE practices are moderately high. Similarly, the dimensions of TP and CP are significantly above the expected mean, with TP (t=30.389, p<.001, ES=1.016) and CP (t=18.637, p<.001, ES=.623), respectively. Consequently, it's argued that the SJP of a research university is moderately high.

Relationships Among Organizational Structural Change, Work Engagement, and Staff Job Performance

This study examines the relationship between OSCH, WE, and SJP. To accomplish this, the researcher evaluated the model fit that informs the study (see Figure 3). Before assessing the associations, it is important to determine whether the final model fits the data well. If the model fit is poor, estimates of variable relationships may be unreliable. Therefore, the assumption of multivariate normality was tested using SPSS Amos. Verifying multivariate normality is crucial when using SEM because maximum likelihood estimation is employed. According to guidelines, the critical value for multivariate normality should be between ±1.96. The actual critical ratio ranged from -1.169 to 1.851, indicating normal distribution. Additionally, a bootstrap resampling with 2000 samples was performed at a 95% confidence level to assess the fit of the model. If the chi-square value falls within the bootstrap distribution, it suggests that bootstrapping can improve model fit. Consequently, bootstrapping is effective in aligning the model more closely with the data.

Similarly, a detailed examination of the modification indices also showed that the updated final model in Figure 3 would involve the most parameter changes and a minimal difference from the data. This final model fits the data with [x^2 (6) = 8.666, p < .001, CFI = .998, TLI = .994, GFI = .998, RMSEA = .022, PCLOSE = .931], indicating that the difference between the data and the final model is low (see Table 5).

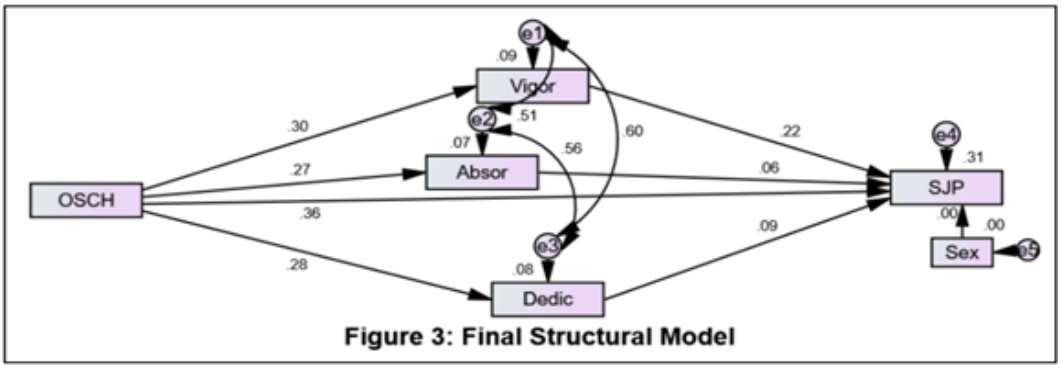

Figure 3: Final Structural Model

The test description in Table 5 provides details about the measuring components for the CFA of the final structural model in Figure 3. These results were obtained through confirmatory factor analysis, a powerful technique for assessing the reliability and validity of data. Consequently, the same table presents the CFA model's goodness-of-fit with the final structural model.

Table 5: Test outcomes for the goodness-of-fit of the CFA in the final structural model

No.	Index	Critical Value	Results	Model Fit
1	Chi-Square	The smaller the better	7.434	fit
2	CMIN/DF	< 5.00	1.858	Fit
3	CFI	>.90	.997	Fit
4	TLI,	>.90	.990	Fit
5	SRMS	≤ 0.60	.0206	Fit
6	RMSEA	≤ 0.08	.031	Fit

Source. Researcher survey, 2024

Additionally, model fitness tests were performed for each component of the model. The RMSEA measure for the CFA model is .031, which falls within the close fit range since Cudeck et al. (1993) indicate that a good match is a value less than 0.08. However, the key fit indices show that the structural model fits exceptionally well. Similarly, the comparative fitness indices are CFI=0.997, TLI=0.990, and SRMS=.0206, which indicate an excellent fit to the model (PCLOSE=.931).

After assessing the model's fit to the data, the study's second research question was analyzed: the nature of correlations between OSCH, dimensions of WE, and SJP (see Table 6).

Table 6
The relations among structural change factors, work engagement, and staff job performance

Variable	Dimension	Organizational structural change	Dimensions of work engagement		
			Vi.	Ab.	De.
WE	Vi.	.300***	1	.	
	Ab.	.269***	546***	1	
	De.	.278***	.633***	.590***	1
SJP	SJP	.470***	.414***	.328***	.363***

Notes: ***p<.001, SJP=Staff job performance, WE=work engagement, Vi=vigor, Ab=absorption, De=dedication.

A correlation matrix offers an initial assessment for subsequent regression analysis. It requires researchers to identify variables that may have collinearity issues. In this context, we examine the multicollinearity among more than two variables. To meet these objectives, all variables in the structural model were analyzed to check for variance inflation factors (VIF). According to the rule of thumb, if the VIF value is less than five, there is no collinearity problem. Consequently, the VIF for all variables is below five. Therefore, there are no collinearity issues among the variables in this study.

Table 6 illustrates the correlations among the variables calculated to demonstrate links between their dimensions. Consequently, all correlations among the variables of interest were positive and statistically significant. The correlation coefficients indicated strong associations among the constructs at the ($p < 0.001$) significance level. OSCH was significantly correlated with aspects of WE and SJP ($p < 0.001$). The highest correlation coefficient was observed between OSCH and SJP ($r = .470$). A weaker correlation coefficient ($r = .269$) was identified between the WE dimension (Vigor) and OSCH. Overall, the relationship between the dependent and independent variables was moderate.

The Impact of Changes in Organizational Structure and Employee Engagement on Job Performance among Staff

The second research question in the current study concerned the amount of variability explained in the SJP by WE dimensions and the OSCH (see Table 7).

Table 7: The Effect of Organizational Structural Change, Work Engagement, and Joint Contribution to SJP.

Dimensions of Organizational Change	Dimensions of Employee Work Engagement	Squared multiple Correlations (R^2)
Organizational Structural Change	SJP	.221
Vigor	SJP	0.1714
Absorption	SJP	0.1076
Dedication	SJP	0.1318
Vigor, Absorption, Dedication	SJP	0.19
Organizational structure change, vigor, absorption, dedication	SJP	0.31

Note: SJP = Staff job performance

Table 7 illustrates how OSCH and WE impacted SJP. The contribution of OSCH to SJP is (R^2 = 22.1%). In the same vein, the combined contribution of the dimensions of WE to SJP was examined. The computation illustrated that the combined contribution of WE dimensions explained the variance in the SJP (R^2=19 %). According to Table 7, the joint contribution of OSCH and WE to SJP is R^2 = 31%. From this information, it can be inferred that OSCH contributed more significantly to the variability in SJP than WE in research universities.

The third research question aimed to examine the indirect and direct effects of OSCH on SJP through the dimensions of WE. Table 8 summarizes the findings from the analyses of OSCH's direct, specific indirect, and total indirect effects on SJP. Consequently, all indirect effects of OSCH on SJP through the WE dimension are statistically significant. OSCH exerts an influence (β = .364, $p < .001$) on SJP. Specifically, due to the direct effect of OSCH on SJP, when OSCH increases by one standard deviation, SJP rises by 0.364 standard deviations. Similarly, the overall indirect effects are statistically significant.

Table 8: Direct and indirect effects of changes in organizational structure on employee job performance through work engagement

Relationships	**Specific indirect effect**	**Total indirect effect**	**Direct effect**
OSCH → Vi →SJP	.066**	0.106***	.364***
OSCH → Ab →SJP	.0162*		
OSCH → De →SJP	.0252**		

Notes: *p< 0.05; **P<0.01; ***P<0.001

This indicates that OSCH indirectly conveys some of its impacts through the WE dimensions. OSCH shows a significant mediated effect on SJP (β = .106, $p < .001$). This suggests that, due to OSCH's mediated effect on SJP, a one-standard-deviation increase in OSCH enhances SJP by 0.106 standard deviations. Therefore, the WE variable partially mediates the relationship between OSCH and SJP in RUE.

DISCUSSION

The first research question aimed to determine the relationship between OSCH, WE, and SJP. The correlations among the variables were positive and statistically significant. This indicates that improvements in OSCH and WE resulted in increased SJP at the RUE. The strength of the associations among the dimensions of OSCH, WE, and SJP varied, ranging from weak correlations, such as the one between the vigor aspect of WE and OSCH, to moderately strong correlations, as observed between OSCH and SJP. These findings suggest that as the dimensions of OSCH and WE develop, the intensity of SJP also increases. These results are consistent with previous studies by George et al. (2019) regarding organizational structure and staff performance in Kakamega, Kenya. However, this study contradicts the findings of Fan and Cai (2017) and Alipoor et al. (2017), who investigated the relationship between organizational structure and SJP in healthcare institutions in Ahvaz, Iran, uncovering that structural factors negatively affected SJP in those facilities. This discrepancy may arise from cultural and contextual differences (Mensah, 2023).

Conversely, the findings of this study align with those of Fan and Cai (2017), Jaya and Ariyanto (2021), and Meenakshi Sharma (2023), all of whom identified a strong, positive relationship between SJP and WE. Li et al. (2021) and Ismail et al. (2019) noted a significant positive correlation between SJP and WE. Similarly, the results of the current study align with those of Johari and Yahya (2019), who identified a positive relationship among the relevant variables. Bouckenooghe et al. (2022) questioned the nature of the relationship between these two variables, which contradicts the current study's findings. Ultimately, the hypothesis of the current study was rejected, while the researchers' alternative hypothesis was accepted.

The second research question aimed to determine the contributions of OSCH and WE to SJP, both independently and collectively. The present study revealed that the independent contribution of OSCH to SJP was significant at 22.1%, while the contribution of WE to SJP was 19%. Consequently, this study found that OSCH and WE together contribute more significantly than they do separately. This implies that the interaction of the three dimensions of WE and OSCH leads to optimal SJP. This finding aligns with an empirical study by Jufrizen et al. (2024), which found that effective work engagement practices can enhance staff job performance, reinforcing the idea that positive engagement improves SJP. In contrast, Jaya and Ariyanto (2021) argue that the absorption component on PT Garuda Indonesia's productivity has no influence.

Equally, these findings align with those of Shabbir (2018), who examined Nigerian brewing enterprises. The study indicates that improvements in an OSCH significantly enhance SJP. Furthermore, the current research regarding the contribution of OSCH to SJP aligns with the findings of Castillo et al. (2023), a study conducted in the Philippines, which demonstrates that organizational structure impacts employee performance at Rebtrade International Corporation. Wangui et al.'s (2022) study supports these findings, illustrating that OSCH significantly affects an SJP. The results align with those of Abdulrahaman (2019), reinforcing that an improved OSCH enhances SJP. However, this conclusion contradicts the findings of Alipoor et al. (2017), who investigated the relationship between organizational structure and SJP in private medical centers in Ahvaz, Iran. They discovered that structural factors adversely influence SJP in these medical centers. However, the second hypothesis was rejected while the researchers' alternative hypothesis was accepted.

The third research question aimed to assess the mediating effect of WE on the relationship between OSCH and SJP. As a result, the study's WE variable indicated that all indirect effects were statistically significant. This suggests that some impacts of the dimensions of OSCH are transmitted to SJP indirectly, thus confirming that WE mediates the relationship between OSCH and SJP. This

finding aligns with the results of Wang (2020) and Wangui et al. (2022). However, it contradicts the research by Johari and Yahya (2019), which found that WE only mediates the relationship between SJP and one dimension of organizational structure (job codification). This discrepancy may be explained by the demographic characteristics noted by Johari and Yahya (2019). In the present study, respondents were academic staff over 30, who are mature enough to make informed judgments and adapt to rules and regulations.

CONCLUSION, IMPLICATIONS, AND LIMITATIONS

The data collected and analyzed led to the following conclusions. The findings reveal a strong positive association between OSCH, WE, and SJP. Additionally, the OSCH and WE dimensions significantly contribute to SJP. These effects range from moderate to relatively high. As the strengths of OSCH and WE elements increase, SJP is also expected to improve. The combined effect of the OSCH and WE dimensions accounts for the variation in SJP, indicating that the overall impact of OSCH and WE on SJP in research universities exceeds their contributions. Ultimately, the study demonstrates that WE mediates the relationship between OSCH and SJP.

Since the initiation of reform is top-down, the exclusion of the university governing board, which provides leadership, and the MoE, which sets policies and manages operations, represents one limitation of this study. Additionally, self-reporting was used to assess performance. While this method is appropriate for this investigation, it may not accurately reflect the current level of employee performance. Furthermore, biases related to social desirability could affect how individuals respond based on what they believe is acceptable to others rather than their actual experiences, potentially skewing the results. To address limitations, we encouraged participants to evaluate their situations honestly and consider the influence of social desirability.

The findings have implications for educational leadership and stakeholders, particularly across the sector. First, to organizational leadership, especially within Ethiopian higher education institutions, and offers valuable insights for enhancing WE and SJP. It is advantageous to policymakers, training institutions, and the industry at large. The study also highlights the significance of OSCH and WE in improving SJP, providing pertinent evidence regarding the challenges of RUE.

RECOMMENDATIONS

Based on the study's findings and discussions, the following recommendations are made. Leaders should recognize the positive impact of OSCH on productivity, and they should also excel at rewarding their subordinates for achieving work objectives, which motivates employees to enhance their competence and confidence to produce exceptional results. Furthermore, leaders should cultivate collegial relationships, as a positive work environment can inspire individuals to work harder, thereby improving SJP. Every administrative unit, including departments and colleges, should involve employees in decision-making by soliciting their opinions and establishing work objectives. Finally, RUE should support an open organizational structure that engages individuals for significant results.

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WHO IS SHARING SHARED GOVERNANCE? AN ANALYSIS OF UNIVERSITY COMMITTEES

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ABSTRACT

Generally, discussions of shared governance in higher education do not include university committees. This study addresses this gap, through the lens of open systems, reconceptualized loosely coupled systems, and micro foundations. Using social network analysis, this study explores the documented governance networks of formal university committees within and across institutions and the utility of those networks for institutional leaders. Findings suggest that this is a useful way to examine the meso-level of university governance processes, including recommendations for research and practice.

INTRODUCTION

Decision-making is a complex and messy process across institutions of higher education. With many stakeholders involved, this process can become congested with multiple agendas and trying to find consensus around institutional priorities. Large, research universities, especially, face decision-making at multiple levels due to their complexity, size, and multiple missions.

While there is often a sense of urgency to make efficient decisions for the benefit of all institutional stakeholders, universities are not exactly known for the speed at which they adapt and change. In part, this caution is embedded in their shared governance structures for a reason. The structure of shared governance allows university leadership to rely on groups of internal stakeholders' expertise and include a range of perspectives in decision-making. However, without a clear understanding or strong plan surrounding shared governance structures and who is involved in them, institutional decision-making becomes a more difficult challenge. Revisiting the collaborative aspirations of university governance is overdue in an era where agility in decision-making may be critical to institutions' continued success.

Much of the scholarly literature surrounding university governance focuses on macro-level processes (e.g., McClendon & Hearn, 2009; Rall et al., 2020), university trustees and presidents (e.g., Commodore, 2018; McClure, 2018), or the relationship between institutions and their external environments (e.g., Barringer & Slaughter, 2016). These top-down, 10,000-foot perspectives are needed and extremely useful as we consider institutional planning, how decisions are made by those with positional power, and the overall organizational behaviors of institutions.

In addition to these broad, overarching perspectives, attention needs to be focused on the micro- and meso-level governance processes of universities, where the individuals responsible for the day-to-day functioning of universities contribute to overall organizational change. Bastedo (2012) pointed out that "[s]tudies of organizational practice below the top leaders were sparse – a concern that has been echoed again and again over the decades" (p. 6). Consequently, this study addresses that paucity in the literature and we focus on those below the top leaders and their involvement in institutional planning and governance. We contribute to current scholarship by focusing on the roles

of university committees and committee members in shared governance. We argue that university committees serve as conduits for broader institutional decision-making and organizational change.

As Olson (2009) stated, an updated understanding of shared governance, the "delicate balance between faculty and staff participation in planning and decision-making processes," is needed (p. 1). Through committee work, many university constituents (i.e. staff, administrators, faculty members, and students) work together to make diffuse, necessary, and local decisions, which, in the aggregate, contribute to the forward momentum of the institution. Despite the relative importance of this work, studies that center on the work of university committees are rare.

Within formal university governance, committees are necessary to ensure that institutional stakeholders are working towards goals simultaneously. Through social network analysis (Biancani & Macfarland, 2013; Borgatti et al., 2024), we can understand relationships within and among these university committees and their members. Here, guided by the concepts of microfoundations (Powell & Colyvas, 2008) and loosely coupled systems (Orton & Weick, 1990), we evaluate the utility of social network analysis to better understand membership in formal university governance. The goals of this study are to explore university governance processes at the intersection of individuals and overall governance structures, to evaluate the utility of social network analysis in describing formal university governance networks, and to map out the networks of those involved in committee work across universities. This study is guided by the following research questions:

- What are the documented governance networks of formal university committees within and across institutions?
    - Who are the most central actors involved in formal university governance networks?
    - What are the most central committees involved in formal university governance networks?
- What is the utility of social network analysis to evaluate formal university governance via university committees?

The findings of this study will provide a more nuanced understanding of university governance and provide recommendations to institutional leaders to best utilize social network analysis to promote institutional change via university committees and their members.

LITERATURE REVIEW

Though years have passed since the founding of the American higher education system, the foundations of university governance have remained the same and much of the early influences still exist (Thelin, 2019). According to Duryea (2000), the first two colonial colleges were formed with two governing councils—internal and external. The internal council was composed of the university president and teaching fellows, while the external council was filled with members from outside of the institution (Duryea, 2000). However, this governance structure soon evolved with the founding of Yale and Dartmouth. Throughout the late 1800s, faculty began developing a voice that echoed beyond the walls of their classrooms (Duryea, 2000). Duryea (2000) found that the 19th century was essentially characterized by faculty involvement with decisions surrounding academic policy. These trends eventually progressed into the shared governance model that several American colleges and universities utilize today.

Shared Governance

Shared governance is a difficult term to define in the scope of American higher education. Birnbaum (2004) stated that the term described an institution's desire to balance organizational control between administration and faculty. Olson (2009) further defined the term by overlapping the concepts of shared decision-making and allocated responsibilities. More recently, Tierney (2023) defined shared governance as, "how an institution's participants might deal with both every day and long-term issues" (p.157). Though shared governance is complex in nature, faculty members rely on its intricacies to ensure that their opinion is heard (Eckel & Kezar, 2016). The relationship that shared governance created between administration and faculty is a foundational piece of the landscape of American higher education that is seen today. According to Birnbaum (2004), shared governance is a key component for any academic institution to achieve their multiple missions. Morphew (1999) shared this sentiment, stating that institutions are unique organizations that require both administrative and scholarly expertise that is achieved through the shared governance model. However, several critics believe that true shared governance does not exist. Olson (2009) clarified that "shared" does not necessarily mean that everyone gets to participate in every stage of the decision-making process. Rather, the term "shared" simply means that everyone has a role (Olson, 2009). Most of the criticisms of university governance surround the influence and interference of external forces (Birnbaum, 2004). This essentially aligns with the open systems model in prior higher education research (Baron, 1984; Birnbaum, 1988; Lawrence & Lorsch, 1967; Scott & Davis, 2016). The environment that surrounds colleges and universities is constantly evolving. Consequently, both faculty and administrators must adapt through existing shared governance processes.

Birnbaum (1988) characterized the highly adaptable nature of higher education as a "system." Throughout the higher education system there are interacting components, boundaries, inputs, and outputs (Birnbaum, 1988). Generally, these systems are "open," meaning that various external factors can have a direct impact on the internal operations of the system. However, the decisions that are made internally can also have an impact outside of the system's boundaries as well (Tierney, 1988). Everyday there are new obstacles that stand in the way of college administrators. With the outside environment constantly changing, colleges and universities are often faced with a wide array of issues that administrators may not be able to solve on their own. Morphew (1999) stated that there are certain elements of a university that are better catered to by certain committees or departments. For example, a faculty member would more than likely not handle a public relations matter outside of academics. This scenario is essentially where the concept of shared governance is utilized. Though several researchers have criticized the shared governance model, Birnbaum (2004) found that removing shared governance would likely have a negative impact on institutions. In order to truly understand and evaluate the concept of shared governance, individuals must examine the higher education system's technical core and environment (Birnbaum, 1988). Lastly, institutions must revisit shared governance ideals and continue to adapt them as institutions evolve (Tierney, 2023).

University Committees

Colleges and universities often utilize university committees as a means to facilitate planning, shared governance, and administration (Farris, 2018). According to Hobbs (1975), these committees are extremely complex and there is little knowledge about their structure and operations. Through their research, Hobbs (1975) sought to identify the nature and significance of university committees. After analyzing over 300 committees, he found two different types of structures (Hobbs, 1975). The first type of committee focused their efforts on decision-making (Hobbs, 1975).

These members met often and had a clear idea of the committee's goals (Hobbs, 1975). The second type of committee performed an advisory function (Hobbs, 1975). The members generally did not meet often and there was no clear idea of the committee's goals (Hobbs, 1975). With this in mind, Farris (2018) argued that the performance of university committees throughout higher education is often inefficient. In order to take a deeper look at this issue, it is important to examine literature surrounding faculty, student, and administrative involvement within university committees.

Faculty

Institutional service plays a significant role in the faculty tenure and promotion process (Porter, 2007). Consequently, faculty members are obligated to find time within their teaching and research schedules to serve on multiple university committees (Fogg, 2003). However, not all faculty members engage in service tasks to the same extent. Researchers presented the idea that this could be a result of "cultural taxation" or personal preference of the faculty (Porter, 2007)

Fogg (2003) demonstrated the ambiguity of service responsibilities for faculty members. Within Fogg's (2003) article, several faculty members from various demographics discussed the struggles that they encountered when determining how much service is "enough" (Fogg, 2003). In addition, the differential service load of women faculty and faculty of Color has been well documented in the literature (Amstrong & Jovanovic, 2015; Babcock et al., 2017; Corneille et al., 2019; Domingo et al., 2022; Porter, 2007). These articles detail the ways that increased service loads are barriers to women faculty and faculty of Color seeking promotion and tenure. In addition, the number of committees, advising responsibilities, administrative assignments can also lead faculty members to greater levels of dissatisfaction, lower levels of productivity, and even result in faculty departures (Domingo et al., 2022). Regardless of why faculty participate in university committees, their contributions and service have allowed for institutions to achieve some form of shared governance.

In addition to the differential participation of faculty, there is the question of who of the faculty gets to participate in some cases. Tierney (2023) points out that much of the research done on faculty participation in governance does not include non-tenure track faculty members. Given that the American professoriate is made up of over 70% non-tenure track faculty (Colby, 2023), this is an oversight. However, in many or some cases their appointments do not include service as a requirement. Lastly, of those that can and do serve, who and what committees they serve on is a strategic effort that has implications for the time that is spent, faculty preferences, and committee outcomes (Iqbal et al., 2022).

Students

Researchers have become widely interested in student involvement within university governance over the past couple of years (Matthews & Dollinger, 2023; Mendes & Hammett, 2023). Though students are considered a key shareholder of higher education institutions, their voices have not always been heard. In some ways, this is still the case. Students generally are not represented on every university committee (Hawes & Trux IV, 1974; Zuo & Ratsoy, 1999). However, committees are significantly more effective when students hold representation (Hawes & Trux IV, 1974). Hawes and Trux IV (1974) found through their research that student representatives tend to be more active on student issues than non-student committees. This leads those student-represented committees to seemingly accomplish more. Lizzio and Wilson (2009) also spoke to how student representation benefits university governance with their research. However, they found that there are several factors that need to be considered when determining the effectiveness of student leaders on these committees (Lizzio & Wilson, 2009). It is clear that student representatives are sensitive to the perceptions of faculty and staff (Lizzio & Wilson, 2009). Therefore, it is suggested that students

feel supported by university leadership in order for these committees to be most effective (Lizzio & Wilson, 2009). Institutions still need to figure out the nuances of student participation in governance in ways that are meaningful and mutually beneficial (Naylor et al., 2020). As with all organizations, a trusting working relationship must be developed with every member, regardless of their place in the institution, to achieve their goals.

Administration

Commodore (2018) emphasized how trust is a key component in effective governance. However, trust is difficult to achieve when university leaders are more concerned with outside constituencies than their faculty and students (Waugh, 2003). This is not true across all institutions, but it is becoming more common and is a major concern for researchers. Waugh (2003) argued that institutions are undergoing professionalization, and this is potentially causing attention to drift away from academic goals. As professionalization occurs, students and faculty begin to lose their voices on university committees leading to a loss of shared governance. In order to work against this, Waugh (2003) suggested that institutions separate academics from business operations; however other research suggests that this may be challenging (e.g. Barringer & Riffe, 2018; Slaughter et al., 2014). Though Waugh (2003) offered an interesting perspective, it is unclear how this would look across university committees and its effect on shared governance. According to Legon et al. (2013), university administrators cannot be fully blamed for these issues. Rather, the issue primarily lies within the lack of communication that exists between the faculty, students, and administration (Legon et al., 2013). Unfortunately, institutions have encountered these problems since the conception of the American higher education system. Legon et al. (2013) suggested that the best practice for effective governance is for faculty and administration to work together.

The literature presented a broad overview of how the shared governance model works within higher education institutions—especially within university committees. The epitome of the shared governance model is to engage the core of a college or university at all levels. Whether it be faculty, students, staff, or the administration, all or some of those groups should contribute to institutional decisions. However, which groups should be responsible for which issues remain unclear, resulting in a muddy and ambiguous situation (Tierney, 2023).

With external factors exerting pressure on institutions (Baron, 1984; Birnbaum, 1988; Lawrence & Lorsch, 1967; Scott & Davis, 2016), researchers searched for a solution on how to diffuse the impact of these external pressures and have found that effective communication is a good place to start (Tierney & Minor, 2004). The next step would be to analyze if that communication or interactions are happening. Several researchers have used social network analysis to study higher education; however, they have not yet analyzed the interactions between those levels (Kezar, 2014; Metcalfe, 2007, McClure et al., 2017). This study utilized university committees as an avenue for investigating the interactions between faculty, students, staff, and administration. Through social network analysis, we intended to develop a deeper understanding of shared governance in university committees at the meso-level of institutional governance.

Social Network Analysis

Effective communication is key to ensuring that shared governance works within institutions (Olson, 2009). Researchers have often utilized social network analysis to examine the role that relationships and communication play when determining the strength of an organization. Nelson (1989) stated that "the objective of social network analysis is to understand the pattern and content of the interactions that take place within and between social units" (p. 380). Serrat (2017) pointed out that social network analysis can be done in a variety of ways including questionnaires

and interviews (Serrat, 2017). Typically, the responses from the chosen method are gathered and used to generate a map that visually represents the networks within and between organizations (Serrat, 2017).

Kezar (2014) presented the idea that networks are often complex, and can be defined as tight, loose, formal, or informal. When referring to a network as either tight or loose, the researcher is characterizing the complexity of the network (Kezar, 2014). Loose networks are larger and contain multiple units (Kezar, 2014). When referring to a network as either formal or informal, the researcher is describing the interactions within the network (Kezar, 2014). Kezar (2014) stated that formal networks have structured and organized communication when compared to informal networks.

Though social network analysis has become a popular method used in the social sciences, Biancani and McFarland (2013) found it to be an emerging method within higher education research. Literature suggested that there are few researchers in the field of higher education who have utilized social network analysis (Biancani & McFarland, 2013). However, several are realizing the method's potential in studying the inner workings of a university. For example, Metcalfe (2007) used social network analysis to study corporate ties to higher education associations. The method allowed the researcher to incorporate data from various overlapping fields and to analyze the interactions that occurred between those fields (Metcalfe, 2007). Results from the study suggested that several North American companies have ties to prominent higher education associations (Metcalfe, 2007). In addition, Metcalfe (2007) found that corporate ties have increased market-like behaviors throughout higher education institutions. McClure et al. (2017) continued these studies surrounding corporate ties to higher education by analyzing philanthropic giving. Specifically, they analyzed North Carolina institutions and their position to compete for philanthropic donations (McClure et al., 2017). The results indicated that highly selective, research-oriented universities such as Duke and UNC Chapel Hill are more advantageously positioned in respect to philanthropic foundations (McClure et al., 2017). These studies demonstrate that researchers can digest large network datasets to gain insight into the work of higher education institutions throughout the current social and political climate (Biancani & McFarland, 2013).

Literature suggested that there are very few studies that compare multiple networks across colleges and universities (Biancani & McFarland, 2013). Most existing research has studied students, faculty, and staff individually as opposed to examining their interactions (Biancani & McFarland, 2013). Biancani and McFarland (2013) found that literature on university faculty focused on work. For example, DiRamio et al. (2009) conducted a study that utilized social network analysis to examine the faculty hiring process within certain programs. After analyzing 200 faculty members, DiRamio et al. (2009) identified that the faculty hired for these programs came from a wide array of institutions and experiences. On the other hand, they found that the most elite programs were selective in their faculty hiring process and tended to have unhealthy social networks (DiRamio et al., 2009). In terms of research on student networks, Biancani and McFarland (2013) found that the literature focused on friendships and achievement. For example, Rios-Aguilar and Deil-Amen (2012) used social network analysis to examine Latinx students and their transitions into post-secondary institutions. Through their research, they were able to see the significance and impact of social capital on Latinx student experiences. Strong network support was evident among these students when applying to colleges but seemed to diminish when making decisions while attending an institution (Rios-Aguilar & Deil-Amen, 2012). Studies like these are pivotal in beginning to understand the various components of a university, but there is so much more to be learned about how each of these networks interact with one another.

CONCEPTUAL FRAMEWORK

Given the complexity of the phenomenon under study, a conceptual framework that emphasizes the intersection of structural and individual components is needed. Consequently, this study is guided by a combination of three organizational concepts – organizations as open systems (Baron, 1984; Birnbaum, 1988; Lawrence & Lorsch, 1967; Scott & Davis, 2016), loosely coupled systems (Orton & Weick, 1990), and microfoundations (Powell & Colyvas, 2008) (see Figure 1).

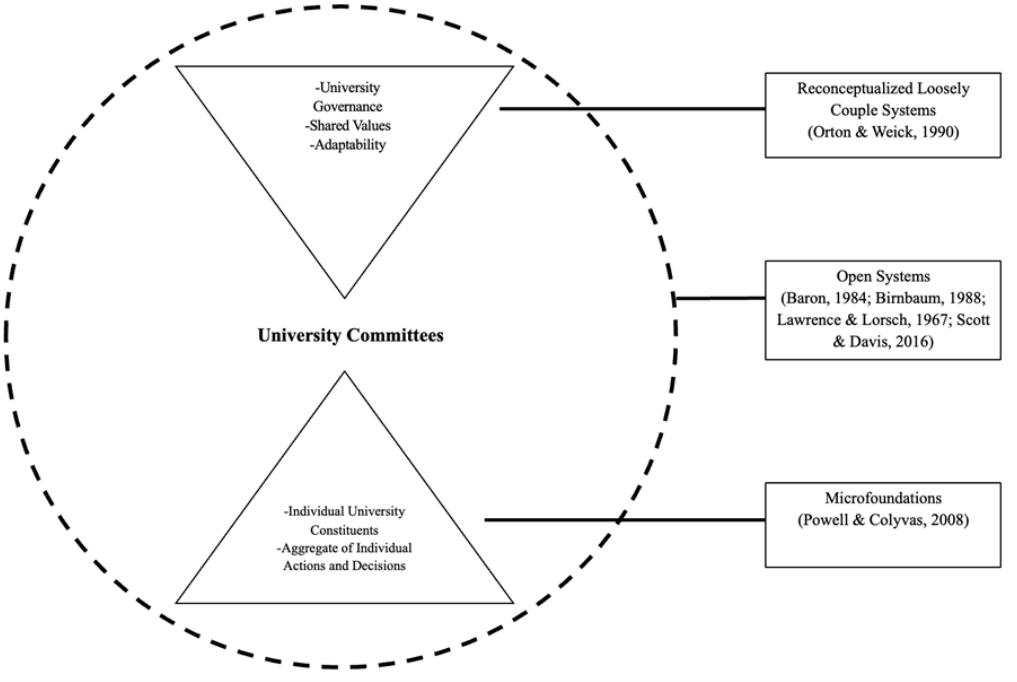
First, this model rests on the assumption that universities are open systems comprised of smaller, interconnected parts, resulting in a more porous boundary between the institution and its environment (represented by the dashed boundary line in Figure 1). This permeable barrier precipitates institutional vulnerability, requiring adaptation to reduce uncertainty (Baron, 1984; Birnbaum, 1988; Lawrence & Lorsch, 1967; Scott & Davis, 2016). Based on this premise, universities are subject to environmental pressures that necessitate a response. We argue that this institutional vulnerability resulting from the open systems tradition, necessitates the reevaluation of governance structures and decision-making processes.

Second, this framework is informed by reconceptualized loose coupling given this study's "recognition of numerous structural dimensions, its emphasis on simultaneous coupling and decoupling, and its portrayal of structures…to move more deeply into the human working which underlie organizational structure" (Orton & Weick, 1990, p. 218). This reconceptualized loose coupling allows for this study to explore how shared governance, through university committees, addresses the tension between autonomy and connection within an organizational system. Ultimately, this project answers Orton and Weick's (1990) call "to study structure as something that organizations do, rather than merely as something they have" (p. 218).

The previous two theories address university responses to environmental pressures, focusing almost exclusively on macro-level issues. However, they neglect individuals whose actions and decisions collectively constitute those organizational behaviors and responses. Consequently, the incorporation of microfoundations into this framework adds the individual-level component to better understand university governance. The concept of microfoundations asserts that comprehensive organizational change is comprised of the collective actions and decisions of individuals (Powell & Colyvas, 2008). Exploring the microfoundations of university governance answers calls for more research "on how the local affairs of existing members of a field can both sustain and prompt shifts in practices and conventions" and the need for "more attention to everyday processes" within organizations (Powell & Colyvas, 2008, p. 277).

While these three organizational concepts outline the macro- and micro-level natures of shared governance, we are essentially trying to study the meso-level of shared governance by focusing on university committees. The extent literature focuses on this much less, so we see an opportunity to make a theoretical contribution, adding to our current understanding of shared governance by highlighting the space between individuals' agency and the larger structures of higher education institutions.

Figure 1. Conceptual Framework



METHODS

To address this study's research questions, we use social network analysis to explore the shared governance networks across two public research universities – Auburn University and the University of Georgia. These universities were selected for this study using purposeful sampling (Patton, 2014). Each of these universities constitute an "information-rich case," chosen because they are large, complex organizations where governance is likely to be more intricate and spread across the many intra-institutional stakeholders (Patton, 2014, p.308). Several criteria gathered from the Integrated Postsecondary Education Data System (IPEDS) for the 2019-2020 academic year guided the purposeful sampling of these institutions—land grant university, very high research university (Carnegie classification), publicly controlled, located in the southeast region of the United States.

To obtain the information for the social network analysis, we compiled membership lists of each university and faculty committees at each of the institutions during the 2019-2020 academic year. With these lists, we created social network diagrams to map out the university governance structures using a two-mode network of committees by members (a committeexmember network). Additionally, we calculated the counts of each individual and the degree centrality of each committee within each university network respectively (Borgatti et al., 2018). These sociograms provide a visual representation of the formal network connections among university committees and their members.

We chose degree centrality as our primary measure of determining the relative importance of each university committee in the network given that "centrality and prestige concepts and measures seek to quantify graph theoretic ideas about an actor's prominence with a complete network by summarizing the structural relations among all nodes" (Knoke & Yang, 2008, p. 62). Further, degree

centrality "measures the extent to which a node connects to all other nodes in a social network" (Knoke & Yang, 2008, p. 62). According to Knoke and Yang (2008), normalized degree centrality is calculated by dividing each actor's total number of connections by the total possible connections within the network minus 1.

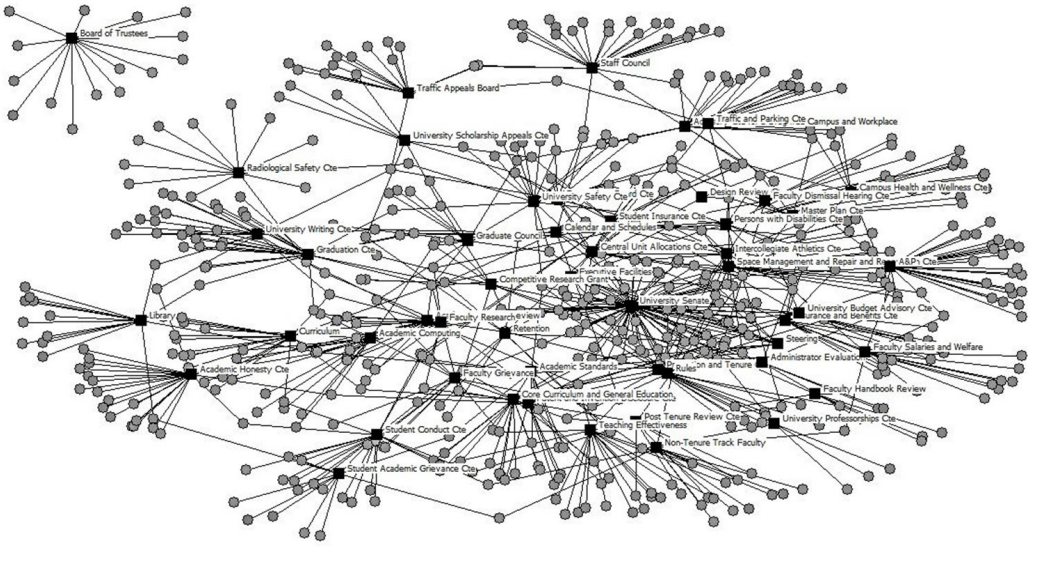
Degree centrality ranges from 0 (no connections in the network) to 1 (the actor is connected to everyone in the network); therefore, the closer the centrality to score to 1, the more "involvement in a relational network" (Knoke & Yang, 2008, p. 64). Additionally, we calculated the number of committees each individual in the network served on (counts) to ascertain who the most influential actors in the networks were. With the degree centralities of the committees and the counts of individual committee members, we can think of the most prominent network actors and committees as brokers and gatekeepers between substructures of the larger network (Knoke & Burt, 1983).

FINDINGS

In order to map out the university governance networks of Auburn University and the University of Georgia, we compiled the committeexmember networks for each institution. These networks, as mentioned previously, were comprised of the two-mode network of committees and their members, which were created from the committee membership lists we pulled for each institution. These networks, or sociograms, are characterized by density, closeness, and the general spread of involved committees. Below, we describe each social network graph (Figures 2 and 3) and then turn to the most involved individuals and committees for each institution (Tables 1-6). In reviewing the university governance networks in Figures 2 and 3, the black squares represent university committees, the grey circles represent individuals serving on the committees, and the lines represent membership, meaning that the lines connect committee members to the respective committees on which they served.

Auburn University

Figure 2. Auburn University - University CommitteexMember Network



Auburn University's governance network (Figure 2) is fairly decentralized compared to the University of Georgia. Of note in this governance network, the Auburn University Board of Trustees is not connected to any other aspect of university governance. Additionally, several interconnections among committees are present in this governance network, suggesting that there are individuals who simultaneously sit on multiple committees.

The most central committees within the Auburn University governance network are the Administrative & Professional Assembly, Staff Council, University Senate, Academic Honesty Committee, and the Graduation Committee (See Table 1). The first three of these committees constitute the main stakeholder groups of the institution and this network suggests that those are the most integral to institutional governance at Auburn. The most central actors within this governance network are listed in Table 2. Overall, the most central individuals in Auburn's university governance network are upper administrators in academic affairs including the Provost, Associate Provost, Dean of the Graduate School, and the Vice President for Research & Economic Development. The outlier of the most central individuals involved in governance is a Full professor of Drug Discovery and Development. The most central individual in the Auburn governance network, the Associate Provost for Faculty Affairs, serves on nine university committees including the Retention Committee, the University Budget Committee, and the Master Plan Committee among others.

Table 1. Auburn University – Most Central Committees

Committee	**Degree Centrality**
Administrative & Professional Assembly	0.044
Staff Council	0.040
University Senate	0.137
Academic Honesty Committee	0.036
Graduation Committee	0.036

Table 2. Auburn University – Most Involved Individuals in Governance

Professional Role	Number of Memberships	Committee Memberships
Associate Provost for Faculty Affairs	9	Executive Facilities Committee, Master Plan Committee, Post Tenure Review Committee, Space Management and Repair and Renovation Committee, University Budget Committee, Academic Standards Committee, Administrator Evaluation Committee, Faculty Handbook Review Committee, Retention Committee
Dean of the Graduate School and Professor of Mechanical Engineering	7	Central Unit Allocations Committee, Executive Facilities Committee, Graduation Committee, Academic Program Review Committee, Curriculum Committee, Faculty Research Committee, Graduate Council Committee
Vice President for Research & Economic Development	7	Executive Facilities Committee, Promotion & Tenure Committee, Space Management and Repair and Renovation Committee, Academic Program Review, Competitive Research Grant Committee, Faculty Research Committee, University Senate
Professor, Drug Discovery and Development, School of Pharmacy	6	Insurance and Benefits Committee, Patent and Invention Disclosure Committee, Promotion & Tenure Committee, Academic Program Review Committee, Core Curriculum and General Education Committee, Teaching Effectiveness Committee
Provost and Senior Vice President for Academic Affairs	6	Executive Facilities Committee, Intercollegiate Athletics Committee, Promotion & Tenure Committee, University Budget Advisory Committee, Senate Steering Committee, University Senate

University of Georgia

The University of Georgia's governance network (Figure 3) is fairly spread out, loose, and less dense than Auburn's network. The UGA Board of Trustees is fairly embedded in the governance network in comparison to the Auburn. Within this network, there is one centralizing committee, the University Council. The other most central committees are the Committee on Facilities, the Human Resources Committee, the Executive Committee, and the Faculty Admissions Committee.

The most central individual involved in governance committees at the University of Georgia are much more diverse with regards to professional roles than at Auburn. While there is one senior academic administrator among them, the provost, there are also two University of Georgia Athletic Association endowed professors, one graduate student in the Master of Public Administration program, and an access service manager from the School of Law. This suggests that the participation in governance at UGA may be more dispersed than at Auburn.

Figure 3. University of Georgia - University CommitteexMember Network

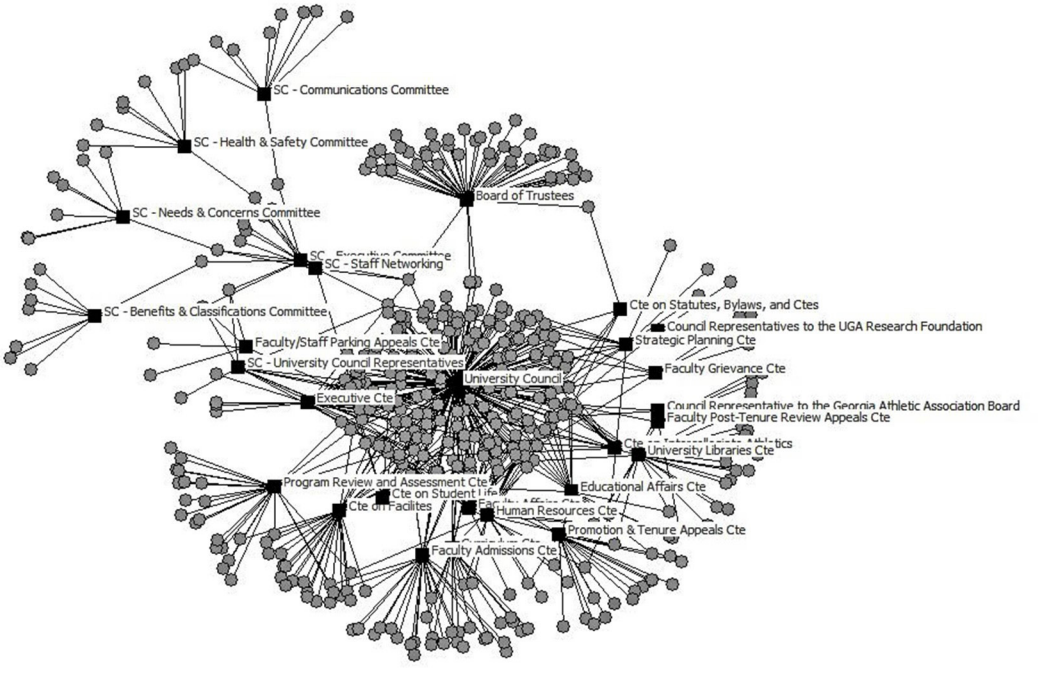


Table 3. University of Georgia – Most Central Committees

Committee	Degree Centrality
University Council	0.502
Committee on Facilities	0.073
Human Resources Committee	0.064
Executive Committee	0.061
Faculty Admissions Committee	0.059

Table 4. University of Georgia – Most Involved Individuals in Governance

Professional Role	Number of Memberships	Committee Memberships
Provost and Senior Vice President for Academic Affairs	7	Committee on Facilities, Curriculum Committee, Promotion & Tenure Appeals Committee, Educational Affairs Committee, Executive Committee, Faculty Admissions Committee, University Council
Georgia Athletic Association Professor in Law, School of Law	6	Strategic Planning Committee, University Council, Committee on Intercollegiate Athletics, Committee on Statutes, Bylaws, and Committees, Executive Committee, Faculty Grievance Committee
Student, Masters in Public Administration, School of Public & International Affairs	5	Committee on Facilities, Committee on Intercollegiate Athletics, Executive Committee, Strategic Planning Committee, University Council
Georgia Athletic Association Professor of Marine Sciences, College of Liberal Arts & Sciences	5	Committee on Intercollegiate Athletics, Council Representative to the Georgia Athletic Association Board, Council Representatives to the UGA Research Foundation, Educational Affairs Committee, University Council
Access Services Manager, School of Law	5	Executive Committee, University Council, Senate Executive Committee, Senate Staff Network Committee, Board of Trustees

DISCUSSION

This study makes three contributions to the current scholarship on university governance. First, the focus of this study answers calls for renewed understandings of shared governance in the modern-day university and allows for the reconceptualization of models of decision-making within and across institutions. Second, this study makes a theoretical contribution by extending the concept of loosely coupled systems into governance processes and more accurately theorizing around the role of individuals in collective organizational behavior and change for institutions of higher education. Lastly, this study makes an empirical contribution by exploring who is part of the meso-level governance processes within these two institutions by documenting the patterns of involvement in university committee work. Ultimately, the goals of this study were to explore university governance processes at the intersection of individuals and overall governance structures, to evaluate the utility of social network analysis in describing formal university governance networks, and to map out the networks of those involved in committee work across universities. Ideally, the findings of this study will inform institutional leaders of the value of social network analysis to better understand governance processes.

This study is a first step towards a better understanding of the meso-level of shared governance processes. Potentially, future research could leverage social network analysis to explore not only the number and interconnections of committees and committee members involved in shared governance, and, through further analysis, could help institutional leaders to assess how democratic decision-making is within their institutions. The data also inform us of which issues and components of the institution are most central and least central to the decision-making process. Though this study addressed the formal governance networks of two institutions, we believe that the findings carry substantial insight into the ebb and flow of university governance. Much of the existing literature on university governance focuses on macro-level processes (bigger picture) or micro-level processes (individual agency) in decision-making. Our study shifted focus to the meso-level. Specifically, we developed a better understanding of what university governance looks like, who is most involved, and which committees are most central to those networks.

The findings of this study address the first research question and its sub questions by documenting the governance networks of these institutions, their central actors and central committees. The second research question, however, asks about the utility of social network analysis for evaluating shared governance via university committees. This study demonstrates that social network analysis can be a very powerful tool to better understand who is involved and which committees are most prominent within the institution. When we consider the governance networks within these two research universities, we see opportunities for better decision-making processes, more recognition of those involved, and talent development for institutional leaders. Better decision-making processes can come from institutional leaders knowing who is on which committees and who is best to talk to when administrators want to implement a new program, policy, or initiative to create buy-in and execute their vision. By recognizing those who are participating in formal university governance, administrators can recruit those who are not involved but also recognize and reward those who have sustained commitments to institutional service. Lastly, institutional leaders can develop those faculty, staff, and students who have been longstanding contributors to governance processes into future leaders.

IMPLICATIONS FOR RESEARCH

Extending this work further, we encourage researchers to continue research surrounding the important contributions of university committees and other service-related contributions of students, faculty, staff, and administrators to create positive change within institutions of higher education. Research in this area could be strengthened by additional research that incorporates individual demographic information, that includes qualitative interviews, and that addresses the perspectives institutional leaders. First, researchers could add race, gender, employment category (faculty, staff, students, administrators) into this analysis to get an even more fine-grained understanding of who is involved in formal university governance. Second, researchers could leverage qualitative interviews to understand the perspectives of those who are most involved in university governance and the ways that they might fill structure holes in the governance networks of their institutions. Lastly, this work could be extended if researchers could share governance network diagrams with institutional leaders to understand their sensemaking around these networks and how and if those leaders find them useful in their institutional leadership.

IMPLICATIONS FOR PRACTICE

Based on the findings of this study and the use of social network analysis in exploring university governance, we have three recommendations for university administrators in their planning for successful shared governance practices. First, institutional leaders should use the governance networks of their institutions along with demographic data from human resources to explore the gender, race, and occupational composition of institutional governance. Research has shown that service-oriented tasks are often relegated to women and People of Color (Amstrong & Jovanovic, 2015; Babcock et al., 2017; Corneille et al., 2019; Domingo et al., 2022; Porter, 2007), so this information could inform institutional leaders to create a more equitable distribution of that work within their institution and acknowledge the contributions of those that serve on committees. While some institutional leaders or institutional research offices may not typically use social network analysis, they could still map their governance networks using their own membership lists, tables, and spreadsheets. Second, social network analysis of university governance could be leveraged by institutional leaders to identify a talent pool of central actors in governance that could be developed and/or promoted into future institutional leaders. Lastly, identifying university governance networks via social network analysis allows institutional leaders to evaluate and then ensure that "shared" governance is truly shared among the various institutional stakeholders (i.e., students, faculty, staff, and administrators) and that each of those integral groups can contribute and have a voice in the decision-making processes and policies within the institution.

CONCLUSION

Overall, this study and its findings demonstrate the utility of using social network analysis to better understand university governance processes at the meso-level. By adopting this approach in their planning, institutional leaders can leverage their respective governance networks to better plan and consider who should be involved in formal university governance depending on institutional priorities; what committees should be most central to the overall functioning of the organization; how committee membership can be more equitably distributed; and lastly, which current members of university committees could be trained and developed to be future institutional leaders. Ultimately, we encourage institutional leaders to adopt this approach to better understand their own institutions, benchmark with other, and improve institutional decision-making overall.

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BECOMING INTERNATIONAL: HIGHER EDUCATION INTERNATIONALIZATION AT JIMMA UNIVERSITY, ETHIOPIA

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ABSTRACT

Drawing on a qualitative case study design, the study analyzed Jimma University's institutional efforts at advancing internationalization, emphasizing the role of leadership and governance structures, and the institutionalization of international practices within its core functions. Data were obtained from document analysis and in-depth interviews purposefully selected key informants. Data was thematically analyzed, guided by research questions and internationalization frameworks from De Wit et al. (2015) and Knight (2004). The study reveals that while the university views internationalization as a strategic means to achieve its vision, the planning effort shows notable gaps in fully reflecting internationalization and its contextualization. Initiatives are not guided by operational documents, lacking coordination structures or mechanisms, and with limited resources to operationalize. Academic and economic rationales for internationalization are more prominent. Though dominated by an activity approach and not sufficiently comprehensive, internationalization is primarily practiced in the teaching and learning, and research missions. Internationalization at home (IaH), a preferred strategy for developing countries such as Ethiopia, has not been given due attention. In a nutshell, the university has identified internationalization as a strategy to achieve its vision; however, meaningful integration requires strategic leadership, more rigorous and deliberate planning and execution.

INTRODUCTION

Higher education internationalization remains a key strategic priority of universities globally, driven by a confluence of academic, economic, political and social-cultural motivations (De Wit, 2002; Knight, 2004). Universities recognize its potential to advance their educational mission, contribute to global development, and elevate their standing within an increasingly interconnected and competitive global landscape (Marinoni & Pina Cardona, 2024).

Internationalization in higher education is broadly defined as:

> …the intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society. (De Wit et al., 2015, p. 281)

Internationalization can be integrated into the higher education systems through policy, strategies, and programs (Knight, 2004). Policies can be formulated in such a way that they address internationalization or other issues that influence its progression (Knight, 2004). The process requires strategic leadership where programs can be used as mechanisms for implementation. When strategically led, all dimensions of internationalization are integrated into the core functions of higher education, thereby fostering the assurance of the institutions' overall quality (De Wit, 2019).

Internationalization can be approached through activities, outcomes, rationales, and process, at home or abroad (Knight, 2004). At the institution level, internationalization activities encompass a wide range of initiatives including mobility of students, staff, program and provider; research collaboration and partnerships; internationalization at home, including internationalizing the curriculum and other support services; and internationalizing the community service functions through working with local and international stakeholders (Knight, 2004).

De Wit noted that, historically, the internationalization practice was predominantly focused on abroad rather than at home engagement; characterized by an ad hoc, fragmented, and marginal approach, primarily serving the interests of a small, elite subset of students and faculty (De Wit, 2019). Furthermore, it was increasingly driven by economic motivations and the pursuit of higher rankings; there was minimal alignment among the three core functions of higher education; it was more of an institutional concern than a governmental one; and it was a more strategic concern in developed nations and less significant in emerging and developing countries (De Wit, 2019). However, recent practices indicate a shift in these trends, with internationalization becoming central in numerous higher education systems, especially in the Global North (De Wit, 2019; De Wit & Altbach, 2021).

Internationalization experiences in the Global South reflect limited curriculum internationalization; lack of a standalone policy; with student mobility remaining the most prominent than program and institutional mobility; and extensive partnerships and collaboration on research, teaching and learning (Thondhlana et al., 2020).

The intentional integration of all the dimensions of internationalization into the functions of a higher education institution (HEI) is essential to optimize its benefits (De Wit, 2002; De Wit et al., 2015; Hudzik, 2011; Jooste, 2006; Knight, 2004). Moreover, the internationalization practices of HEIs must be closely aligned with their institutional context and take into account the local, national, regional and global needs (Rumbley et al., 2012).

While internationalization offers significant potential to enhance the quality of education, it also presents numerous risks and challenges for low- and mid-income countries (LMICs). Instead of addressing local needs and priorities, internationalization policies and strategies in the LMICs often imitate the Anglo-Western experience (De Wit et al., 2019). Furthermore, internationalization facilitated the advancement of Western-centric ideologies, including neoliberalism, in non-Western contexts (Bamberger et al., 2019, as cited in R'boul, 2022). In the African context, the unintended consequences of these ideologies contributed to brain drain, the commodification of higher education and the persistent inequality between universities in the Global North and South (Alemu, 2014).

Several documents establish the framework and guidelines for international higher education (IHE) practice in Ethiopian HEIs. Key among these are the Education and Training Policy (Ministry of Education [MoE], 2023), Higher Education Proclamation (1152/2019) (Federal Democratic Republic of Ethiopia, 2019), the Education Sector Development Program V (ESDP V)(Ministry of Education [MoE], 2015), and the Higher Education Internationalization Policy of Ethiopia (Ministry of Science and Higher Education [MoSHE], 2020). In addition to these education sector documents, the broader socio-economic and political policies and plans as well as regional and global motivations and requirements play a major role in shaping the development of internationalization.

In this broader context, Ethiopian universities are practicing internationalization in their core and support functions. Jimma University, one of the public and oldest universities in Ethiopia, exemplifies such efforts. It was founded in 1952 under the affiliation of the Ethiopian Ministry of Education (MoE) and the Oklahoma State University, following an agreement signed between the

Imperial Ethiopian Government and United States of America (USA) (Jimma University, 2023). Initially founded as Jimma Agricultural Technical School, it expanded through its merger with Jimma Institute of Health Sciences (JIH) and became a full-fledged university in 1999 (Federal Democratic Republic of Ethiopia, 1999; Jimma University, 2023).

Jimma University articulates its vision as "… aspires to be one of the Leading Community Based Research Universities in Africa and Renowned in the World by 2030" (Jimma University, 2023). The university's missions underscore the commitment to "…its core functions of innovative teaching, research and community services through its cherished Community Based Education (CBE)".

Through a review of existing literature, the researchers identified gaps in existing studies on internationalization practice at Jimma University. This gap highlighted the need for an inquiry into the university's effort to become international. Hence, the purpose of this study was to examine how IHE works are approached at the university with a focus on understanding its comprehensiveness and relevance to the context. The governance and leadership structures were also explored to provide insight into the roles that these institutional frameworks play in facilitating internationalization initiatives. By examining both the strategic positions and practices, the study provides multifaceted insights into the degree to which internationalization efforts are strategically put into practice.

RESEARCH QUESTIONS

The following two research questions were explored:

1. How are Jimma University's internationalization efforts led and institutionally backed?
2. To what extent are the framing and practices of internationalization at Jimma University holistic and contextually grounded?

LITERATURE REVIEW

Strategic leadership is crucial in higher education internationalization process. Internationalization requires commitment through the formulation of supportive policies and guidelines, the establishment of a leadership structure, the development of plans, and putting monitoring and evaluation mechanisms in place (De Wit, 2020; Knight, 2004). This study thoroughly analyzed the key aspects of strategic leadership in the context of higher education internationalization with the purpose of evaluating whether internationalization efforts are supported by a strategic vision and oriented toward achieving desired results.

The broader rationales of internationalization are academic, economic, political and sociocultural (De Wit, 2002; Knight, 2004). The academic rationale prioritizes enhancing an institution's academic, research, and service functions using initiatives including, but not limited to, student and staff exchange, standardizing education delivery, integrating internationalization into curricula, and expanding the scope of research undertakings. Whereas the economic, political, and socio-cultural aspects consider internationalization as an instrument for economic return, political advantages, and the benefits of promoting socio-cultural knowledge, skills, and values, respectively. The study attempted to ascertain the rationales for internationalization through a review of existing institutional practices.

Scholars in the field emphasize the role of internationalization in assuring the quality of teaching and learning, research, and community services (De Wit et al., 2015). This implies internationalization needs to be integrated across all functions and components of higher education, fully capturing its three dimensions: 'international,' 'intercultural,' and 'global'(De Wit, 2002, 2020). Such mainstreaming indicates a strategic approach to higher education internationalization and facilitates the realization of its transformative capacity.

Knight provided a framework for analyzing the internationalization of the three missions of an institution (Knight, 2004). In academic affairs, internationalization can be embedded into curriculum and programs; the teaching and learning process; people, program and provider mobility activities; and co-curricular and extracurricular activities. With respect to research, exchange programs and integration of visiting researchers and scholars into academic activities on campus, joint and network-based research and innovation projects, jointly published articles and papers, international research partners and agreements, international conferences and seminars are among the instruments. With regards to community service, engagement of students in local cultural and ethnic organizations, involvement of representatives from local cultural and ethnic groups in teaching/learning activities, service for the international community and research initiatives, and extra-curricular activities and projects are among the approaches to internationalization. In this research, these concepts informed how themes were organized and data were analyzed.

Foundational frameworks by scholars such as (Knight, 2004) and (De Wit et al., 2015) have shaped the field, and yet, it is argued by others like (Stein, 2021a) that internationalization has to be approached critically, as it can be a tool to perpetuate the existing inequality in knowledge generation and dissemination. (Stein, 2021a) advocates a decolonial approach where institutions employ critical lenses in examining power hierarchies and dominant assumptions in their internationalization efforts, giving due emphasis to epistemic plurality and relational accountability.

Internationalization can be categorized as 'at home' and 'abroad' (Knight, 2004) where it is practiced within the domestic environment or outside of it. Internationalization at home provides an opportunity to address the global hegemony in knowledge production and dissemination (Stein, 2021b). As its major component, internationalization of the curriculum provides fertile ground for reflecting on prior hegemonic experiences and integrating contextualized knowledge, and to reach the majority of students in developing countries (Stein, 2021b). Using online and virtual learning for collaborative courses and research projects as well as hiring international academics and scholars are other strategies for internationalization at home (Knight, 2012). In this research, these concepts are employed to analyze the internationalization experience of the university with respect to its responsiveness to challenging the global hegemony reflected in higher education.

METHODS

Research Design

The study employed a post-positivist paradigm where established frameworks guide the qualitative research undertaking (Creswell, 2007). An interpretive qualitative approach was used to explore higher education internationalization practices, with Jimma University purposively selected as a case study. This enabled rigorous analysis of participants' perspectives and contextual forces shaping internationalization at the university.

Sources of Data and Data Gathering Tools

Data for this study were primarily drawn from document analysis and in-depth interviews with purposefully selected key informants. Given its indispensable role in steering the entire internationalization agenda at Jimma University, the Strategic Plan 2021–2030 (2020) served as a principal source document for this study. The study analyzed internationalization goals and performance indicators outlined in the strategic plan. This helped to comprehend how priorities in the strategic plan address internationalization rationales and its integration into the three missions of the university.

The study examined how senior officials approach the leadership and practices of internationalization at the university. Considering the broadness of the study area and limited timeframe for the study, data collection prioritized major university-wide engagements. To that end, in-depth interviews were carried out with five key informants who are the Office Heads of International Relations, Academic Program Affairs, Research and Community Service, and the Dean of Graduate Programs. Data from the interview provided insight into the integration of internationalization into the three missions of the university as well as its governance and strategic leadership. Semi-structured interview guides were used to explore key informants' interpretation and operationalization of internationalization in their respective roles and responsibilities. Data were collected through interviews, a non-invasive method, and permission to conduct the research and collect data was granted by the university.

Method of Data Analysis

In this study, the data collected were analyzed qualitatively. The deductive thematic analysis method was employed, with the research questions serving as the overarching themes, and the theoretical frameworks by De Wit et al. (2015) and Knight (2004) were used to guide the analysis under the themes. The researchers first transcribed and organized all interview data and prearranged the document for analysis. The document and the transcribed data were read multiple times, coded within predefined themes, and analyzed to address the research questions as framed by the theoretical concepts. This approach helped in ensuring that the analysis remained both empirically grounded and theoretically informed.

Trustworthiness of Data

To enhance the trustworthiness of the data, interviews were recorded and kept for review when necessary. Direct quotes from the key informants were incorporated. Furthermore, the data gathering techniques used facilitated data triangulation.

FINDINGS

The data analysis addressed the research questions as follows:

RQ. 1. How are Jimma University's internationalization efforts led and institutionally backed?

Strategic Leadership for Internationalization

The university's strategic plan explicitly acknowledged the fact that past internationalization initiatives have been overlooked, not systematically documented, and reported. It underscored the importance of clarifying the scope of internationalization and the systemic changes necessary for its successful implementation.

The strategic plan puts internationalization as the beam of the university's structure to achieve its vision. It is framed as the one critical component that transfers the load of the university's vision to its three missions.

The university's strategic plan lays out the values that support the practice of internationalization, including respecting and promoting diversity and collaboration, partnership, and networking. And yet, internationalization in a broader manner and as a means to achieving quality in HEIs is not adequately entertained as a value of the university.

Internationalization is put as one goal (Goal # 4) in the strategic plan, covering 10.26 % of the university's strategic engagement. The goal encompasses two objectives: participation of expatriate staff and students, and international branding and marketing. This implies that the

main goals of internationalization are to increase the university's international recognition and to encourage staff and student mobility. To accomplish these goals, several strategic efforts have been identified targeting expatriate staff and students, along with initiatives to improve the university's branding and international marketing. The strategies include:

> *Strengthen alumni engagement; improve JU ranking in the world; establish linkage with the top-ranked universities, prominent academic/research network, and academic fraternities while expanding JU reach in the region; strengthen the office of external relation to promote and project JU's image/activities via publicity materials to the world; increase JU's organization of forums on global and national cross-cutting/pressing issues; expand incentives, non-bureaucratic career paths, and activities that promote internationalization at JU and attract and retain international staff and students; and comprehensive services delivery for international student, staff, and visitors. (Jimma University, 2021, pp. 73–77)*

Other dimensions of internationalization of teaching and learning, research, and community services are integrated into the goals dedicated to the three missions.

Even though internationalization is considered as a key strategy for attaining the university's vision, it has not been consistently driven by the development of overarching guiding documents, viz. policies, strategies, and plans, beyond what is included in the university's Strategic Plan.

One of the key informants argued that there are program delivery and research guidelines, and yet not accompanied by strategic documents that guide the internationalization practices (Participant III). Memorandum of understanding (MOUs) guides internationalization initiatives covering cross-border education, research collaboration, and staff and student exchange.

As there is no separate document for internationalization, context analysis is not done separately. One of the participants noted that

> *A SWOT analysis was undertaken during the development of the strategic plan, including all institutional issues collectively. However, there was no separate analysis conducted specifically focusing on internationalization in this process. (Participant I)*

Moreover, the University's institutional, national, regional, and international contexts that affect internationalization efforts were not exhaustively analyzed and interpreted.

The governance goal in the strategic plan incorporates a reform for establishing and strengthening the internationalization office. The University has an External Relations and Communications office led by a director. Under the Directorate, there is an International Relations Office that is mandated with the implementation of Goal No. 4.

Other objectives of internationalization are handled by other units, with the IR Office playing little to no direct role in their implementation.

> *There are responsible bodies. For instance, if it is related to student admission, it is the responsibility of the registrar. If it requires collaboration, the academic vice president's office and the institutes and colleges are also involved. If it is research, the individuals who bring the project are responsible. Institutes also collaborate. We facilitate the process for them, like signing the MoU. Outgoing participants will be supported, and those coming will be bridged and mentored. The office works as a communication office. (Participant I)*

The contribution of offices beyond the International Relations Office is significant to the overall implementation of internationalization in the university. For example, participant II highlighted the substantial role of academic programs in enhancing curriculum internationalization. With respect to collaborations, a participant noted that

> *There are nine colleges. The collaboration guideline is general, describing how it should be done and is designed to meet minimum requirements for financing and management, thereby acknowledging the work done. Each college has its own guidelines and review board. We fine-tune the efforts but don't challenge the autonomy of colleges. The local fund is managed as per the national treasury guidelines. The international ones are reviewed for their financing to check that they don't violate national and institutional regulations, and those that pass the Institutional Review Board qualify to be undertaken. We don't dictate them on the publications also, they manage it themselves. Their work is guided by the MoUs signed, and the involvement of the university is limited. (Participant IV)*

The recently established Collaborative Projects Office is mandated with the role of creating, coordinating, supporting, evaluating the effectiveness of projects, and validating their alignment with national and institutional regulations and priorities. The office is under organization, and internationalization guidelines for its work are being prepared.

The IR office facilitates other aspects of internationalization as needed by other units. A participant described the situation as:

> *The office is so busy. Writing and sending invitations to foreign entities or providing information for them to process their visa, preparing MoU and signing them, and so forth. Moreover, there are cases related to international students and staff that the office takes care of. (Participant I)*

The integration of internationalization into the teaching and learning, research, and community service missions of the university through a coordinating unit is not realized. The importance of a coordinating office is highlighted by participant II saying…

> *The system is not strong. If the IERCO coordinates the efforts, it would have been good. But programs are primarily responsible for assessing the need and providing the required service. (Participant II)*

Among the sources for financing internationalization and other resources, research grants from abroad and generating income through international delivery of education are identified in the governance goal of the strategic plan. The Government of Ethiopia and partnership with international institutions are also among the sources of finance.

From the data, it can be observed that the institution backs up internationalization through recognizing it as a key pillar in achieving its vision and organizing some initiatives under a dedicated office. However, internationalization leadership lacks proper guiding documents, clear organizational structure, and coherent coordination.

RQ. 2. To what extent are the framing and practices of internationalization at Jimma University holistic and contextually grounded?

Rationales for Internationalization

The rationales for internationalization, as outlined in the strategic plan, are geared towards achieving the university's vision of becoming a renowned institution globally and promoting its brand on the global stage through leveraging international and global engagement. It envisions strengthening its global presence and establishing itself as a prominent provider of higher education.

The objectives highlighted within the internationalization and global engagement goal as well as other goals of the strategic plan reflect the broader purpose of internationalization. A review of different sections of the document reveals that internationalization efforts are meant to generate income, align the three core missions with internationally recognized standards, and facilitate staff development and resource mobilization.

Substantiating this fact, a key informant noted that internationalization serves as a prominent tool for the survival of the university as it is in transition to become an autonomous research institution that requires generating its own resources.

> *In alignment with the national policy priorities of autonomy and differentiation for public HEIs, the university is planning to be autonomous and a research university within the next couple of years, and discussions are underway surrounding the transition. When you become autonomous, you must be self-reliant, which involves fostering collaboration and securing funds. Internationalization plays a key role in the university's effort to effectively position itself in the current reality. (Participant I)*

Participant V also described institutional reputation, staff development, staff exchange, technology import and sharing as the rationales for internationalization.

The interview with participant II underscores that internationalization is perceived as a catalyst force to enhance mobility, foster recognition through staff and student exchange, cross-border education, and local engagement with actors in the higher education ecosystem. These aspects collectively embody the academic, economic, and sociocultural rationales underpinning internationalization.

The strategic alliance dimension of the rationale for internationalization is not explicitly pointed out in the university's Strategic Plan. According to participant I, this rationale is predominantly accommodated at the national level, with the university receiving international students through the nationally implemented framework and placement system.

Internationalizing the University's Core Functions

In this section, the internationalization of teaching and learning, research, and community service functions of the university is analyzed, covering the practice within the three missions as conceptualized by Knight (2004).

Internationalization of teaching and learning

The strategic plan addresses the internationalization of teaching and learning. As one pillar of teaching and learning, strategies are put in place for the internationalization of curriculum, including the integration of indigenous knowledge and SDGs, international accreditation of programs and courses, and resource capacity development. These efforts are designed to integrate the international and global dimensions into programs. As such, the intercultural dimension was not adequately highlighted.

Regarding curriculum internationalization, one of the participants noted that

> *Expat staff are hired to fulfill the requirements of the curriculum while the curriculum is based on local need, not international. For instance, for postgraduate programs, especially in Health Specialty areas, we need expat staff to run them, and we send students abroad for externships. The curriculum is local need based. We must go beyond the national, like East Africa, Africa and the like. That is when we can say that the curriculum is international. Because it goes beyond the border. (Participant II)*

Apart from that, activities required to internationalize the whole aspect of the curriculum are minimal. To ensure the internationalization of a curriculum, guidelines for its design, review, and evaluation must integrate internationalization as one issue. However, these important documents and guidance are missing. While international accreditation issues are referenced in the strategic plan, the practice is lagging. The same is true for the integration of indigenous knowledge into the curriculum.

Participant II noted the challenges to internationalize the curriculum …

> *The programs, especially the undergraduate ones, are harmonized at the national level, and making changes requires consultations with the Ministry of Education (MOE). Now, discussions are underway to redesign and make them international. Regulations are required to guide these efforts at different levels. (Participant II)*

This is a national level challenge that requires collaboration with MOE and HEIs. The Higher Education Internationalization Policy of Ethiopia puts curriculum internationalization as one strategy (Ministry of Science and Higher Education [MoSHE], 2020). In what ways and with what conditions the harmonization of the curriculum and its internationalization could work hand in hand demand policy dialogue and direction.

The university engages in program delivery in collaboration with regional and international actors. Participant V noted that internationally, the university works mainly with European countries and universities.

> *For instance, Belgium universities run PhD and MA Programs and enroll a large number of students, supervising them every year through NASCER and VLIR collaborative projects. These projects have a coordinating office. Through these projects, staff engage in education and training, research, and community services. The majority of PhD holders at the university gain valuable learning experiences through collaborative engagement in these projects. Students also came from African countries like Rwanda and Uganda to our university through these projects. They come through short-term exchange or long-term degree programs. These projects are mostly in health programs. (Participant II)*

These projects are student mobility projects through PhD and MA programs at JU and Belgium universities, attending selected or all courses from the two universities, depending on the type of the program.

At the regional level, there are South-South-North partnerships. It is noted that

> *For instance, the One Health program is implemented by African and European Universities. Under the program, in the near future, we will have international conference attendees coming from more than 20 countries. (Participant II)*

In the strategic plan, some elements of internationalization abroad are included in the goal for internationalization and global engagement. Cross-border delivery to neighboring countries through international campuses and Open and Distance Learning are among the modalities. A cross-border campus at Somali Land delivering Health and Business graduate programs has been launched. The focus of internationalization abroad, as it exists now, is income generation.

It was noted that the university lacks policies, guidelines, and a budget allocated for the provision of support services to international students, including language training and the adaptation of cafeteria and dining facilities to meet international standards and student needs. The strategic plan attempted to address issues related to creating a conducive social and physical environment for expatriate staff and international students. However, insufficient attention has been paid to the transformation of the campus environment to support intercultural understanding and interaction among local students.

Internationalization of research

In the strategic plan, researching indigenous knowledge, resource and research capacity building strategies are incorporated as goals for research.

In practice, there are numerous collaborations and partnerships.

> *Tropical Disease Research Center is the biggest project and is supported by international grants. An office is set up, and personnel are assigned to facilitate the project's work. Participant IV*

While there are efforts to fund projects by soliciting funds from the Global South, most regional collaborations involve those from the North due to financing challenges (Participant IV).

Participant II indicated that international research conferences are also conducted through partnerships with actors from the North, where the project involves more than 20 African countries.

The participants recognized Global North dominance, a power dynamic primarily caused by funding arrangements. In response, the university adheres to ethical frameworks and institutional as well as national legal guidelines to ensure that externally funded agendas align with both ethical standards and local regulatory frameworks. Nevertheless, challenges persist in fully utilizing donor funds within local contexts.

Diaspora engagement on research programs through the Ethiopian Diaspora Agency and embassies is also one potential avenue for research collaborations (Participant IV). In addition, staff are encouraged to publish in accredited journals for promotion, and research projects often mandate publication in accredited journals as a standard requirement. However, it was noted that there are no formal institutional mandates regarding the publication platforms for dissertations and theses.

Internationalization of community service

Jimma University's strategic plan emphasizes the need for alignment of certain social services with international standards, which indicates a commitment to internationalization of community service engagements. Furthermore, the strategic plan explicitly acknowledges the extension of community service beyond national borders and local contexts to include the international community. Compared to the institutional missions of teaching and learning and research, however, the internationalization of community service remains an understated component of the strategic plan.

The community service office works mainly with treasury funds from the government. It is only through a few collaborative projects that cover both research and community services where some of the community service works are supported by international grants and staff.

The university has two institutes that reflect the intercultural dimension of internationalization. These are Oromo Studies and African European Studies.

> *At the Institute of Oromo Studies, professors are gathered from various academic programs and contribute to a range of activities, including the provision of training and the development of culturally rooted educational games. We are inspired by the reciprocal nature of academic exchange to establish the African European Studies program, like universities in Europe hosting African Studies programs. The program is grounded in the recognition of mutual expertise, as we have experience, and we want to share it with them, and we can share their experience through studying their organization, particularly in areas such as governance. (Participant IV)*

With respect to working with national level communities, participant IV added that

> *There are universities that we share resources with, get support from and provide support to, especially on ICT for those established after JU. Moreover, about seven universities have collaborative projects studying politics, peace building, and family studies from an Oromo culture perspective that will help develop the local knowledge. (Participant IV)*

It is argued by participant III that these local partnerships and collaborations will strengthen the university's capacity as an institution from the South.

The data revealed that the institution does not have a unified and contextualized conceptualization of internationalization supported by a framework covering all relevant rationales. Furthermore, internationalization is approached as an ad hoc and activity-based engagement mainly practiced in the teaching and learning and research missions, indicating the absence of a holistic and contextually based strategy.

DISCUSSION

Internationalization Leadership

The university puts internationalization as a key pillar to achieve its vision. This clearly indicates that internationalization is considered as a key strategic approach to fulfill the university's vision, which is a reality in many HEIs in the world (Marinoni & de Wit, 2019). Knight (2004) highlighted the strategic importance of taking internationalization as a strategy to achieve institutional goals.

The consideration of internationalization as a beam for the vision to be realized must be advanced through the values and principles that guide the university's efforts. Even though there are values incorporated in the strategic plan that support the practice of internationalization, it is not singled out as a value by itself.

The university's internationalization goal reflects a short-term neoliberal approach that mainly focuses on branding and reputation rather than a long-term comprehensive quality approach to build on the needs and opportunities of its staff and students (De Wit, 2019). Furthermore, the goals of internationalization are dispersed across various issues of the strategic plan weakening the coherence of efforts and hindering their potential to deliver quality as internationalization outcome. This characteristic of a collection of fragmented and unrelated activities remains a predominant experience of most institutions in the world (Knight & De Wit, 2018).

Internationalization has not been consistently driven by the development of overarching guiding documents like policies and procedures. While there are challenges and risks associated with internationalization, as Jowi (2009) posits, planning for and supporting internationalization

efforts with documents and the necessary services will render positive results (De Wit, 2020).

Context analysis for practicing internationalization is not done by the institution. Making context analysis helps to ensure the proper integration of internationalization and benefiting more from the process (De Wit, 2010; Rumbley et al., 2012). Context analysis also entails a proactive approach to internationalization where its integration is based on the analysis of the internal and external context and other crucial issues like cost and benefit (Rudzki, 1995, as cited in De Wit, 2002).

There is no formal structure for leading internationalization efforts. This kind of internationalization leadership is a common experience in African universities, where the role of the international office is limited to making linkages (Jooste, 2006). The African experience of internationalization leadership faces challenges like networking with other internationalization leaders, changing political conditions, lack of skill and resources, causing difficulty for mainstreaming internationalization (Jooste, 2006). The lack of an institutional framework that is strong enough to support internationalization is among the challenges in Ethiopian HEIs (Alemu et al., 2024).

Given that internationalization is pursued as an ad hoc practice by different units of the university with diverse engagements, it is difficult to assert that it is strategically financed. Scholars have highlighted the shortage of resources as one of the challenges facing the internationalization of higher education in Ethiopia (Admasu & Desta, 2021; Tamrat & Teferra, 2018).

The use of strategies that help to go beyond activities (Knight, 2004) is not a widely institutionalized practice at Jimma University. The leadership of internationalization is not strategic, as it misses out on key issues of strategic leadership, including the commitment to develop important guiding documents, the establishment of a leadership structure, preparation of plans, and monitoring and evaluation of the efforts, as stipulated by (De Wit, 2020) and (Knight, 2004). In their study, Tamrat & Teferra (2018) unveiled that internationalization in Ethiopian HEIs is practiced in an unsystematic manner, lacking overarching plans and organized moves. This is also the experience of low-income countries in East Africa (Moshtari & Safarpour, 2024).

Rationales and Practice of Internationalization

Although the rationales for internationalization are not explicitly stated, among the rationales discussed by (De Wit, 2002) and (Knight, 2004), namely academic, economic, political and sociocultural, the academic and economic rationales are relatively well represented, while the social-cultural and political aspects are less prominent. From the emerging rationales (Knight, 2004), the university incorporated international profile and reputation, staff and student development, income generation, research and knowledge production. As a multicultural country, however, the social-cultural dimension requires getting enough attention not only in fostering interactions between local students with international staff and students but also in facilitating engagement among local citizens from diverse backgrounds. This gap underscores the minimal integration of the intercultural dimension of internationalization (Knight, 2004). The institution does not integrate the political rationale beyond the national level efforts to establish strategic alliances with neighboring countries where the university serves as an implementer. Aside from citing income generation as an economic rationale, the focus is predominantly centered on academic and research capacity building and resource mobilization, reflecting a pattern across other HEIs in Africa (Jowi, 2009).

The options to internationalize teaching and learning in a university context cover curriculum and programs; the teaching and learning process; people, program and provider mobility; and curricular and extracurricular activities (Knight, 2004). Internationalization of the curriculum, mobility of people, providers and programs, international accreditation of programs

and resources are practiced at Jimma University. For teaching and learning, hiring expatriate staff for positions where expertise is unavailable in the country is a common practice. Co-curricular and extracurricular aspects of student engagement have received limited attention within JU's internationalization efforts.

The practice of internationalization of teaching and learning is somewhat disintegrated, lacks strategic leadership, and is not inclusive of the three dimensions of internationalization. This is critical for comprehensive internationalization and the inclusion of all students, staff and society in the process and to ensure their benefit out of the process(Beelen & Jones, 2015; De Wit, 2020).

Among the options to internationalize research in a university context are joint and network-based research and innovation projects, jointly published articles and papers, international conferences and seminars, international research partners and agreements, research exchange programs, and integration of visiting researchers and scholars into academic activities on campus (Knight, 2004). The university practices research collaboration and partnerships, joint publication with staff from other institutions, securing research grants, diaspora engagement in research programs, and holding international research conferences. The practice covers almost all areas of internationalization of research but it is fragmented and ad hoc. Management and full utilization of research funds gained from the North is mentioned as one of the challenges of research internationalization, reflecting a broader pattern commonly experienced by institutions in developing countries (Jowi, 2009).

Among the options to internationalize community service in a university context are involvement of representatives from local cultural and ethnic groups in teaching/learning activities, research initiatives and extra-curricular events and projects, engagement of students in local cultural and ethnic organizations, and provision of service for the international community (Knight, 2004). Working with local universities in sharing knowledge and resources, the establishment of institutes for indigenous knowledge and international experience studies, and the plan to provide community service to the international community are the internationalization practices at the university.

The internationalization of community service is given little attention compared to the two other missions of the university. This is an experience of many contexts (Jones et al., 2021) and leads to a gap in the practice in one of the core areas of higher education.

In the university, international research projects, teaching and research collaborations, and student mobility, particularly in graduate programs, are widely practiced. They were also found to be the dominant engagements of internationalization in Ethiopian HEIs (Tamrat, 2015). Generally, the internationalization of teaching and learning, research, and community service missions at the university lacks strategic leadership that is reflected in the absence of intentional integration of internationalization dimensions into the missions and delivery modalities of the institution. The practice is not aligned with the recommendations put forth by scholars (De Wit, 2002; De Wit et al., 2015; Hudzik, 2011; Jooste, 2006; Knight, 2004), resulting in its low impact on the quality of teaching and learning, research, and services to society.

As student and staff mobility are dominantly practiced, the internationalization engagement of the university mainly reflects internationalization abroad, even though internationalization at home provides more benefits in developing countries like Ethiopia. The internationalization at home aspect, requiring internationalization of the curriculum and other supportive contexts for its implementation, is limited in the university. This is the experience of higher education systems in the Global South (Thondhlana et al., 2020) and leads to not using the opportunity to challenge the global hegemony through higher education internationalization.

CONCLUSION AND IMPLICATIONS FOR EDUCATIONAL PLANNING AND PRACTICE

The study presents an analysis on the status of higher education internationalization at Jimma University. The research examines how internationalization is approached by analyzing its comprehensiveness and integration into the core functions of the university. The analysis is guided by theoretical concepts from De Wit et al. (2015) and Knight (2004).

Jimma University was established in 1952 under the auspices of the Ethiopian Ministry of Education (MoE) in collaboration with Oklahoma State University, holding an international perspective from its inception. The university views internationalization as a strategic means to achieve its vision. However, it lacks guiding documents such as a dedicated policy, strategies and implementation plans. The task is coordinated with neither a decentralized structure nor a centralized office to consolidate fragmented efforts. Furthermore, limited resources constrain the process. Collectively, these conditions lead the practice to become primarily activity-based, ad hoc, and fragmented.

Among the rationales of internationalization, the academic and economic dimensions are more prominent than the social-cultural and political aspects. Internationalization is primarily practiced in the teaching and learning, and research functions. However, these engagements lack comprehensiveness in terms of integrating the three dimensions of internationalization - international, intercultural, and global - into the teaching and learning, research, and community service missions. Activity approach dominates the internationalization practice where the activities are fragmented, uncoordinated, and are not strategically directed. Moreover, it overlooks the internationalization at home aspect that provides a ground to challenge established status quo on knowledge production and dissemination by the West.

Overall, the University has identified internationalization as a strategy for achieving its vision. Therefore, strategic leadership must align with the chosen strategy to achieve the university's vision and mission. Planning efforts should be grounded in a clear understanding of the strategic direction and its alignment with the institutional, national and international contexts. Furthermore, the direction should be supported by an appropriate structure, effective leadership, and sufficient resources. Jimma University needs to work diligently to enhance its strategic leadership and planning processes to ensure intentional integration of internationalization into its system and realize its full potential.

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APPENDIX A

SEMI-STRUCTURED INTERVIEW GUIDE FOR INTERNATIONALIZATION OFFICE HEAD

1. How would you describe the leadership approach to internationalization within the university?
2. What roles does your office assume in coordinating and providing leadership for the university's internationalization efforts?
3. What are the main rationales driving internationalization efforts at your university, and how are these rationales reflected in institutional policies and practices?
4. What internationalization practices are implemented within the office you oversee?

APPENDIX B

SEMI-STRUCTURED INTERVIEW GUIDE FOR ACADEMIC PROGRAM, RESEARCH AND COMMUNITY SERVICE OFFICE HEADS

1. How would you describe the leadership approach to internationalization within the university?
2. What are the main rationales driving internationalization efforts at your university, and how are these rationales reflected in institutional policies and practices?
3. What internationalization practices are implemented within the office you oversee?

FACTORS IMPACTING TEACHER TECHNOLOGY KNOWLEDGE AND IMPLEMENTATION IN K-12 CLASSROOMS

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ABSTRACT

This study provides insight into teacher technology knowledge and implementation in K-12 classrooms, addressing a gap in quantitative research of in-service teachers' practices aligned with the International Society for Technology in Education (ISTE) Standards for Educators. Using the Technological Pedagogical Content Knowledge (TPACK) and Teacher Preparation Technology Inventory (TPTI) as a framework, self-reported data were collected from teachers in an economically diverse Southern California school district. Analyses, including one-way MANOVAs, ANOVAs, and regressions, examined demographic factors such as years of experience and grade level taught in their relationship to technology implementation. Results revealed practices well below the expectations of the field and the standard set by ISTE for appropriate technology implementation. Lower elementary (K-3) teachers demonstrated less appropriate technology use compared to other grade levels; and teachers with 16+ years of experience implemented technology less effectively than those with 15 or fewer years. The most significant factor influencing appropriate technology use, surpassing years of experience, was TPACK knowledge. From the educational planning perspective, these findings highlight a need for improved professional learning in TPACK among in-service teachers and pre-service preparation programs. The results also underscore the importance of establishing national technology standards to prepare students for college and careers. This study serves as a reflective tool for educators and a guide for policymakers to enhance technology integration in both pre-service and in-service education.

INTRODUCTION

With the demand for STEM related careers projected to increase at more than twice the rate of non-STEM related careers in the next decade (U.S. Bureau of Labor and Statistics, 2021), and the Executive Order released in 2025 to leverage Artificial Intelligence (AI) as a means to spur economic growth as well as a means to increase national security (Exec. Order No. 14,179, 2025) it follows that technology, the driving force behind the growth, must be leveraged appropriately in K-12 classrooms. Although the need for effective technology integration is supported by the United States Department of Education's (2011) mission to prepare students to be college and career ready, as well as post-pandemic literature (Huck & Zhang, 2021; Schmitz et al., 2022; Winter et al., 2021), the current educational system has failed to provide students with the skills needed to compete in the 21st century marketplace. The California Department of Education (2024) published that only 45.5 percent of high school graduates were college and career ready, meaning that more than half of all 2024 graduates were not college or career ready.

Noticing the gap in students' skills and industry needs, many leading tech giants in the private business sector have taken an active role trying to fill the gap in quality technology education (National Education Association, 2019). Although the private sector has worked to address the gap, much of the responsibility falls on the public school system given the historically intertwined nature

of education and the economy (Davies & Bansel, 2007; Duncan, 2010; ElMorally et al., 2022; Evans, 2010; Hill & Kumar, 2012; Obama, 2011; Ross & Gibson, 2007; Stone & Lewis, 2012). Over the years, public education has been held accountable for implementing initiatives based on societal needs in the United States. It is vital for students to be college and career ready so that "citizens of the United States would be prepared to contribute to the nation's defense requirements and to participate and contribute to the nation's economy" (Johanningmeier, 2010, p. 349).

Most recently, technological advances coupled with the proliferation of technology in education due to the pandemic and creation of AI, have created a need for the education system to shift yet again to effectively incorporate technology to deepen understanding. Without adequate training and support, this shift has left many educators underprepared to appropriately implement technology in their classrooms, which has resulted in a mass exodus of teachers leaving the profession and/or retiring early (Carver-Thomas et al., 2021; Zamarro et al., 2022). Additionally, this has created a skill gap with students' ability to compete in the 21st-century marketplace, as mentioned above. Without setting clear expectations for technology implementation in the classroom, the United States is at risk of continuing to foster youth who are largely unqualified for college or career-level work. Research shows that unqualified youth are more likely to earn lower wages, engage in recreational drugs, alcohol, or illegal activities (Burds-Sharp & Lewis, 2015; Loprest et al., 2019; Robinson et al., 2015; Schulze, 2020). With domestic and global security in mind, it is imperative to focus on ensuring quality technology implementation in K-12 classrooms so that states with college and career-ready initiatives, such as California (California Department of Education, 2025), students leave college and career-ready in order to remain competitive in the global marketplace and help ensure national security.

This study highlights the need for accountability in K-12 technology knowledge and implementation. It is one of the only studies to use comprehensive demographic data across K-12 classrooms to analyze both self-reported technology knowledge and technology implementation practices. It provides a quantitative baseline of practices aligned with the 2017 International Society for Technology in Education (ISTE) Standards for Educators, examining teacher demographics such as grade level, experience, and technology knowledge. The study also identifies factors contributing to differences in implementation, essential for supporting teachers and ensuring all students receive high-quality technology education. Understanding current practices allows for targeted solutions at both the pre-service and in-service levels and on a national scale.

Teacher Credential Requirements

Under the No Child Left Behind Act (2001), schools are tasked with staffing "highly qualified" teachers, defined as those holding a bachelor's degree, a teaching license, and demonstrating subject competency (Darling-Hammond, 2004; Lee & Lee, 2020). Much like other states, the requirements to become a teacher in California (California Commission on Teacher Credentialing, 2024) are vague when it comes to technology competencies required for certification. For example, to earn a Multiple Subject Teaching Credential, technology competency is only mentioned under the section regarding the teacher preparation program and it states, "Instruction in foundational and advanced computer technology that includes general and specialized skills in the use of computers and technology in educational settings" (para. 5b). This mandate can be interpreted to mean that the incorporation of technology in one course, or even one assignment, could be acceptable. On the other hand, this mandate could also be interpreted to mean that technology should be incorporated in every course across a program. Thus, the actual depth of knowledge required to become a certified teacher is unclear. There is also no requirement for ongoing continuing education for credentialed teachers who have cleared their credential (clearing a credential requires teachers to complete an induction program that is approximately six months to two years in length).

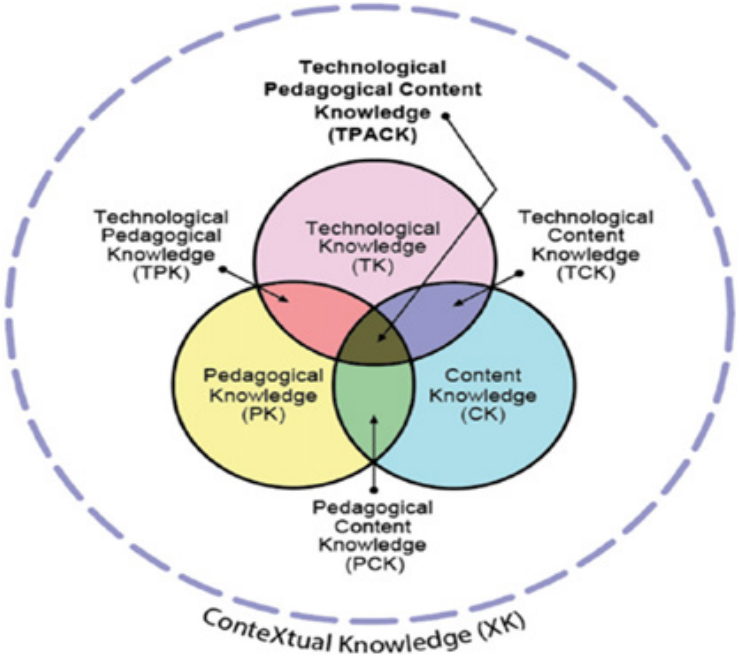
Technology Knowledge

In 2006, Mishra and Koehler, amended Schulman's (1986) concept of Pedagogical Content Knowledge (PCK) model to include technology and called it Technological Pedagogical Content Knowledge (TPACK) (see Figure 1). TPACK describes the relationship among pedagogical knowledge, content knowledge, and technological knowledge. TPACK is the overall framework, with its three core components, Technology Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK) intersecting to form seven knowledge areas, including Pedagogical Content Knowledge (PCK), Technological Pedagogical Knowledge (TPK), and Technological Content Knowledge (TCK).

TPACK requires teachers to have a strong knowledge base in technology, pedagogy, and content to have "pedagogical techniques that use technologies in constructive ways to teach content" (Mishra & Koehler, 2006, p. 1029). The current credentialing requirements align more with Shulman's (1986) Pedagogical Content Knowledge (PCK), however they do not fully address the rigor of TPACK. Given TPACK was introduced within the past two decades, suggests a large portion of teachers may have 14 to 20 more years of teaching ahead and may lack adequate preparation to effectively leverage technology in the classroom.

Figure 1

Technological Pedagogical Content Knowledge (TPACK) diagram (Mishra, 2019, p. 77).



However, it is important to recognize that technology preparation cannot occur within a vacuum; there are many different demographic variables that may play a role in educators' technology knowledge (Kelly, et al., 2021). While comprehensive data and responses of all these demographics were collected, for the purposes of this article, the two most telling characteristics of teachers' technology knowledge and implementation were grade level taught and years of experience. While

prior research has explored variables (Cheng & Xie, 2018; Farrell & Hamed, 2017; Koh et al., 2014), gaps remain in understanding their impact on TPACK and technology implementation, as the studies were limited to specific classes, specific grade bands, or schools, but not comprehensive within the same district across K-12 teachers.

Grade Level

Limited research compares TPACK across grade levels, Koh et al. (2014) found that because secondary teachers only had to plan and prepare for a single subject that they had more time and energy to focus on implementing technology than did primary teachers, who had to plan and prepare for multiple subjects. Conversely, Farrell and Hamed (2017) did not find a relationship between grade level and TPACK. This study offers a more comprehensive analysis of TPACK across four grade bands: lower elementary (K-3), upper elementary (4-6), junior high (7-8), and high school (9-12).

Years of Experience

Research shows a negative correlation between years of experience and technology-related TPACK, but a positive correlation with years of experience and pedagogical content knowledge (Cheng & Xie, 2018; Koh et al., 2014). It follows that teachers who have more experience in the field have higher levels of Pedagogical Knowledge (PK), Content Knowledge (CK), and Pedagogical Content Knowledge (PCK) in their respective disciplines (see Figure 1). However, these experienced teachers who received their credentials prior to the inception of TPACK have lower levels of Technological Knowledge (TK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK) (see Figure 1). This study contributes to the discussion of the role teachers' experience or grade taught plays in technology knowledge and implementation practices.

Technology Implementation

No one teacher is responsible for appropriate technology implementation; rather, teachers are collectively accountable for effective technology use (Mishra & Koehler, 2006). However, there is a lack of consistency from one teacher's practices to the next because teachers are not held to a clear set of expectations for technology implementation, which leads to inequities, as well as underdeveloped knowledge and skills. Inequitable implementation practices contribute to specific populations being grossly underrepresented in STEM careers (Andrews, 2002; Andriole et al., 2008; Fealing, 2015; Maton et al., 2006; Sanders et al., 2024; Varki & Rosenberg, 2002).

Two major contributors to teachers' pedagogical decisions are their philosophical worldview and accountability measures. Teachers' philosophical lens guides their pedagogical decisions (Stickney, 2022). There are many educational philosophical frameworks, including, but not limited to, perennialism, essentialism, progressivism, and reconstructionism. It is possible for teachers to have essences of the various philosophical lenses; however, typically, there is one lens that is more dominant. As teachers anchor themselves in a philosophical approach, this lens interfaces with their pedagogical choices and how they choose to engage students with the content using technology. Given the Common Core State Standards (CCSS), Next Generation Science Standards (NGSS), and the 2017 ISTE Standards for Educators were written through a progressivist lens, a mismatch in philosophical lens may impede teacher implementation of educational technology.

Teachers are also limited to what they can implement based on their available resources. Access and use are two institutional practices that can lead to disproportionate implementation.

The gap in inequitable access to technology among students by socioeconomic status is known as the digital divide (Afzal et al., 2023; Van Dijk & Hacker, 2003). To close the material access gap, private donations from major technology companies and low-income schools used money from the Elementary and Secondary Education Act Title I to fund the purchase of more devices (O'Hanlon, 2009). However, as more equitable access to hardware was addressed, a second digital divide emerged in how technology was used in classrooms (Afzal et al., 2023; Attawell, 2001; Coleman, 2021; Natriello, 2001). Privileged students were using technology in more advanced and creative ways than their underprivileged peers, widening the gap in students' technology skills (Deng & El Hag, 2024; DiMaggio et al., 2004; DiGregorio & Sobel-Lojeski, 2010; Warschauer et al., 2004; Wayne et al., 2002). Overall, most of the current research related to educational technology focuses on specific hardware/software, specific cases in certain classrooms and/or particular schools, but not on educational technology implementation systematically from a district, state or national level. This study seeks to address this gap.

Technology Standards

Academic standards, as defined by the Department of Education (2020), outline what students should know and be able to do at each grade level to ensure equitable practices. When integrating technology, teachers often align their decisions with these standards. However, despite the rise of the TPACK framework, there has been little systemic adoption of national technology standards. Unlike Common Core State Standards (CCSS) or Next Generation Science Standards (NGSS), focused nationally on 21st-century curriculum and expectations to facilitate student achievement in order to be college and career-ready by high school graduation (Duncan, 2010; Obama, 2011), technology standards have not been nationally adopted. This left states and districts to adopt versions of the ISTE Standards inconsistently, ranging from the 1998 to 2016 iterations. For example, California has officially adopted the 2007 ISTE standards, Nevada has adopted the 2016 ISTE Standards for Students, and Utah is still using the 1998 ISTE standards (ISTE, n.d.). Furthermore, the adoption of these iterations occurs at the district level; even though the state of California has adopted the 2007 ISTE standards, the Los Angeles County Unified School District has adopted the 2016 version of the ISTE Standards for Students, 2017 ISTE Standards for Educators, and 2017 ISTE Standards for Leaders (LAUSD, 2017). Although the need for students to be competent in technology is at an all-time high, there are still no nationally adopted technology standards.

ISTE Standards for Educators

Recognizing the need for educators to leverage technology for student readiness, ISTE introduced its 2017 Standards for Educators, which align with the goals of CCSS and NGSS (International Society for Technology in Education [ISTE], 2017b). These standards focus on authentic experiences and "higher order goals that are essential for effective pedagogy with technology" (Mishra & Koehler, 2006, p. 1033). They serve as a "road map for educators worldwide as they navigate decisions about curriculum, instruction, professional learning and how to transform pedagogy with technology" (International Society for Technology in Education [ISTE], 2017a, para. 2) and are "a concrete indicator to measure teacher technology-competency" (Kimm et al., 2020, p. 4) in the seven major components of technological implementation: leader, learner, citizenship, collaborator, facilitator, analyst and designer.

ISTE clearly defined seven components of effective technology implementation. Leader advocates for and models the use of technology to improve teaching and learning, Learner continually grows professionally by exploring and applying digital tools, Citizen models and teaches

safe, ethical, and responsible use of technology, Collaborator works with colleagues, students, and communities to leverage technology for learning, Facilitator uses digital tools to guide and inspire student-centered learning, Analyst uses data to inform instruction and improve student outcomes, and Designer creates engaging, flexible, and technology-rich learning experiences that meet diverse student needs (ISTE, 2017a).

Designed to evolve with technology, ISTE standards are revised every 5-10 years to remain relevant (ISTE, 2017a; Riegel, 2019). Most recently, the 2024 ISTE Standards for Educators and Standards for Students were released (International Society for Technology in Education [ISTE], 2024). Given that the 2024 version of the standards was not yet released during the time of the study, the 2017 ISTE Standards for Educators served as a conceptual framework for this study. The goal of the 2017 iteration was to transform pedagogy with technology, which is exactly what is needed in the post-pandemic field of education (ISTE, 2017a).

Technology Preparation

Garcia-Larazo, Conde-Jimenez, and Colas-Bravo (2022) conducted a ten-year bibliometric and thematic review of literature relating to pre-service technology preparation practices (EPP). They found that most articles were qualitative in nature and focused on teaching pre-service teachers how to use applications and tools (p. 13). Furthermore, their research reiterated the disconnect between pre-service teachers' limited pedagogical knowledge and cooperating teachers'(an in-service teacher who coaches pre-service teachers) limited technological knowledge in how to support pre-service teachers in their ability to apply technology in effective pedagogical methods.

Pre-Service Teacher Technology Preparation

The idea that EPPs may not be adequately preparing teacher candidates to use technology effectively in the classroom is a long-standing issue (Covey, 2021; George & Sherman, 2023; Guzman & Nussbaum, 2009; Otero et al., 2005; Sutton, 2011). Currently, EPPs are not required to have stand-alone technology courses, despite accrediting bodies in educator preparation outlining the need for teacher candidates to demonstrate competencies related to technology (Association for Advancing Quality in Educator Preparation [AAQEP], 2025; Council for the Accreditation of Educator Preparation [CAEP], 2022). Unless EPPs are choosing to embed deliberate and substantial technology competencies and knowledge across coursework, then teachers may remain underprepared to effectively leverage technology in the classroom. Additionally, Prates (2025) found that an "absence of a theoretical foundation is a notable concern in educational technology research" (p. 7). This lack of theoretically based research, coupled with no technology course dedicated to foundational understanding, further emphasizes that gap in technology preparation.

In-Service Teacher Technology Preparation

In-service teachers also lack comprehensive training in educational technology, particularly those credentialed before the rise of TPACK. Most available training focuses on hardware or software rather than general pedagogical strategies for integrating technology (Garcia-Larazo et al., 2022). Not only are the majority of teachers, both pre-service and in-service, not taught the fundamental principles of educational technology, there is very little to no accountability that teachers are prepared to effectively implement technology in the classroom. Without explicit training or accountability, many teachers remain underprepared to implement technology effectively in the classroom.

METHODS

This quantitative study explored self-reported technology knowledge and technology implementation in K-12 classrooms using two instruments, Schmidt et al.'s (2009) TPACK and Riegel's (2019) TPTI. These instruments were used to measure technology knowledge and implementation practices to answer the following research questions:

1. How do teachers perceive the quality of their technology knowledge and implementation of technology?
2. In what ways, if any, do grade level taught and years of experience contribute to significant differences in teachers' implementation of technology?

Schmidt et al.'s (2009) TPACK was used to measure teacher knowledge in relation to seven components of TPACK, and the instrument has both high reliability (Cronbach's alpha of .75-.92) and high content and construct validity. This instrument has a total of 56 questions on a five-point Likert scale (i.e., strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree) that span the seven categories of TPACK (i.e., TK, CK, PK, TCK, TPK, CPK, TPACK). This instrument was chosen because it is one of the most widely used instruments to measure teacher TPACK (see Appendix).

Riegel's (2019) Teacher Preparation Technology Inventory (TPTI) was used to measure teacher technology implementation. The instrument has a total of 81 questions on a six-point Likert scale (i.e., never, rarely, sometimes, frequently, usually, and always) that span the seven categories of the 2017 ISTE Standards for Educators (i.e., Learner, Leader, Citizen, Collaborator, Designer, Facilitator, and Analyst). This instrument was selected because it is the only known instrument to quantify teacher's technology implementation through the modeling and application of the 2017 ISTE Standards for Educators (Riegel, 2019). Furthermore, TPTI has high reliability with a Cronbach's Alpha between .88-.96 for all subscales and high face validity. The initial instrument was designed to measure technology preparation in EPPs; without changing the intention of the questions, parts of questions directed to pre-service practices were modified to in-service practices (see Appendix).

The final survey administered had a total of 149 questions: eight demographic questions (school name, position, grade taught, subject taught, rigor of class, gender, race, level of education, and number of years taught), two familiarities of ISTE 2017 Standards, 56 TPACK questions, 81 TPTI questions, and 2 open-ended COVID-19 questions.

Data Analysis

Descriptive statistics, along with frequency distributions, were utilized to gauge technology implementation in the field. MANOVAs were conducted for each of the independent variables in TPACK (seven subscales) against grade level taught and years of experience. Upon finding significance, follow-up ANOVAs were conducted with Scheffe post hocs reported to identify specific significance between groups for grade level taught and years of experience. The same process was repeated for TPTI (seven subscales). Finally, a regression model was run to determine whether knowledge (TPACK) or years of experience played a greater role in teacher technology implementation.

Participants

Participants for this study were recruited from a large, economically diverse school district in Southern California composed of 31 schools. With IRB permission and permission from the Superintendent, Assistant Superintendent, and Director of Curriculum and Instruction, the entire population of teachers (1,109) were invited to participate in this study. 199 participants completed the survey in full, representing all schools in the district (see Table 1). The demographics of the participants in this study mirror the California teacher demographics (EdSource, 2020).

Table 1

Participant Demographics

Demographic	Subgroup	Number (N)	Percent (%)
Gender	Female	158	79.9
	Male	40	20.6
	Third Gender	1	0.5
	Total	199	100
Years of Experience	1-5 Years	32	16.1
	6-15 Years	65	32.7
	16-20 Years	32	16.1
	21+ Years	50	35.2
	Total	199	100
Grade Level	K-3	51	25.6
	4-6	47	23.6
	7-8	39	19.6
	9-12	62	31.2
	Total	199	100
Socioeconomic Status	Title I	16	51.6
	Not Title I	15	49.4
	Total	31	100

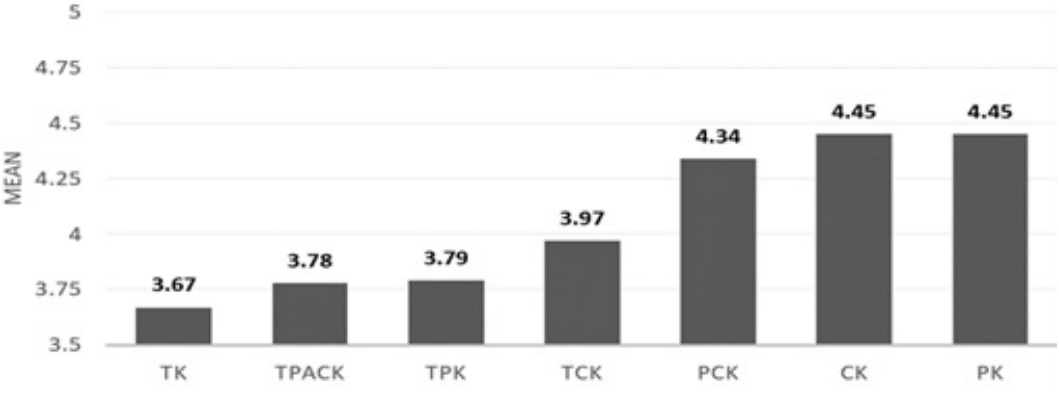
RESULTS

TPACK Results

Overall, teachers self-reported the least amount of knowledge in all areas that included technology on the TPACK (TK, TPACK, TPK, and TCK). The area with the lowest average was Technology Knowledge (TK) (3.67), followed by TPACK (3.78), Content Knowledge (CK) (4.45), and Pedagogical Knowledge (PK) (4.45). Figure 2 outlines the distribution, including a line that represents the highest knowledge (i.e., strongly agree). The number of teachers indicating that they do not have technology knowledge is concerning due to the high focus of technology use in K-12 classrooms, and suggests ample room for growth related to technology knowledge and how to use it in the classroom.

Figure 2

Overall Teacher Mean Scores for Domains of TPACK



Grade Level

A MANOVA was conducted to determine whether there were differences on the seven TPACK subscales by teachers' grade level (lower elementary, upper elementary, junior high, and high school). The results revealed statistical significance, $F(543,256) = 3.483$, $p < .001$, Wilks Lambda = .696, indicating that knowledge of content, pedagogy, and technology varied by grade level. Follow-up ANOVAs with Scheffé post hoc tests showed significant differences among grade-level groups on three of the seven subscales (see Table 2). Specifically, significant effects were found for Technological Knowledge (TK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK). Across all three subscales, lower elementary teachers (K–3) reported significantly lower mean scores compared to teachers in upper elementary, junior high, and high school, who reported higher scores. This consistent pattern suggests that teachers at higher grade levels demonstrate greater technological knowledge and integration across TPACK domains than their lower elementary counterparts.

Table 2
ANOVA and Post Hoc Summary of Grade Level on TPACK Subscales

Subscale	*df*	F	P	Grade Level	Mean	SD	Sig. Group Differences
CK	3	4.499	*n.s.*				
PK	3	0.285	*n.s.*				
TK	3	6.338	*	Lower Elementary (K-3)	3.26	0.86	K-3 < 4-6
				Upper Elementary (4-6)	3.75	0.82	K-3 < 7-8
				Jr. High (7-8)	3.84	0.75	K-3 < 9-12
				High School (9-12)	3.84	0.73	
PCK	3	0.294	*n.s.*				
TCK	3	4.298	*n.s.*				
TPK	3	8.105	*	Lower Elementary (K-3)	3.42	0.68	K-3 < 4-6
				Jr. High (7-8)	4.00	0.65	K-3 < 7-8
				High School (9-12)	3.93	0.52	K-3 < 9-12
TPACK	3	13.091	*	Lower Elementary (K-3)	3.30	0.77	K-3 < 4-6
				Upper Elementary (4-6)	3.82	0.65	K-3 < 7-8
				Jr. High (7-8)	4.00	0.62	K-3 < 9-12
				High School (9-12)	4.00	0.57	

**p < .05, n.s. = no significance*

While previous research comparing all grade bands is very limited, this study refutes findings from Farrell and Hamed (2017) indicating that there was no relationship between grade level and knowledge. Yet, the results in this study supports Koh et al. (2014) who found that secondary teachers better implemented technology because they had more time to focus on implementation versus primary teachers who had many other subjects which impeded on implementing technology. However, compared to Koh et al. (2014), the results presented in this study are more comprehensive and separate elementary and secondary into two additional bands, comparing a total of four groups of teachers: lower elementary (K-3), upper elementary (4-6), junior high school (7-8), and high school (9-12). The results here are more in-depth than prior research and serve a more holistic view of self-reported technology knowledge of teachers by grade level band. The results here demonstrate that lower elementary teachers have significantly less technology knowledge than all other teachers, including their upper elementary counterparts who do not have statistically significant technology knowledge differences than secondary teachers.

Years of Experience

A MANOVA was conducted to examine whether there were differences on the seven TPACK subscales by teachers' years of experience (1-5 years, 6-15 years, 16-20 years, and 21+ years). The results revealed statistical significance, $F(543,256) = 4.77$, $p < .001$, Wilks Lambda = .615, indicating that knowledge of content, pedagogy, and technology varied by years of experience. Follow-up ANOVAs with Scheffé post hoc tests showed significant differences among experience groups on six of the seven subscales (see Table 3). Specifically, significant effects were found for Content Knowledge (CK), Pedagogical Knowledge (PK), Technological Knowledge (TK), Pedagogical Content Knowledge (PCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK). Across subscales, teachers with 1-5 years of experience generally reported higher scores on technology-related domains than teachers with 21+ years of experience. However, teachers with more years of experience tended to report higher content and pedagogical knowledge than early-career teachers. This pattern suggests that less experienced teachers demonstrate stronger technology integration knowledge, whereas more experienced teachers show stronger traditional pedagogical and content expertise.

Table 3

ANOVA and Post Hoc Summary of Years of Experience on TPACK Subscales

Subscale	*df*	F	P	Years of Experience	Mean	SD	Sig. Group Differences
CK	3	6.180	*	1-5 years	4.11	0.56	1-5 < 6-15
				6-15 years	4.48	0.47	1-5 < 16-20
				16-20 years	4.52	0.49	1-5 < 21+
				21+	4.53	0.47	
PK	3	8.038	*	1-5 years	4.12	0.53	1-5 < 6-15
				6-15 years	4.44	0.45	1-5 < 16-20
				16-20 years	4.50	0.48	1-5 < 21+
				21+	4.60	0.43	
TK	3	10.197	*	1-5 years	4.06	0.73	21+ < 1-5
				6-15 years	3.90	0.76	21+ < 6-15
				16-20 years	2.62	0.77	
				21+	3.30	0.79	
PCK	3	3.045	*	1-5 years	4.06	0.50	1-5 < 21+
				6-15 years	4.35	0.57	
				16-20 years	4.38	0.55	
				21+	4.43	0.63	
TCK	3	2.731	*n.s.*				
TPK	3	9.594	*	1-5 years	4.11	0.57	21+ < 1-5
				6-15 years	3.99	0.55	21+ < 6-15
				16-20 years	3.73	0.70	
				21+	3.51	0.70	
TPACK	3	4.089	*	1-5 years	3.93	0.52	21+ < 6-15
				6-15 years	3.94	0.66	
				16-20 years	3.79	0.67	
				21+ years	3.55	0.80	

**p < .05, n.s. = no significance*

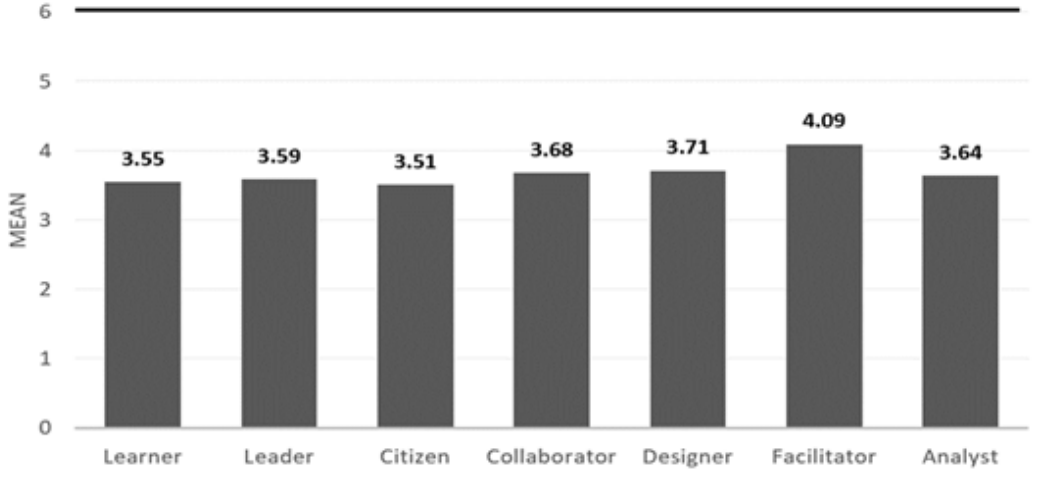
Results of this study support prior research that found a negative association between teachers' years of experience with TPACK and positive relationship between years of experience and both teaching practices (PK) and content knowledge (CK) (Cheng & Xie, 2018; Koh et al., 2014; Liu et al., 2015). These results demonstrate that younger teachers have more technology knowledge, but less knowledge in content and pedagogy while older teachers have more knowledge in content and pedagogy, but less knowledge in technology.

TPTI Results

Overall, teachers indicated a level of technology implementation well below the expectation set by ISTE to always use technology to create next-generation learning environments (ISTE, 2017a). The standard with the lowest average was Citizen (3.51), followed by Learner (3.55), Leader (3.59), Analyst (3.64), Collaborator (3.68), Designer (3.71), and Facilitator (4.09). Figure 3 outlines the distribution, including a line that represents the highest expectation for technology implementation (i.e., always). It is evident that teachers do not always (6), or even usually (5) meet the seven ISTE Standards for Educators (ISTE, 2017a). The result of teachers falling between sometimes (3) and frequently (4) meeting technology standards is concerning due to the large emphasis on technology usage in K-12 classrooms and suggests ample room for growth related to technology implementation in the classroom. There is no prior research that quantitatively measures teachers' self-reported technology implementation practices according to the 2017 ISTE standards and each of the seven subscales. Therefore, this study is one of the only ones to comprehensively provide a baseline performance indicator for teachers' technology implementation.

Figure 3

Mean scores for domains of Teacher Preparation Technology Inventory (TPTI)



Grade Level

A MANOVA was conducted to determine whether there were differences on the seven TPTI subscales by teachers' grade level (lower elementary [K-3], upper elementary [4-6], junior high [7-8], and high school [9-12]). The results revealed a statistically significant multivariate effect, $F(543,256) = 2.402$, $p < .001$, Wilks Lambda = .775, indicating that teachers' implementation of technology varied by grade level. Specifically, significant effects were found for Learner, Leader, Citizen, Collaborator, Designer, Facilitator, and Analyst.

Follow-up ANOVAs with Scheffé post hoc tests showed significant grade-level differences across all seven subscales (see Table 4). Across subscales, lower elementary teachers (K-3) consistently reported lower mean scores compared to upper elementary (4-6), junior high, and high school teachers. This pattern suggests that lower elementary (K-3) teachers were less likely to use technology to design, facilitate, and assess next-generation learning experiences aligned with the ISTE Standards for Educators. In contrast, teachers in upper elementary grades (4-6) demonstrated greater implementation in technology-enhanced practices across all TPTI dimensions. It is important to note, that the data shows teachers who work in the same elementary schools are implementing technology statistically different.

Table 4
ANOVA and Post Hoc Summary of Grade Level on TPTI Subscales

Subscale	*df*	F	p	Grade Level	Mean	SD	Sig. Group Differences
Learner	3	6.42	**	Lower Elementary (K-3)	3.00	1.13	K-3 < 4-6
				Upper Elementary (4-6)	3.88	1.13	K-3 < 9-12
				High School (9-12)	3.69	9.98	
Leader	3	8.83	**	Lower Elementary (K-3)	3.00	1.09	K-3 < 4-6
				Upper Elementary (4-6)	4.02	1.05	K-3 < 9-12
				High School (9-12)	3.81	0.95	
Citizen	3	8.60	**	Lower Elementary (K-3)	2.91	0.94	K-3 < 4-6
				Upper Elementary (4-6)	3.93	1.14	K-3 < 9-12
				High School (9-12)	3.70	1.03	
Collaborator	3	10.29	**	Lower Elementary (K-3)	3.05	0.97	K-3 < 4-6
				Upper Elementary (4-6)	4.17	1.13	K-3 < 7-8
				Jr. High (7-8)	3.73	1.12	K-3 < 9-12
				High School (9-12)	3.81	0.95	
Designer	3	7.92	**	Lower Elementary (K-3)	3.16	0.92	K-3 < 4-6
				Upper Elementary (4-6)	4.12	1.18	K-3 < 9-12
				High School (9-12)	3.81	0.93	
Facilitator	3	8.49	**	Lower Elementary (K-3)	3.53	0.93	K-3 < 4-6
				Upper Elementary (4-6)	4.51	1.14	K-3 < 7-8
				Jr. High (7-8)	4.14	1.07	K-3 < 9-12
				High School (9-12)	4.19	0.85	
Analyst	3	9.43	**	Lower Elementary (K-3)	2.98	0.96	K-3 < 4-6
				Upper Elementary (4-6)	4.01	1.07	K-3 < 7-8
				Jr. High (7-8)	3.75	0.95	K-3 < 9-12
				High School (9-12)	3.84	1.24	

***p < .001, n.s. = no significance*

There is no prior research that quantitatively compares primary and secondary technology implementation according to each of the 2017 ISTE Standards. Therefore, this study is a baseline indicating that inadequate technology implementation is a systemic issue amongst teachers of all grade levels. These results supported the findings of Pittman and Gaines (2015) that the majority of teachers are not implementing technology at an appropriate level.

These results are particularly interesting because although secondary teachers (7-12) have the most knowledge (TPACK), upper elementary (4-6) teachers implement technology more appropriately. Therefore, students experience a more appropriate implementation of technology and then a less appropriate implementation of technology which means secondary teachers are not leveraging technology to maximize student learning. As a result of current implementation practices teachers are not fully equipping students to be college and career ready.

Years of Experience

A MANOVA was conducted to determine if there are differences on the seven TPTI subscales by teacher's years of experience (1-5, 6-15, 16-20 and 21+). A significant effect was found [$F(543,256) = 2.133$, $p < .001$, Wilks Lambda = .796]. Follow-up univariate ANOVAs indicated significant grade level group differences in six of the seven subscales (see Table 5) with a consistent pattern of those teaching more than 15 years only sometimes using technology to create next-generation learning environments.

A MANOVA was conducted to examine whether there were differences on the seven TPTI subscales by teachers' years of experience (1-5, 6-15, 16-20, and 21+ years). The results revealed a statistically significant multivariate effect, $F(543,256) = 2.133$, $p < .001$, Wilks Lambda = .796, indicating that teachers' technology implementation differed based on years of teaching experience. Follow-up ANOVAs with Scheffé post hoc tests demonstrated significant differences among experience groups on six of the seven subscales (see Table 5). Specifically, significant effects were found for Learner, Leader, Citizen, Collaborator, Designer, and Analyst. The Facilitator subscale did not show a statistically significant difference. Across subscales, teachers with 1-5 years and 6-15 years of experience reported the highest mean scores on technology integration practices, whereas teachers with 16-20 years and 21+ years of experience consistently reported lower implementation. While the implementation of technology could vary, there is an expectation that technology is implemented effectively in every learning environment (ISTE, 2024). This pattern indicates that more experienced teachers tend to use technology less frequently to create, lead, and assess next-generation learning environments compared to early- and mid-career teachers.

Table 5
ANOVA and Post Hoc Summary of Years of Experience on TPTI Subscales

Subscale	*df*	F	p	Years of Experience	Mean	SD	Sig. Group Differences
Learner	3	6.35	**	1-5 years	3.91	0.92	16-20 < 1-5
				6-15 years	3.84	1.12	16-20 < 6-15
				16-20 years	2.99	0.94	
Leader	3	7.40	**	1-5 years	3.93	1.00	21+ < 1-5
				6-15 years	3.96	1.07	16-20 < 6-15
				16-20 years	3.09	0.97	21+ < 6-15
				21+ years	3.33	1.14	
Citizen	3	5.65	**	1-5 years	3.84	1.07	16-20 < 1-5
				6-15 years	3.81	1.08	16-20 < 6-15
				16-20 years	3.03	0.96	
Collaborator	3	7.37	**	1-5 years	4.05	0.91	16-20 < 1-5
				6-15 years	4.03	1.02	21+ < 1-5
				16-20 years	3.20	1.02	16-20 < 6-15
				21+ years	3.41	1.17	21+ < 6-15
Designer	3	7.21	**	1-5 years	4.01	0.94	16-20 < 1-5
				6-15 years	4.07	1.02	16-20 < 6-15
				16-20 years	3.23	1.07	21+ < 6-15
				21+ years	3.44	1.10	
Facilitator	3	3.32	*n.s.*				
Analyst	3	5.53	**	1-5 years	4.00	0.96	16-20 < 1-5
				6-15 years	3.94	1.06	16-20 < 6-15
				16-20 years	3.23	0.97	21+ < 6-15
				21+ years	3.40	1.19	

***p < .001, n.s. = no significance*

The results mirror the data on technology knowledge; teachers with less experience implement technology more appropriately than teachers with more teaching experience. This refutes Tweed (2013) that found no relationship between years of experience and technology implementation practices. Tweed's research was introduced before the ISTE 2017 Standards for Educators existed. There was no prior research that quantitatively examines the appropriateness of technology implementation specifically with the seven components of the 2017 ISTE Standards for Educators. This study provides a baseline for teacher implementation based on years of experience.

Largest Contributing Factor

A linear regression analysis was conducted to examine whether teachers' technological knowledge (TK), technological pedagogical content knowledge (TPACK), and years of experience predicted technology implementation, as measured by the total TPTI score. The overall regression model was statistically significant, $F(3, 195) = 41.56$, $p < .001$, accounting for approximately 39% of the variance in teachers' technology implementation ($R^2 = .39$; see Table 6). Among the predictors, TPACK and TK emerged as significant positive predictors, while years of experience was not a significant predictor. These results suggest that teachers' knowledge domains—particularly their integrated understanding of technology, pedagogy, and content—play a stronger role in predicting technology implementation than years of teaching experience. In other words, educators who possess greater technological and pedagogical integration skills are more likely to implement technology effectively, regardless of their length of service.

Table 6

Regression Model of Technology Implementation explained by TK, TPACK & years of experience

		R^2	F	β	p
Total TPTI		.390	41.56		.000
	TK			.227	.005
	TPACK			.434	.000
	Years			-.067	.268

Symbol β represents Beta coefficient.

DISCUSSION

This study provided a comprehensive, quantitative look at in-service teacher technology implementation practices with respect to the ISTE 2017 standards. The results of this study demonstrate a need for accountability when it comes to technology implementation in the K-12 classroom. Specifically, through reform at various levels, including pre-service preparation, in-service training, and standards.

Pre-service Preparation

The results of this study indicate that technology knowledge is a greater predictor than years of experience when it comes to technology implementation in the field. This result suggests that EPPs, responsible for building foundational knowledge related to technology implementation, may greatly influence teachers' ability to effectively implement technology. Additionally, the results of this study specific to TPACK, indicating teachers reported the least amount of knowledge in all areas that included technology, suggesting that increasing knowledge of how to integrate technology

into pedagogical practices and content can greatly influence overall technology implementation. Given these results, along with accrediting bodies in educator preparation outlining the need for teacher candidates to demonstrate competencies related specifically to educational technology (AAQEP, 2017; CAEP, 2022), one would anticipate a focus of EPPs to be on building capacity of educational technology knowledge.

Findings from this study suggest intentional inclusion of technology throughout EPPs is needed. Although standalone technology courses are often rare in EPPs, they may address the lack of technology knowledge found within this study. A standalone "technology methods" course could be structured similar to other existing methods courses within EPPs, resulting in programs designed to provide students with experiences that support a knowledge base for meeting the State learning standards in core subject areas using technology effectively (NYSED, 2022). With that said, a recent study by Foulger et al. (2019) promotes the infusion of technology across EPPs curriculum, noting that standalone technology courses that cover software and hardware are expendable.

The results of this study also outline a significant difference between technology implementation within the grade levels, specifically between lower (K-3) and upper elementary (4-6) teachers. It follows that the technology preparation for these two areas should be altered accordingly to address discrepancies. However, the initial teacher certification requirements for these two grade levels are identical (i.e., one credential qualifies a professional to teach K-6). EPPs should consider splitting these groups and re-evaluating the technology implementation content for these groups with vastly different emotional, social, and academic needs to better focus on specific technology implementation preparation (Ambady, 2001; Bong, 2009; Piaget, 1936).

In-service Training and Accountability

With systemic pedagogical changes often being addressed at the pre-service level, and the lack of requirement of continuing education credits by California there is a gap of in-service training. The results of this study particularly demonstrated that teachers with more than 15 years of teaching and lower elementary teachers need the most support in implementing technology effectively. Furthermore, whether it be due to both being closer in age to the digital natives and/or having more years of experience, the teachers with 6-15 years of experience demonstrated the most effective implementation of technology. However, even though this group implemented technology most appropriately, the results still indicate a large gap of in-service teachers in educational technology knowledge and effective technology implementation practices. This suggests the need for resources and professional learning opportunities to be consistently provided in the field (i.e., annually) to be geared toward improving teachers' technology knowledge, particularly TPACK.

The traditional array of professional development related to technology often focuses on how to use specific hardware and software and misses the mark in terms of the intentionality of technology implementation (Schmitt, 2002). By providing experiences to gain current knowledge for both new in-service teachers as well as those far removed from their EPPs, it will help counter the current negative correlation between years of experience and TPACK (Cheng & Xie, 2018, Ferdig & Pytash, 2021; Koh et al., 2014, Liu et al., 2015). Additionally, the incorporation of a renewable certification such as the ISTE Certification or Google Educator Training, which entails rigorous training of appropriate use of technology as it changes (Google for Educators, 2020; International Society for Technology in Education [ISTE], 2022), may hold teachers accountable to demonstrating current professional competencies including and beyond those demonstrated within their EPP state certification requirements.

Technology is often not mentioned or only referred to in terms of hardware in evaluative measures (State of California Department of Education: Commission on Teacher Credentialing, 2009; The Danielson Group, 2022). These are not enough to provide accountability to the rigor described in the ISTE 2017 Standards for Educators, and unless addressed will continue to perpetuate poor technology implementation practices. Even in the newly adopted 2024 California Standards for the Teaching Profession (CSTP) technology is only mentioned three times: 3A vaguely discusses "Explicitly address content and instructional strategies outlined in pre-K–12 state adopted standards, curriculum frameworks, and technology guidelines." (p. 16), 5B discusses using technology to monitor student progress, and 6E discusses using technology to follow digital citizenship. The 2024 CSTPs do not discuss using technology to deepen understanding or rigor of the content knowledge Therefore, it is recommended that not only the CSTPs be updated to better hold accountability to effective technology implementation for rigorous learning.

Standards

The results of this study suggest that overall teachers are not effectively leveraging technology. This is concerning as students may be missing opportunities to develop skills to be college and career ready and eventually competitive in the 21st century marketplace. Despite these large-scale repercussions, teachers are not currently held accountable to using technology standards within the field deeply and consistently.. Now, the 2024 ISTE Standards for Educators are the best available to meet the current need in the field and hold the nation's schools accountable for appropriate technology implementation. Implementing technology standards will serve to address the demographic variance between education on a district, county, state, and national level. The adoption of standards can also work to promote digital equity in the future as skills required in the workforce remain ever changing (Jackman et al., 2021; Shortt et al., 2020).

LIMITATIONS

This study faced several limitations, including survey fatigue (over 150 questions), data collection occurring during the COVID-19 pandemic, and generalizability. Some teachers were teaching remotely, technology use and related support was at an all-time high, potentially inflating technology knowledge and implementation levels. However, the low level of appropriate technology use during this high-support period reinforces the need for the outlined recommendations. Another limitation was the cognitive overload educators faced during the pandemic, which may have led to lower participation from those overwhelmed, skewing results toward those already comfortable with technology. Additionally, the proposed recommendations are based on a sample size from one district in one state (California), limiting generalizability of findings across states. The recommendations are also substantial and face barriers common in education, such as resistance to change, time constraints, and perceived value. Revising EPPs, enhancing in-service training, and adopting national technology standards will require significant effort but are essential for improving technology implementation in the field.

CONCLUSION

This study underscores the need for educational reform, particularly in technology, to ensure students develop the skills necessary to be college and career ready and able to compete in the global economy. This study demonstrated the importance of technology knowledge and effective technology implementation. By restructuring EPPs, reforming training for in-service teachers, and adopting technology standards, teachers can work to achieve the United States Department of Education's (2011) mission, "to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access" (para. 1) and use a common understanding when discussing appropriate implementation at the pre-service and in-service levels.

This study emphasizes the need for technology to be given the same consideration as core subjects which all receive and push for the consistent and effective implementation of standards in classrooms. Furthermore, the emphasis must continuously be made that all teachers are responsible, regardless of grade-level, subject-taught or time spent in the field, to appropriately leverage technology in their classrooms. Much like the past, educational reform is once again needed to help protect national security, ensure economic stability, and compete in a global market that requires technological competencies (Johanningmeier, 2010).

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APPENDIX

Sample Subscale Items

Schmidt et al.'s (2009) Survey of Preservice Teachers' Knowledge of Teaching and Technology
Technology Knowledge (TK)

1. I know how to solve my own technical problems.
2. I can learn technology easily.
3. I keep up with important new technologies.
4. I frequently play around with the technology.
5. I know about a lot of different technologies.
6. I have the technical skills I need to use technology.
7. I have had sufficient opportunities to work with different technologies.

Riegel's (2019) Teacher Preparation Technology Inventory (TPTI)
Learner

1. Collaborate and co-learn with students to diagnose technology issues?
2. Model for peers the identification of new digital resources and tools for learning?
3. Establish a learning culture that promotes critical examination of online resources?
4. Set professional learning goals to explore pedagogical approaches made possible by technology?
5. Use technology to implement a variety of summative assessments that provide timely feedback to students?
6. Pursue professional interests by creating global learning networks?
7. Mentor students in safe practices with digital tools?
8. Use technology to design a variety of formative assessments that accommodate learner needs?
9. Use collaborative tools to expand students' authentic, real-world learning experiences by engaging virtually with local experts?

CURRICULUM LEADERSHIP: ELEMENTARY SCHOOL PRINCIPALS' PERCEPTIONS

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ABSTRACT

This study was designed to examine principals' perceptions of their roles as curriculum leaders in elementary schools. This study employs a qualitative design with a direct personal interview technique to collect data. Principals from thirty-six elementary schools from five school districts in the Atlanta metropolitan area participated in the study. The research instrument was researcher-constructed concerning the current literature on school curriculum leadership, categories of curriculum development, organization, implementation, evaluation, and improvement, and coded principals' responses. Emerging themes and recurring patterns of principals' responses were observed. The findings of this study showed that principals' perceptions of their curriculum leadership roles had more in common than differences in curriculum development, organization, implementation, evaluation, and improvement categories.

INTRODUCTION

School principals play a significant role in developing, organizing, implementing, and evaluating school curricula to ensure that it meets the needs of all students. A school principal's role as a curriculum leader has become increasingly critical due to the accountability movement, the No Child Left Behind (NCLB) legislation, and budget cuts at all levels (Finkel, 2012). School curricula need to be challenging enough to engage students in the learning process and motivate them to meet high levels of academic achievement (Roelke, 1996). Additionally, school principals need to ensure that the school curricula cover the content of the mandated statewide testing at all school levels (Ediger, 2014). Wiles (2009) claimed that school curriculum leadership was shared among principals, assistant principals for curriculum, team leaders, department heads, and lead teachers. Weber (2010) listed five reasons for the need for curriculum leadership at school: Curriculum leadership provides opportunities: 1) to clarify curriculum issues; 2) to develop and empower future leaders; 3) to support continuous improvement; 4) to establish learning goals; 5) to improve alignment. To be an effective curriculum leader, a school principal needs to be knowledgeable about past and present curriculum, instruction, and assessment practices (Glasper, 2018). Glatthorn and Jailall (2009) also addressed that "strong, intentional leadership in curriculum development is a necessity for strong instructional leadership" (p. 188). Other daily initiatives a school principal could take to be an effective curriculum leader include learning from other school leaders, making time for classroom observations, and creating open dialogues with parents and staff (Adkins-Sharif, 2019).

This study aimed to examine school principals' self-perceptions in their roles as curriculum leaders. Based on this study's findings, the roles of principals as curriculum leaders in elementary schools were more clearly defined in relation to their current practices. The findings of this study will also assist policymakers and educational leadership preparation programs in examining the strength of the components of curriculum leadership within their elementary school leadership programs.

PURPOSE OF THE STUDY

This study examined school principals' perceptions regarding the development, organization, implementation, and evaluation of school curricula in relation to their roles as curriculum leaders in elementary schools. Using a self-perception approach, the authors designed the study to elicit insights into curriculum leadership at the elementary school level. The findings of this study could help policymakers and leadership program planners develop better policies and programs to meet students' needs.

RESEARCH QUESTIONS

The following central research question served as a guide to the development of the study:

What are the self-perceptions of elementary school principals referencing their roles as curriculum leaders?

The following research sub-questions are also developed in support of the central research question:

How do elementary school principals perceive their curriculum leadership roles around:

a. Developing curriculum?
b. Organizing curriculum?
c. Implementing curriculum?
d. Evaluating curriculum?
e. Improving curriculum?
f. Supporting faculty?
g. Acquiring curriculum resources?
h. Involving community in curriculum issues?
i. Identifying outstanding curriculum?

THEORETICAL FRAMEWORK

The development of this study was based on the theoretical framework of perceptions originally initiated by Beatty (2022). Their unique exploration of individual and comparative perceptions provides a solid foundation for this study. Beatty's Theory of Interindividual Differences in Perception posits that individual differences in brain structure, as well as factors such as culture, upbringing, and environment, influence human perception. These effects on perception include an individual's past experiences, education, values, culture, preconceived notions, and present circumstances. She summarized the three major influences on social perception as the characteristics of 1) the person being perceived, 2) the situation, and 3) the perceiver. The Theory of Interindividual Differences in Perception is significant to this study because it supports the notion that each school principal's unique educational background, experiences, and cultural values influence his/her perception of the role as a curriculum leader in the school.

REVIEW OF RELATED LITERATURE

School Principal and Curriculum Leadership

Rohmad, Muawanah, Subaidi, and Hidayah (2024) conducted a study at an Islamic boarding school to examine how the implementation of an innovative curriculum and effective leadership contributed to improving the quality of learning and academic competence among middle and high school students. The results showed that a curriculum aligned with contemporary needs and effective leadership by school principals significantly improved learning quality. A school principal's role as a curriculum and instructional leader was clearly identified by McDermott (1984) and Ediger (2002). The Wallace Foundation (2013) further developed the five key responsibilities of a school principal in playing his or her curriculum leadership role: 1) shaping a vision of academic success for all students; 2) creating a climate hospitable to education; 3) cultivating leadership in others; 4) improving instruction; and 5) managing people, data, and processes. Glatthorn (1987) asserted, "One of the tasks of curriculum leadership is to use the right methods to bring the written, the taught, the supported, and the tested curricula into closer alignment, so that the learned curriculum is maximized" (p. 4). The principal, as school curriculum leader, will exert strong leadership to support the school's dynamic curriculum by helping staff and any curriculum workers consider and select a curriculum design that suits students' needs (Dufour, 2002; Ediger, 2014; Garner & Bradley, 1991; Lee & Dimmock, 1999). To serve as an effective curriculum leader, Shellard (2002) noted that a principal must have skills in observation, analysis, teaching improvement, learning theory, and instructional planning. Their curriculum leadership skills could be improved through professional development (Boston et al., 2017; Townsend et al., 2018). Cole-Foppe (2016) studied the teachers' perceptions of school principals as curriculum leaders. The study's findings indicated that teachers perceived principals as having devoted insufficient time to school curriculum matters. The school principals in the study also concurred that they could have done more in their role as curriculum leaders. Cardno (2003) identified the factors that militate against the principals' curriculum leadership role as high administrative workloads and external agency demands. Alsaleh's study (2019) also revealed that the centralized government structure hindered school principals' role in curriculum leadership. However, Kleidon (2018) and Ng et al. (2015) found that principals felt they were not well prepared to serve as curriculum and instructional leaders, even though they had received some training. Ralebese, Jita, and Chimbi (2022) found that elementary school principals were only partially trained to lead the implementation of the new integrated curriculum. They reported that their training was shorter compared to that of the teachers. In the study by Naidoo and Petersen (2015), principals mainly interpreted their roles and functions as purely managerial. Sasson's (2016) findings indicated that school principals were only moderately involved in curriculum leadership activities. Shaked (2019) also reported that school principals demonstrated limited direct involvement in curriculum leadership. A three-stage backward design curriculum model with school principal leadership was developed by McTighe and Thomas (2003). The three stages are identifying desired results, analyzing multiple data sources, and determining appropriate action plans to achieve student success. This model of curriculum leadership clearly outlines the principals' understanding and their duties as school curriculum leaders.

Principal's Role in Developing Curriculum

Principals need to carefully identify the unique needs of the local school, grade level, classroom, and individual student. Beach and Reihartz (2000) stated that principals played a key role in curriculum development as they prompt teachers to reflect on key questions and select appropriate activities for individual student needs. All school principals are required to comply with the state core curriculum standards in developing their curricula. They are held responsible for leading their schools to align their school curriculum with state standards (Jenkins & Pfeifer, 2012). Principals need to develop a school curriculum based on data and resources to set the direction of their schools and improve instruction (Louisiana Department of Education, 2016). Oliva (2001) claimed that school statements of aim and philosophy reflect students' everyday needs. The five types of needs are: 1) the needs of the students in general, 2) the needs of society, 3) the needs of exceptional students, 4) the needs of particular communities, and 5) the needs derived from the subject matter (Oliva, 2001).

Principal's Role in Implementing Curriculum

Many authors advocated shared leadership in implementing the school curriculum. Gaustad (1995) claimed that the principal should encourage and promote a cooperative, collegial working atmosphere. George (2001) supported the cooperative approach to secure teacher buy-in through study groups, action research teams, vertical learning committees, and leadership teams. Fraint (2002) also believed that the cooperative approach would bring traditional and non-traditional teachers together as a team to implement the curriculum. However, Gideon (2002) was more cautious in taking a cooperative approach. He stated that teacher collaboration needed to be developed over time to be effective. School principals must encourage teachers to use their team planning constructively to renew or revise strategies throughout the academic year consistently. Mayfield (2018) and Zhang and Henderson (2018) found that principals' collaborative efforts on curriculum issues would empower teacher leaders to co-lead instructional programs at their schools, leading to robust changes in principals' instructional leadership practices (Thessin, 2019). It was found that school principals, as instructional leaders, adhered to the following practices: prioritizing classroom visits, helping teachers use data, acknowledging teachers' work, providing opportunities for teachers' professional development, working collaboratively with teachers, and distributing leadership to teachers (Sowell, 2018). In Hoyte Igbokwe's study (2018), principals were found to provide professional development opportunities to teachers to facilitate curriculum implementation. In a study of curriculum implementation, Yang (2019) examined the stages of implementation in Chinese kindergartens. He found that early childhood curriculum innovations led by school principals as curriculum leaders evolved through stages — from imitating imported models to innovating practices — and that the principals played various roles at different stages of the early childhood curriculum innovation.

Principal's Role in Evaluating Curriculum

Six requirements were presented by Garner and Bradley (1991) for principals who want to evaluate and maintain dynamic curricula: 1) convey to others what has been accomplished; 2) formulate an evaluation plan; 3) use multiple criteria for evaluation; 4) use evaluation to improve curriculum; 5) ask for teacher and student feedback; and 6) use the evaluation results to make modifications or adaptations in the curriculum. They stated that "the main purpose of evaluation is to collect data to assist in the determination of meeting goals and to assist individuals in making logical and defensible decisions regarding curricula" (p. 421). Oliva (2001) also agreed that curriculum

evaluation helped determine changes needed in the curriculum. Ittner, Hagenauer, and Hascher (2019) studied school principals' readiness for curriculum changes. The study found that curriculum evaluation helped principals implement the curriculum openly and positively in schools.

Principals' Perception Differences

Principals' perceptions of their leadership roles and daily responsibilities in school may differ due to their racial and/or cultural backgrounds. Hagan, Shedd, and Payne (2005) explained in their study that principals' perceptions of injustice could vary among different racial and ethnic groups. They asserted that, in comparing the perceptions of injustice, White Americans, African Americans, and Hispanic Americans differ significantly because of the different racial and ethnic environments in which they are situated. This is echoed in more recent research by Vinzant (2009), who found that Black principals' leadership styles are deeply influenced by their racial, cultural, and professional identities, particularly in how they advocate for equity and representation. Similarly, Robinson (2024) highlighted how Black male principals' leadership is shaped by their lived experiences, including community ties and personal values, which influence how they navigate systemic challenges in education.

Hersey and Blanchard (1977) explained the different reactions of school principals by referring to their situational leadership principle. The principle states that an effective leadership style is task-relevant and that successful leaders adapt their style to the readiness of the individual or group they serve. Effective leadership can vary depending on the task, job, or function to be accomplished. Building on this, Martinez and Molidor (2023) found that principal preparation programs increasingly emphasize adaptive leadership, showing that new school leaders benefit from training that helps them adjust their styles to diverse school contexts. More recently, Irfan, Jabar, and Al Fariz (2025) applied this framework to school principals, demonstrating how adaptive and supportive leadership styles contribute to building positive organizational cultures, particularly in challenging educational environments. Their findings reinforce the continued relevance of situational leadership in guiding principals to respond effectively to the diverse needs of their school communities.

Summarizing the review of current literature, the authors found that there are few empirical studies on school principals' self-perceptions of their roles and responsibilities as school curriculum leaders. It is essential that school leaders thoroughly understand their roles and responsibilities as curriculum leaders, enabling potential and practicing principals to focus on the specific issues of their schools.

METHODOLOGY

Research Design

This study employed a qualitative design and used the direct personal interview technique for data collection. Qualitative research investigates research issues of how, what, and why in situations that call for in-depth exploration to provide a deeper understanding of the phenomenon (Creswell, 2005). These research procedures generate descriptive data from individuals who express themselves through written or spoken words and observable behaviors (Hatch, 2002). This study solicited the perceptions of school principals on curriculum matters at the elementary school level as they voluntarily participated to express their feelings and thoughts regarding curriculum leadership. The interview technique (the careful asking of relevant questions) is the most important data collection technique a qualitative researcher possesses (Fetterman, 1998). As Patton (2002) has

noted, researchers interview people to obtain information they cannot directly observe. Through interviews, the researchers gained first-hand insight into the feelings, thoughts, and intentions of the interviewees.

Research Setting

The study was conducted in elementary schools of five school districts (four county districts and one city district) in the Atlanta metropolitan area. The city district has a student population of 54,000 students whereas the four county districts range from 96,000 to 183,000 students. The percentage of White students in all the school districts is approximately 45. Black, Hispanic and Asian students and students of other races make up the remaining 55 percent. All the elementary schools are organized in self-contained classes by grade level. Besides the school principals, assistant principals, academic coaches, and department heads are also involved in curriculum administration. Schools in Atlanta metropolitan area are generally enthusiastically supported by the communities they are located in. Financially, even though the five school districts in this study have had years of tight budgets, they are able to manage their schools in operation by funding support from different public and private sources.

Participants

A total of 36 elementary school principals participated in the study. They are all from five school districts in the Atlanta metropolitan area. Demographic information on the school principals is presented in this section for readers' reference. Although the intent of this study is not to analyze the impact of these demographics on principals' self-perception, including the principals' demographic information will help readers better understand their backgrounds and identify the majority groups they represent. Fifty elementary school principals were randomly selected from five school districts in the Atlanta area and were invited to participate in the study. Thirty-six (72%) of them agreed to participate in the study by face-to-face personal interviews. Of the 36 principals, nine (25%) were male and 27 (75%) were female. Twenty of them (55.6%) were White, and 16 of them (44.4%) were Black. Twenty-five school principals (69.4%) have had 1 to 10 years of experience as a principal, and 11 (30.6%) have had more than 10 years of principal experience. Eight of them (22.2%) have earned their master's degree in educational administration. Seventeen of them (47.2%) have earned their Education Specialist degree in educational administration. Eleven of them (30.6%) have earned their doctoral degree in educational administration. (See Table 1: School Principal Demographic Information)

Table 1 School Principal Demographic Information (36 School Principals)

School Level	Gender%		Race%		Degree Earned%			Year as Principal%	
Elementary	Male	Female	Black	White	MEd.	EdS.	PhD.	1-10 Yrs.	11 Yrs. or more
	25.0	75.0	44.4	55.6	22.2	47.2	30.6	69.4	30.6

Research Instrument

The data collection instrument was researcher-constructed for direct personal interviews with the school principals. The questionnaire was developed with reference to the current literature on school curriculum leadership. The instrument includes a principal's demographic data section and nine open-ended questions about the principals' roles across different aspects of curriculum leadership. The principals' demographic section was added to help readers understand how their backgrounds could influence their perceptions of their roles and responsibilities as curriculum leaders. The first draft of the instrument was sent to a panel of five school principals for validation. They were asked to review the instrument against the study's purpose and to provide recommendations for improving its content, language, and format. As a result, the original 12 questions were reduced to nine. The language of the questions was revised in accordance with the panel's recommendations. School principals who served on the panel did not participate in the study. The final version of the research instrument is included in Figure 1.

Figure 1. Elementary School Principal Interview Questionnaire

Gender: Race:

Highest Degree Earned: Years as School Principal:

Interview Questions:

A. How do you perceive your role as a school principal in the following curriculum activities?

1. Developing the curriculum
2. Organizing the curriculum
3. Implementing the curriculum
4. Evaluating the curriculum
5. Improving/changing the curriculum
6. Supporting the faculty
7. Acquiring resources in support of the curriculum
8. Involving the community

B. What are the characteristics of an outstanding curriculum?

Data Collection

The researchers scheduled interviews with school principals to discuss their curriculum leadership. A copy of the questionnaire was sent to the principals before the appointments, allowing them time to look up information and prepare their answers for the researchers during the interviews. The hour-long interviews were audio-recorded. All the audio recordings were transcribed by hand into written passages for review. For reliability purposes, the transcripts were cross-examined by the researchers for clarity and confirmation. The codes independently derived by different researchers were cross-checked for consistency of interpretation (Gibbs, 2007).

Data Analysis

All the principals' responses were examined according to the types of questions asked and coded into categories of curriculum development, organization, implementation, evaluation, and improvement. Open coding was used to examine, compare, break down, conceptualize, and categorize the data (Corbin & Strauss, 2015). The coding process breaks down data into manageable segments to generate themes and categories (Schwandt, 2007). After the interviews, codes were developed from the collected data. The code categories were carefully examined to generate emerging themes and recurring response patterns among school principals. For reporting purposes, all school principals were identified by number, from P1 to P36.

FINDINGS

The qualitative data collected in this study were systematically analyzed. As a result, themes emerged from the qualitative data, providing answers to the study's research questions. The significant findings of this study are presented in the following order of the research sub-questions:

Principal's Role in Developing the Curriculum

All the principals indicated that the school curriculum in Georgia was developed by the Georgia State Department of Education and passed on to the school district for implementation. The school district offices map the curriculum to ensure that it meets the standards before forwarding it to the schools. School principals typically play a supervisory and supportive role to ensure that curriculum committees, along with all head teachers, implement the curriculum in accordance with state and district guidelines. The principal's role is to ensure that the curriculum covers all subject areas required for program completion (P4; P11) while meeting individual student needs (P29; P3; P15).

Principal's Role in Organizing the Curriculum

The principal's role in organizing the curriculum is "to support head teachers in scheduling, pacing, matrix, mapping, and assessment issues of curriculum implementation" (P 5). Most of the school principals concur. School curriculum organization also includes "revising the curriculum areas for vertical and horizontal alignments to meet the student needs" (P 16; P 25; P 28, P 30; P 34; P 35).

Principal's Role in Implementing the Curriculum

School principals hold their teachers accountable for their instructional approaches while giving them leeway in achieving their goals (P 1; P 5; P 10; P 11; P 18 and P 20). As stated by P 22, "We implement the curriculum by providing professional growth for our teachers, observation of good practices, evaluation of teacher performance, and by keeping teachers aware of alternative instructional strategies to meet the student needs." Many school principals have emphasized that their curriculum implementation approach is unique (P 2; P 7; P 8; P 9; P 16; P 26; P 27 and P 32). Due to the one-teacher classroom instructional setting, elementary schools have adopted a team approach to curriculum implementation by establishing grade-level teacher teams to discuss and share effective strategies that meet student needs.

Principal's Role in Evaluating the Curriculum

All principals examine end-of-year state testing data for their schools to assess achievement of curriculum goals and objectives, as well as mastery of state standards. Many principals suggest the need for class observations to verify constructive classroom activities (pp. 14, 25, and 32). The principals provide feedback to the teachers after the observations, along with recommendations for improvement if needed. Almost all the principals are committed to grade-level curriculum committees to evaluate the effectiveness of the curriculum in teaching and learning.

Principal's Role in Improving the Curriculum

Principals have indicated that they do not have the authority to improve the curriculum forwarded to them from the state and the district. They stated that their role is to ensure that the curriculum is implemented effectively and to voice their recommendations to the decision-making body. (P 2; P 15 and P 20). In curriculum implementation and evaluation, elementary principals and teachers take a team approach to discuss how the curriculum could be improved to serve students better (P 1; P 4; P 5; P 7; P 13; P 20; P 32; P 33; P 35; and P 36). Principals help collect data to identify the strengths and weaknesses of the curriculum and make recommendations for improvement (P 3, P 5; P 7, P 9; P 12; P 27 and P 33).

Principal's Role in Supporting the Faculty

Many school principals have clarified that they support the faculty by making themselves readily available to respond to faculty requests. They visit classrooms and attend grade-level meetings to provide feedback (P 1 and P 11). They also offer professional development opportunities to teachers to advance their pedagogical skills, aligning with the school's goals and objectives (P 7, P 9, P 19, P 23, and P 31).

Principal's Role in Acquiring Curriculum Resources

School principals support their teachers by acquiring the resources for instructional activities. They encourage their teachers to use the state and district appropriations and local school activity funds (P 3 and P 16). They also look at federal, state, and local grants for funding student learning activities (P 1; P 3; P 4; P 5; P 7; P 8; P 12; P 14 and P 22). In addition, many principals perform resource needs assessments and budgets. They are also busy working with school business partners and parent-teacher associations to solicit donations to support the student-required activities in curriculum implementation. As P 25 puts it, "It is just a matter of involving the stakeholders and building partnerships with the community as a whole and establishing rapport and relationships with community businesses."

Principals' Roles in Involving the Community in Curriculum Issues

In general, school principals are committed to fostering school-community relationships. P 13, P 21, P 25, and P 27 state that they invite parents to serve on curriculum committees. They actively seek community support. They are busily connected with school communities, including school councils, school partners, citizens' advisory committees, parent-teacher associations, and local government departments. They hold frequent PTA meetings, open schools, and parent curriculum workshops to inform parents about their children's learning processes at school. Monthly newsletters detailing school activities are sent to parents to keep them informed about what is happening at school. Additionally, they indicate that their schools have established volunteer programs to invite parents and community leaders to share their experiences with students, thereby supporting the school curriculum.

Principal's Indication of an Outstanding Curriculum

Principals consistently seek curricula that meet students' individual needs (P 3; P 4; P 7; P 8; P 15; P 23; P 32; and P 35). An outstanding curriculum needs to be relevant to daily life, in-depth, and challenging to students (P 4; P 7; P 8; P 10; P 14; P 20; P 25; P 26, and P 34). Many principals (P 10; P 23; P 29, and P 33) emphasize that vertical alignment is an outstanding characteristic of the school curriculum. Some principals also indicate that an exceptional curriculum should include global perspectives and the use of technology across all disciplines (P 10, P 16, and P 30).

DISCUSSION

School principals in this study were very responsive to the interview questions and generated rich data for the study. The study's findings were interesting and significant and are worthy of discussion.

First, P 13 stated that curriculum development is needed to meet the students' needs. This comment reflects the same viewpoints of Beach and Reihartz (2000) and Oliva (2001). Garner and Bradley (1991) stated that the school curriculum needed to be evaluated to determine if the goal of meeting student needs is attained. Several principals in this study also agreed with Garner and Bradley.

Second, in curriculum organization, Glatthorn, as early as 1987, asserted that the principal, as the curriculum leader, could bring the written, taught, supported, and tested curricula into closer alignment to maximize learning. Weber (2010) also identified the opportunity for improved curriculum alignment as one of the five reasons schools need curriculum leaders. P 4, 5, and 25 also strongly agreed with Glatthorn and Weber.

Third, this study's findings indicate that principals strongly support their teachers in curriculum implementation. They hold their teachers accountable for their instructional approaches while giving them the flexibility to achieve their goals. The collaborative effort between principals and teachers to successfully implement school curricula aligns with current literature (Gaustad, 1995; George, 2001; Mayfield, 2018; Sowell, 2018; Thessin, 2019). The principals in this study promise to provide feedback to the teachers after the classroom observations. Oliva (2001) also urged principals to mentor the teachers. School principals in this study support their teachers in searching for external resources for curriculum activities. They encourage their teachers to take advantage of state appropriations and apply for other state, federal, and private foundation grants for professional development.

Fourth, many school principals in this study have demonstrated their farsightedness by looking beyond test results to gauge curriculum success. They even explore, including the development of students' character, behavior, and life attitudes, as an outstanding feature of a school curriculum.

Fifth, the Wallace Foundation study (2013) found that elementary school principals engaged with their communities on issues related to the school curriculum. The finding aligns with this study's finding that elementary school principals were enthusiastic about involving the community in decision-making regarding curriculum issues.

Sixth, the studies by Naidoo and Petersen (2015), Sasson (2016), and Shaked (2019) indicate that school principals in these studies had limited involvement in curriculum issues. However, quite the contrary, school principals in this study demonstrated their enthusiasm for serving as school curriculum leaders. The findings of this research showed that school principals supported their faculty in developing, organizing, implementing, and evaluating curricula.

Seventh, the situational leadership theory by Hersey and Blanchard (1977) explains the different reactions of school principals to the idea that an effective leadership style is task-relevant and can vary according to the task, job, or function at hand. The findings of this study showed that school principals handled curriculum issues differently across schools, reflecting the racial and socio-economic contexts of their schools. This aligns with the situational leadership theory proposed by Hersey and Blanchard.

Eighth, Beatty's Theory of Interindividual Differences in Perception (2022) claims that individual differences in brain structure, as well as factors such as culture, upbringing, and environment, influence human perception. Beatty's theory is fully reflected in the findings of this study. The different backgrounds of the thirty-six school principals did impact their perceptions of their roles as curriculum leaders. Though some of their viewpoints had much in common, they felt free to express their individual professional beliefs.

LIMITATIONS OF THE STUDY

This study is limited to its qualitative research design, using an interview approach. Other research designs, such as quantitative or mixed-method designs, could yield different results. The study is also limited by its research site's location in the Atlanta area. Studies involving larger geographical areas could make their findings more generalizable. Additionally, the roles of school principals as curriculum leaders in this study are examined through their self-perceptions. Perceptions from other stakeholders, such as teachers, parents, and community leaders, could bring in additional viewpoints.

FUTURE RESEARCH

Future studies could use a quantitative or mixed-methods approach to explore principals' perspectives on their curriculum roles in elementary schools. School principals from many states could bring in different viewpoints on curriculum leadership. Additionally, consideration can be given to a cross-country approach to compare school principals' perceptions of their curriculum leadership roles at the elementary school level. Other studies could involve teachers, parents, students, and community leaders in soliciting their perceptions of principals' roles as curriculum leaders.

CONCLUSION AND IMPLICATIONS

The findings of this study show that principals in elementary schools prioritize individual student needs in developing the school curriculum. They recognize the need to follow the state core curriculum and adhere to the school district's curriculum implementation guidelines. However, the principals also know there are windows for continued curriculum improvement through evaluation. Principals in this study have identified their strategies for working in partnership with teachers to implement and develop the curriculum. The findings of this study have further confirmed the different roles of the principal as a curriculum leader in school. Elementary school principals employ a grade-level team approach to curriculum organization, implementation, and evaluation.

Moreover, elementary school principals demonstrate greater initiative in working with communities on school curriculum issues. The findings of this study suggest that elementary school principals have expressed their perceptions of focusing on the tasks assigned to them. In shaping school educational policies, policymakers should consider the findings of this study, which represent the authentic voices of school principals. In reviewing the findings of this study, practicing and potential school principals can share them to discuss the critical curriculum issues that challenge their leadership.

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EXPLORING THE INTERCONNECTIONS OF DYSLEXIA, ANXIETY, AND EXECUTIVE FUNCTION COACHING: INSIGHTS FOR ADOLESCENT EDUCATIONAL PLANNING

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ABSTRACT

In the spirit of collaborative educational planning, this study attempts to bridge K-12 education, higher education, special education, literacy education, coaching, and the mental health professions, in an effort to better support students with dyslexia and mental health challenges such as anxiety, and the professionals who serve them. The theoretical grounding of the study situates dyslexia both historically and academically, as well as contemporarily, particularly in its links to anxiety, and the present state of mental health trends affecting today's teens. The study draws connections to the executive functioning (EF) of the brain, and how EF coaching can help. The case study of a 15-year-old participant, Esme, is shared. Trends were analyzed using the constant comparative method using axial and selective coding methods. Findings from interviews with Esme revealed how anxiety can be felt like both a friend and an enemy, the benefits of EF coaching experienced at school, and the importance of the quality of relationships in her education. Tangible suggestions of collaborative educational planning are shared, including the implementation of quiet spaces at school, ways of implementing EF coaching, and specific professional development such as cross curricular approaches and psychological first aid.

INTRODUCTION

In the early 2010s, the mental health of adolescents plummeted, with rates of depression, anxiety, self-harm, and suicide rising sharply across several countries, and in some cases, even doubling when compared to previous decades (Haidt, 2024). Mental health is recognized as one of the biggest problems in schools today. It is estimated that one in five school-aged youths (ages 4 - 19) experiences mental health problems (Kessler et al., 2005) with the risk being higher among students with learning differences such as dyslexia (Francis et al., 2019). The challenge is felt not just in K12 schools, but also in higher education. The academic rigors of university life, including high workloads, deadlines, and exams, are risk factors associated with stress, anxiety, and depression among students (Mofatteh, 2021). Facing high school or university with a specific learning difficulty such as dyslexia can exacerbate those challenges.

In the spirit of collaborative educational planning, the purpose of this study is to bridge K12 education, higher education, special education, literacy education, coaching, and the mental health professions, in an effort to better support students with dyslexia and mental health challenges such as anxiety, and the professionals who serve them.

The study draws connections to the executive functioning (EF) of the brain, and hypothesizes that EF coaching might help, not only in secondary settings, but in the transition to postsecondary education as well. In the theoretical grounding of this paper, terminology will be explored, including dyslexia, its links to anxiety, how those cognitive functions tie to the EF of the brain, and how EF coaching might help. Second, a case study of a 15-year-old female participant (Esme, pseudonym) will be shared. Through this high school freshman's story, readers may more deeply understand the interconnectedness of Esme's life with dyslexia and anxiety, and Esme's experience of anxiety both in and outside of academic contexts. Finally, in the Discussion section, a synthesis of the findings and tangible suggestions of collaborative practice will be shared.

RESEARCH QUESTIONS

The research centers on the following research questions:

- In what ways are dyslexia and anxiety linked, and how can a more in-depth understanding of their interconnectedness enhance the collaborative planning of educational professionals such as special educators, literacy specialists, and mental health professionals?
- In what ways do students report feeling supported in educational settings so that those contexts can be better understood and replicated?

THEORETICAL GROUNDING

Dyslexia

Dyslexia is defined by the International Dyslexia Association as a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge (International Dyslexia Association, 2017).

Dyslexia is a multilayered condition, requiring that educators, mental health care professionals, and researchers consider the individual, and how best to support each person's lived experience. The Diagnostic and Statistical Manual (DSM-V) places dyslexia within the broad category of 'neurodevelopmental disorders' as a descriptive subset of reading within 'specific learning disorders' (American Psychiatric Association, 2013). According to the American Psychiatric Association (2013), dyslexia is an alternative term used to refer to a pattern of learning difficulties characterized by problems with accurate or fluent word recognition, poor decoding, and poor spelling abilities.

In conjunction with written language, there are oral language foundations for literacy, regarding reading readiness, expressive and receptive vocabulary, and written and spoken narrative skills (Snowling, 2017). It is important for teachers and practitioners who work with students with dyslexia to recognize that it is a language learning difference and ensure that language skills beyond phonology are considered both in assessment and intervention. As far as reading and writing are concerned, dyslexic individuals are often expected to experience substantial issues. Frequently, serious emotional consequences accompany dyslexia since reading is one of the crucial competencies acknowledged by the modern educational system (Novita et al., 2019). The most common emotional symptom that individuals with dyslexia report experiencing is anxiety (Moneem et al., 2024).

Anxiety

Although it has been acknowledged in the research that dyslexic individuals tend to experience anxiety, little is known about effective, specialized interventions for mental health problems in dyslexic individuals, nor about factors that may protect individuals with dyslexia against mental health problems (Georgiou et al., 2024). Comorbidities such as Attention-Deficit/Hyperactivity Disorder (ADHD) have been shown to increase the risk of anxiety in individuals with dyslexia (McArthur et al., 2024). The case study participant in the current study, Esme, has dyslexia, ADHD, and anxiety. As a result, this feature in the literature appears to be of importance.

ADHD is a heterogeneous neurodevelopmental condition present in approximately 5% of school-aged children (Polanczyk et al., 2014) and characterized by indicators of inattention, hyperactivity, and/or impulsivity (American Psychiatric Association, 2013). Anxiety is an emotion

characterized by feelings of tension, worried thoughts, and can lead to physical changes, such as increased blood pressure (American Psychiatric Association, 2013). Nelson and Harwood (2011) illustrated that dyslexic individuals can present clinically significant levels of anxiety, and the symptoms were attributable to school anxiety in approximately 70% of the cases. The anxiety in the school context sometimes leads to avoidance of certain academic situations which then sometimes have negative impacts on school performance (Giovagnoli et al., 2020).

There is significant debate about the nature of anxiety in dyslexia and whether it is generalized or specific (McDowall et al., 2024). Anxiety can manifest itself in many forms later in life and continue to cause academic and emotional challenges for adults. Giovagnoli et al. (2020) demonstrated how anxiety begets anxiety—when one avoids a new learning situation due to the anxiety created, it manifests new anxiety, and new problems of anxiety emerge. As such, these findings, along with the results of other studies, suggest that dyslexia difficulties may transcend the academic context and impact the social lives of dyslexic individuals (Arnold et al., 2005; Francis et al., 2019; Zuppardo et al., 2023). Dyslexic students in higher education also show increased levels of social anxiety (Carroll & Iles, 2006). This could be due to the language processing and comprehension difficulties that can sometimes occur for dyslexic people. Therefore, while many studies suggest that the anxiety experienced by dyslexic individuals appears primarily academic in nature and context, it may also be fair to conclude that more generalized anxiety exists, and more sweeping attention and interventions may be needed (McDowall et al., 2024). Furthermore, interventions must exist in K12, as well as in higher education, in collaborative pursuits, with coaches, educators, and mental health professionals at the helm.

Executive Functioning Coaching

One specific example of an intervention that has proven helpful for adolescents with dyslexia and anxiety is EF coaching. Commonly in EF coaching, coaches use specific types of questions that model reflective thinking and prompt students' ability to plan and carry out their goals. Effective EF performance has been highly correlated with increased productivity, enhanced self-esteem, better overall performance, improved job/educational satisfaction, and heightened decision-making consistency (Vasquez & Marino, 2021).

In some studies of accessibility in higher education, students with dyslexia have reported that their university does not offer adequate emotional support (Carroll & Iles, 2006). Typically, universities provide academic adjustments and support for dyslexic individuals, including tutoring and extra time during exams. However, with recent findings suggesting how academic demands provoke anxiety in dyslexic students, it is recommended that universities (and K12 schools) raise awareness about these emotional needs in students to promote self-advocacy, as well as in the staff that support students with dyslexia (McDowall et al., 2024).

Most higher education environments are not targeted at improving those emotional, personal skills, however (Richman et al., 2014). EF coaching is a promising service delivery model that some institutions of higher education are beginning to provide to students (Woodcock, 2024). According to the International Coach Federation (2023), coaching is "partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential" (para. 7). A specialty within the expanding fields of personal and professional coaching, EF coaching provides support for the development of skills, strategies, and beliefs needed to manage EF challenges (Parker & Boutelle, 2009).

EF is a specific and related set of cognitive skills involved in conscious problem solving and self-directed and controlled behavior (Lohnes, 2022). EF is an umbrella term with many subdomains, including planning, organization, working memory, task initiation, flexibility, emotional control, impulse control, time management and prioritization, sustained attention, responding appropriately in social situations, and self-monitoring (Dawson & Guare, 2018; Vasquez & Marino, 2021). EF skills are essential for executing goal-directed behavior, and thus are paramount in problem-solving and learning. EF and anxiety are comorbid; EF issues can cause anxiety, and anxiety can, consecutively, affect EF by playing a role in the brain's ability to process information and make decisions (Barron, 2023). The added linguistic challenges that sometimes accompany dyslexia can complicate goal attainment and exacerbate anxiety.

Dawson and Guare (2018) offered the apt metaphors of referring to EF skills as the brain's orchestra conductor of one's cognitive skills. EF skills help humans to organize behavior over time and to override immediate demands in favor of longer-term goals. Through the use of EF skills, humans can plan and organize activities, sustain attention, and persist to complete a task (Woodcock, 2024). EF skills enable humans to control emotions (referred to as "hot"/stressful EF skills, versus other skills referred to as "cool"/less stressful) and monitor thoughts in order to work more efficiently and effectively (Dawson & Guare, 2018).

In the rare empirical studies that exist of EF coaching in education, students reported that their goal attainment skills improved by working with their coaches. In addition, students stated that they enjoyed working with coaches, whom they found to be effective and supportive (Woodcock, 2024). Perhaps most significantly, coaching helped students achieve a greater sense of mental health (Parker et al., 2011). During EF coaching, coaches use questions that model reflective thinking, prompting students' abilities to plan and carry out their goals. Effective EF performance has been highly correlated with increased productivity, enhanced self-esteem, and heightened decision-making consistency (Vasquez & Marino, 2021).

EF is associated with foundational academic achievement in reading, math, science, and social studies for both neurotypical and neurodivergent students (Lohnes, 2022). Research demonstrates that EF can be restricted by the experience of severe and frequent stress or adversity. Studies now illustrate that the human brain is capable of change, growth, and regeneration throughout individuals' lifetimes (Lohnes, 2022). For these reasons, it is imperative that more K12 and higher education schools undertake EF coaching and make it accessible to all students.

EF coaches in higher education tend to work with students in seven major areas: Scheduling, goal setting, confidence building, organizing, focusing, prioritizing, and persisting at tasks (Woodcock, 2024). Coaches assist students to assess their environments, identify needs, set goals, and offer suggestions and guidance (Parker et al., 2011). Clinical mental health counselors who also serve as EF coaches contend that empowering students to understand the connection between their EF and anxiety can be paramount in overall improved health and wellbeing (Edelstein, 2024). A comprehensive EF coaching approach can have far reaching effects. While there have been some promising results shared from studies utilizing cognitive behavioral therapy strategies such as cognitive reappraisal, when one reframes the way they think about a situation to change the emotional impact of the situation (McDowall et al., 2024; Gross 1998), EF coaching may be more expansive, long term, and more impactful.

METHODOLOGY

This research was a registered qualitative case study (Yin, 2009) performed during the winter of 2025. Esme was an enthusiastic participant, citing her desire to "help other students and teachers". Given Esme's background with ADHD, dyslexia, and anxiety, the researcher's intent was to gain insight into Esme's experiences both inside and outside of school, to gather concrete tools for educators, coaches, and mental health professionals, to aid in the journey of supporting neurodivergent students. Although the use of this particular methodology will not lead to absolute truths or vast generalizations, instead the intention of the research was to glean understandings that may be "worthy of others' attention" (Brown & Gilligan, 1992, p. 23).

The first data source was interviews. The interviews were unstructured and informal (Merriam, 2001), consisting of open-ended questions (Marshall & Rossman, 1999), which created a discourse that was collaboratively constructed by the participant and the researcher (Mishler, 1986). This approach lent itself to a conversational context that was conducive to the flow of personal stories (Borland, 1991), often referred to by qualitative researchers as "conversations, but conversations with a purpose" (Merriam, 2001, p. 71). Avoiding highly structured interviews provided freedom to Esme in expressing herself. It also provided the researcher with the control to seek insights to questions, while fostering discussions of the experiences that were important to Esme (Riessman, 1986). Esme participated in two interviews, each lasting approximately thirty minutes. There are decades of research to support the merits and benefits of unstructured interviews (some of which are not obtainable with a structured interview approach), including greater face-validity, positive interviewee and interviewer reactions, and greater practicality in a variety of real organizational settings and situations (Chauhan, 2019).

The second data source was anecdotal records in the form of a researcher's journal. Directly following each interview, the researcher wrote about the experience and any reactions to it. This process helped to ensure validity and helped to document any contextual circumstances not discussed on the interview recording in the form of field notes. The anecdotal records focused on objective, detailed descriptions of specific behaviors and interactions, including context like date, time, and setting, and used specific, factual language rather than interpretations or judgments. For analysis, the anecdotal records were reviewed regularly to identify patterns, and to categorize recurring themes, in combination with other methods for triangulation.

Trends were analyzed using the constant comparative method using axial and selective coding methods (Glaser & Strauss, 1967; Strauss & Corbin, 1998). It was a nonlinear, recursive, dialogical process, and as patterns were detected in the data, they were color-coded. The process began with open coding, when the researcher broke down raw data (transcripts, field notes) into smaller, meaningful segments. After the initial open coding was complete, the process moved to axial coding, when the researcher refined and connected the established categories. The constant comparative method continued to determine this step. Selective coding is the final phase. During selective coding, the researcher integrated the major categories around a central variable to create a coherent framework. Constant comparison is key (Glaser & Strauss, 1967; Strauss & Corbin, 1998).

To ensure validity, member checks were performed. In addition, during analysis, the researcher was a member of an interpretive community (Tappan, 2001; Taylor, et al., 1995). This community was a collaboration of other educators sensitive to the issues involved in the study, who met regularly to offer support and suggestions for interpretations of data. The interpretive community played a key role in this study because they inspired the selection criteria for the focal participant, Esme. Esme had been a participant in the researcher's accompanying, slightly larger study about the role of literacy in adolescent girls' lives (Woodcock, in press). Esme's transcripts

about dyslexia and anxiety were found to be so compelling by the interpretive community, it was unanimously suggested that a separate study be written on the data.

RESULTS

While the story of one adolescent cannot reflect the vast diversity of our globe, on the contrary, the research world and the human spirit benefit greatly from the documentation and illumination of the complexity and detail of a unique experience or place, hoping that the audience will see themselves reflected in it (Lawrence-Lightfoot & Hoffman Davis, 1997). Esme was wise beyond her years and gracious in repeating that, "Everybody's anxiety is different." While fully acknowledging the individual experience that Esme shared, it was also enlightening and valuable to hear her story and gather her insights. First, Esme shared how anxiety was both a friend and enemy in her life. Through that, Esme illustrated what she perceives as good and bad spaces when attempting to mitigate stress to minimize anxiety. Second, in Esme's connection between stress and anxiety, she cited EF coaching as an effective tool for combating anxiety and emphasized the need for coaches to specialize in dyslexia if working with dyslexic students, due to the language differences that can sometimes occur. Third, Esme stressed the quality of relationships, both inside and outside of the classroom, and the paramount importance of those relationships in ameliorating the mental health concerns of today's adolescents.

Friend and Enemy

Clinical psychologists have claimed for years that worry is both friend and foe (Sweeny & Karaman, 2024). Although worry is unpleasant for anyone, in people with anxiety, worry serves an important function. Anxiety itself draws attention to a potential impending threat, solidifying one's attention onto that potential threat, thereby motivating efforts to avoid or mitigate the threat (Sweeny & Karaman, 2024). For people like Esme, who regularly experience anxiety, anxiety acts as both a friend and as an enemy. Esme explained this phenomenon in her own words during an interview.

> "Anxiety could be your friend, and it can also be your enemy… people get anxiety attacks… (that's bad). I just got one this past week. There's a good anxiety like when you're about to… ask someone (something important)"

Esme was able to distinguish friend from foe in her experiences with anxiety and provide examples. Esme's familiarity with anxiety provided her with occasions to be introspective, as well as hypersensitive to herself and others, gaining a sense over time of what makes herself, and others, tick.

> "Everybody's anxiety is different, like some people overthink things too much. Some people like physicallyshow their emotion once they cry, and they don't want to… Their bodies start to shake. It's like a combination of everything. My body started to shake, and I started to crumble. And then I hyperventilate like before I start crying. So, then I can't breathe… and I need to… go to somebody that I trust… advice wouldn't be helpful, because it's like a biological thing that's happening. So, it's not like, mind over matter. It's like a physiological thing that's happening to your body. So, advice isn't, going to… Go in your ears and magically help your brain and your body or something."

From Esme's brave and open sharing, one may see that she brings a lot of awareness to her relationship with anxiety, and she understands the cognitive, biological nature of it. Furthermore, Esme has strategies in place to help mitigate symptoms and work through the good and bad aspects of it. Esme went on to discuss the metacognitive strategies she utilizes to manage stress, such as

staying organized, maintaining sleep hygiene and proper exercise, and keeping up a routine of talk therapy and/or coaching, in addition to her mentioning above of finding safe spaces/retreats and trusted people. Esme could identify physical spaces that were helpful and unhelpful when it came to mitigating stress and anxiety.

> "I think good places would probably be like a yoga class… I like music and photography… Sometimes, people like their bedrooms. They find them relaxing. A library, a cafe, a meditative environment… Try to exercise in the morning, even if it's for like 5 or 10 minutes. It definitely helps. Bad places are like an office, a school, like an environment where, like people, you don't really want to be with. Even just a stupid, boring room or a classroom."

Esme was careful to point out environments that were specific to her personal tastes, while also making an effort to be inclusive of places that might resonate with many. Spaces of peaceful solitude and engagement tend to resonate more with stress reduction than busy or tedious environments. New research supports silence as an equity practice, so more secondary and postsecondary schools have quiet spaces available to all students, and not just for some (Winek, 2025). In the years following the COVID-19 pandemic, more secondary and post-secondary schools have begun to slowly adapt to providing dedicated quiet time and quiet spaces to foster wellness, rest, reflection, metacognition, and critical engagement (Winek, 2025). Esme mentioned music, yoga, meditation, and photography. The activities available in quiet spaces can also be beneficial, such as silent, creative outlets (Sayer et al., 2024).

Esme's Coaching

Esme has been fortunate to have had EF coaching for a few years in a couple of the secondary schools she has attended and highlighted the role of EF coaching in reducing anxiety.

> "EF coaching helps… I liked it when they helped me organize a binder for school. They showed me how we need to organize, how to underline, and strategize what goes where. And usually, people use colorful tabs. I have a reminder app on my phone. That reminds me to do things. And then, like some people need help turning in homework because they forget to turn in homework, so they (the EF coaches) are starting (the topic of) Scheduling. Now I can have a good schedule and know how to manage my schedule. Knowing how to do all this just takes stress and anxiety away."

In this excerpt from Esme's interview, the link between stress and anxiety is evident. By learning tangible strategies in EF coaching to reduce stress, it decreases anxiety for Esme. She can articulate how organization and determining importance help her feel less stress and anxiety. Through colorful tabs and digital integration with the phone app, Esme has benefitted from creativity in approaches. Esme and her peers all set a goal of wanting reminders to submit homework and were able to follow through on long range execution with the EF coach on the new topic of Scheduling. In specialized colleges that focus on EF coaching as part of their curriculum, students engage in goal setting and can share organizational tools and digital apps (Woodcock, 2024). Both traditional binders as well as digital resources are utilized to help students stay organized. Students have online spaces to organize and share assignments, progress, and organization. There are also spots and times for students to sign up to share digital apps that they find helpful for EF skills such as organization, goal setting, and wellness. All students are expected to keep uniform hard copies of color-coded materials as well, to reinforce concepts in a tangible fashion (Woodcock, 2024).

From Esme's experiences in her secondary schools and EF coaching classes, anxiety has been a paradoxical friend in the ways it has taught Esme supreme organizational skills and has introduced her to wonderful educators, mental health professionals, and EF coaches. Esme went on to explain how not all EF coaches are equal. Esme cited the need for specialization.

> "My EF coach-- he is a coach for people with dyslexia and ADHD. And that's what I really need. You know what I like about that, though? I like it when people specialize in a field. Because people with ADHD and dyslexia, like they can relate to you, or they are very knowledgeable on the topic of it. You know, it also depends on the person. Some people are better than others. You must make sure you have the right EF coach."

Just as in any professional relationship, it can be vital to have the right fit with an EF coach. From Esme's perspective, she has benefited from having EF coaches who deeply understand her background with dyslexia and anxiety. As Esme continued to set goals for herself, she found that EF coaches who could support her need for extra language processing were most helpful.

> "I asked my EF coach how to set goals. He told me what to say, and you know I didn't word it the best, but I knew I should have asked him first… I find wording helpful. Because I think part of the dyslexia is knowing how to word things, because it's a language-based learning difference. Sometimes people (with dyslexia) don't know how to word things. I don't know how to word anything! I think that's a key piece. I need to word things beforehand. I'm like, I'm sorry, like you have to tell the person first, especially if they're like, helping me talk. And sometimes I don't like that. And I'm like, hey, hey, I'm gonna struggle with this… Yeah, another hugely misunderstood piece of dyslexia. People don't get it. We don't know how to communicate! Some people don't understand, and then I get mad at them, and then I coach them up on it because they need to understand that it's not our fault."

From this excerpt, the friend and enemy sides of anxiety became apparent once again. Due to the connections between dyslexia and language processing, some dyslexic students have difficulty wording things, especially when they are under stress. Esme's EF coach has been extremely supportive in these linguistic endeavors, which in turn reduces the anxiety. It can be imperative to have a support network of individuals who understand the language supports necessary for dyslexic individuals, and the ways EF coaching can assist with wording and comprehension, thereby reducing stress and anxiety. Esme went on to share more ideas that she referred to as strategies to combat anxiety.

> "Everybody's different. You must have multiple different strategies, and you can't only have 3. You have got to have like a hundred. It doesn't matter. So, like a big toolkit. You must be knowledgeable about it, especially if you're working with neurodivergent students. I have an anxiety necklace. It helps you breathe. I need strategies to help speak and communicate with one another. I like strategizing how you can organize things. Also, listening, not interrupting. Don't ask too many questions."

From this excerpt, Esme reminds readers of the complexity of anxiety and how one size will not necessarily fit all. Her apt metaphor of having a vast toolkit is apropos in the sense that it will likely be beneficial for professionals to have many techniques ready in their toolkits to share with students to combat anxiety. Every student is different, and neurodivergent students can present unique characteristics, and Esme was helpful in offering specific suggestions. Studies

indicate that the quality of coaching matters (Woodcock, 2024). The comprehensiveness of the coaching is significant to success, and the training and technique of the coaches themselves matter. As the number of postsecondary students who request EF coaching continues to grow, and campus professionals respond to additional requests for help with complex EF skills such as organization, time management, and emotional self-regulation, high schools and colleges must be ready with highly qualified coaches to fill the roles (McDowall et al., 2024).

Quality of Relationships

During interviews, Esme reminisced about specific, favorite teachers, their pedagogical practices, and their expertise; but overwhelmingly, she spoke about particular teachers and the importance of relationship when it came to reducing anxiety in the classroom. Pedagogical theorists have long upheld that relationships give meaning to practice (Hicks, 2002, p. 151). In the vision of both Malaguzzi (1993) and Gilligan (1996), all knowledge is based in relationships, and an active relationship with one's self is embedded in the social construction of knowledge. During interviews, Esme shared:

> "One of my favorite teachers, Mr. R., he would organize what he was teaching us… ahead of anything. He started that school year for… what the students really needed, like, what helps the student, you know. Another favorite teacher, Mr. S., I think just his personality helped. Kind of having a connection to the topic. Kind of making it engage, fun and not like boring, you know, he would bring history to life. My English teacher, Ms. L., is kind of fun, because she has everybody collaborate to create their own slide show that they can customize. We each choose our own favorite commercial and explain why we selected it. Sometimes it doesn't matter what we are doing or what project we are doing. It was just relating to the topic which helped."

Once again, just as in the case of the professional relationship with EF coaches, Esme cited fit and personal connection with teachers as an essential element in a successful educational experience, and experiences that kept anxiety to a minimum. From Esme's descriptions, the personality of the teacher, their passion for the topic, and the engagement of the subject mattered much more than the content itself. Esme described Mr. R. as someone who took great time and care to learn "what the students really needed…. what helps the student". In these ways, the pedagogy is much more about the overall experience of the student, and less about the content alone.

Of course, several aspects of schooling are experienced outside of the classroom. Esme spoke very openly about peer relationships and mental health complexities at her school during one of our interviews. This conversation naturally progressed as she explored relationships in general, as well as the impact of social media and texting.

> "I think one of the people I think in my life that has had a big, strong impact on me is this girl…. Alex… this person has a lot of mental health issues. And they need help, and they know it. And they're not getting the help that they need. And they've told me this because they know that they trust me. And it's bad because it's having a bad effect on me and a bunch of my peers, and we're not comfortable with it. Now, I'm not the only one that's aware of this. I think a lot of people have now realized it and are like, oh, this isn't good. I think that she also like was drawn to me in a good way…. I think I've just talked to some other people in my grade, and they've made a good impact on me. I'm getting to know them more now, like it's I would say it's a good group of people… more psychologically healthier."

Esme was able to articulate how she had been deeply affected by the psychological complexities at school that fall term. That alone was a major precipice for anxiety to heighten in Esme and others. Peers had engaged in violence, self-harm, and suicide attempts. It was understandably traumatic for everyone involved. Esme described how many times, peers would spread the word of mental health concerns via text messages and through social media posts, adding to a constant barrage of anxiety-ridden bombardment and scrutiny. Esme is mindful of how there does not appear to be enough mental health support for peers, and the effects are felt by the student body.

In summary, Esme makes deliberate strides to be "psychologically healthier," and while the school obviously has some mental health and academic supports in place, there is always room for improvement or enhancement. In this way, the role of anxiety and other mental health concerns can feel like the enemy; yet on the friendly, collaborative side, professionals can see this as a call to action to continue pathways to reinforce strategies to support students on their academic and emotional journeys. Although educators cannot be expected to fill the role of school mental health counselors, teachers can be trained to support students experiencing distress and in need of immediate assistance during crises until they can be seen by professionals, through such means as a professional development course in psychological first aid (Everly & Lating, 2022). Empirical studies provide evidence that teachers' psychological first aid training can enhance their knowledge, skills, attitude, and self-efficacy (Kamel et al., 2025).

DISCUSSION

As active, collaborative practitioners, it is imperative to gather and enact tangible tools from these insights for ongoing educational planning. These suggestions are tools for readers to consider; however, these are recommended as approaches for consideration based on reflections of the case study, rather than concluding remarks on results of the case study alone. While examining ways to better support students with dyslexia and mental health challenges such as anxiety, and the professionals who serve them, three themes emerged: how anxiety can feel like both a friend and an enemy, the benefits of EF coaching, and the importance of the quality of professional relationships, both inside and outside the classroom. As a result, three discussion points are explored for educational planning purposes-- the implementation of: quiet rooms in schools, EF coaching in schools, and professional development and cross-disciplinary curricular approaches to support students with dyslexia and anxiety.

Implementing Quiet Spaces

In Esme's explanations of anxiety feeling like both a friend and enemy, she highlighted the helpful nature of occasionally visiting quiet spaces to mitigate anxiety. Research suggests that many schools are finding the creation of designated quiet spots on campuses to be an effective tool in the overall well-being of students (Latane, 2021). Cross-unit collaborations of school leaders and students are needed to effectively execute a successful quiet room, taking the space itself, its design, budget, materials, maintenance, and its rules/use into consideration (Buckner, 2022).

Implementing Coaching

This study indicates the quality of coaching matters, and relationships matter, in teaching, and in coaching. The comprehensiveness of the coaching is paramount to its success, and the expertise and technique of the coaches themselves matter. It is imperative for coaches and educators to foster trusted, mutual partnerships with students. Knowledge of dyslexia and anxiety and personality, trust,

and fit Esme experienced with her coaches and teachers mattered more to her than the curriculum and pedagogical approaches themselves. It is recommended that schools and colleges consider consulting the International Coaching Federation (2023) because it is considered the foremost organization dedicated to quality assurance, professional development, and progressing the field of coaching. In addition, it is suggested that coaches partner with trusted colleagues in the fields of literacy and special education to specialize in particular learning differences, such as dyslexia, ADHD, etc.

Of the universities that do engage in EF coaching, they cite tangible tools that they found fostered success in EF coaching (Woodcock, 2024). The tools varied and included concrete organizational implements, such as traditional color-coded binders for classroom and study use, as well as more modern organizational tools, such as digital apps on smartphones and tablets. In addition, the colleges cited the success of coaching gathering spaces such as classes, seminars, and one-to-one coaching sessions for reinforcement of skills to extend beyond the walls of campus, to life and careers after college. It is recommended that these strategies are followed in more comprehensive ways in K-12 settings, to extend to college, and beyond. Partnerships between secondary and post-secondary settings would help to facilitate powerful EF coaching practices.

Research suggests that school-wide implementation of EF coaching is most effective, with comprehensive professional development for all staff, including ongoing support (Frank et al., 2021). EF coaching is most useful when integrated into a school's existing multi-tiered system of support. Specialists can collaborate on teams to determine tier-level support. EF coaching is most effective with direct student instruction and curriculum integration. Family engagement and communication can be a key to success (Frank et al., 2021).

Dedicated professional development and cross-disciplinary curricular approaches to support students with dyslexia and anxiety may help with the harnessing of the friendly energy of anxiety. This can help to mitigate the more negative daily stressors and to attend to the language processing assistance that may be beneficial to dyslexic students. There is a need for professional development on specialized interventions for working with students with dyslexia and anxiety. Educators need tangible tools to recognize the impacts of dyslexia, anxiety, and ADHD, and to support collaboration with EF coaches.

Implementing Professional Development

Esme was open about how dyslexia played a role in language processing difficulties, and how those language processing difficulties exacerbated anxiety for her. Professional development in this area would be of extreme benefit. Dyslexic students benefit from language processing projects, therefore a public presentation on a topic of passion, for an audience of engaged community members, may be valuable experience to build communication skills and to alleviate the natural stressors of public speaking. The public presentation could be constructed over time, and in teams. It is recommended that educators, coaches, and mental health counselors collaborate in a range of dynamic community projects, partnerships, presentations, guided communication circles, and cross unit collaborations with cross disciplinary connections, in bridges between high schools and colleges, fostering ongoing success.

Curricular approaches are very relevant and there are exciting opportunities to join forces. Esme spoke of quiet spaces and creative outlets as relaxing. There is promising new research (Sayer et al., 2024) in arts-based intervention for people with anxiety. The act of being creative has been found to naturally ease stress and anxiety. Sayer et al. (2024) found that introspective and creative activities such as poetry, music, and drama empowered participants to more easily

express and process anxiety and stress. These findings present promising ways to imagine a synergy between literacy specialists, special education teachers, coaches, mental health counselors, and art educators to establish creative large-scale projects to combine efforts, providing several avenues for all students to relax and be inspired while learning. These endeavors could be extended into all disciplines, including mathematics, social studies, and science.

In a collaborative fashion, it may be beneficial for schools, universities, educators, coaches, and mental health professionals to periodically screen for anxiety (McDowall et al., 2024). These same collective teams could provide workshops to help students learn about the impact that anxiety has on academic performance and identify common, unhelpful behaviors such as procrastination (Hooda & Saini, 2017). Since Esme spoke of the unseen peer pressures (texts, social media) of anxiety, it is suggested that all classroom educators be provided psychological first aid (Everly & Lating, 2022) in ongoing, school-wide professional development, in an effort to provide support for individuals affected by mental health concerns, so the whole school can provide more support to all affected individuals.

DIRECTIONS FOR FUTURE RESEARCH

An obvious limitation of this study is the small case study's sample size. However, qualitative research allows researchers to build a real, empathetic understanding of participants as human beings. Regarding future directions, larger studies, and longitudinal studies are needed to unpack the intricate pathways connecting learning differences such as dyslexia and mental health outcomes during the school years and beyond. In addition, it would be beneficial to understand the interventions that various practitioners are using with students, but in a cohesive, non-siloed fashion, to establish a more holistic approach moving forward. It is suggested that future research include studying the use of psychological first aid in teacher preparation programs or in ongoing, school-wide professional development to see its long-term effects.

In conclusion, it is recommended that more researchers provide small in-depth case studies of neurodivergent adolescent learners. In terms of generalizability, while it may be true that the stories of a few adolescents cannot reflect the diversity of our world, on the contrary, the research world and the human spirit benefit greatly from the documentation and illumination of "the complexity and detail of a unique experience or place, hoping that the audience will see themselves reflected in it … The scientist and the artist are both claiming that in the particular resides the general" (Lawrence-Lightfoot & Hoffman Davis, 1997, p. 14).

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