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Article

Exploring the Critical Role of Research and Innovation in Transforming Higher Education in Eswatini

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Abstract

The purpose of this study was to explore the influence of research and innovation on higher education in Eswatini, with a focus on the perspectives and experiences of key stakeholders. The study used a qualitative approach with narrative inquiry as the research design to analyse the social constructions of research and innovation in three higher education institutions. A purposive sample of 48 individuals was selected, consisting of 18 students, 12 administrators, and 18 lecturers. Data was collected through focus group discussions and semi-structured interviews, which produced rich, contextual narratives. The findings indicate that stakeholders see research and innovation as critical to institutional credibility, global relevance, and societal impact, but systemic challenges such as limited financing, institutional support, and policy gaps impede progress. The social constructionist framework highlighted how perceptions are influenced by social interactions, institutional norms, and external discourses. Based on these findings, recommendations include adopting clear policies to integrate research and innovation into institutional culture, increasing the allocation of funds, expanding industry collaborations, and promoting research-focused courses and extracurricular activities for students. Enhancing support and awareness could change perceptions, boosting research participation and innovation in Eswatini's higher education. This study highlights how perceptions influence research practices and institutional growth.

Keywords: research; innovation; social constructionism; perceptions; higher education; barriers

Introduction

Research and innovation have emerged as critical drivers of higher education development globally, with substantial implications for educational quality, relevance, and institutional reputation (Teferra, 2025; Shenkoya, 2025). Higher education institutions in Eswatini seek to enhance their contribution to national development while also improving their worldwide competitiveness. Understanding the perspectives and experiences of key stakeholders—lecturers, administrators, and students—was considered critical for developing policies and practices that promote research engagement and innovation. Building on prior work, this study distinguishes itself by employing a social constructionist lens to explore how perceptions of research and innovation are socially constructed within Eswatini's higher education system. Unlike existing literature that predominantly emphasises quantitative data, policy frameworks, or broader regional analyses, this research offers a nuanced, qualitative exploration of stakeholder narratives. It captures how social interactions, institutional norms, cultural discourses, and societal expectations shape attitudes toward research and innovation at the institutional level (Galleli & Amaral, 2025). This approach offers more detail about the social processes and collective meanings that influence research culture, addressing a significant gap in the current understanding of how perceptions are actively created and maintained within specific sociocultural contexts. By highlighting these social constructions, the study offers

actionable pathways for fostering a more research-orientated environment that aligns with local realities and global standards.

Background to the Study

The significance of incorporating research and innovation into higher education systems has grown as countries seek sustainable development and knowledge-driven economies (AlQhtani, 2025). Eswatini, like many developing countries, faces unique challenges in establishing a strong research culture within its universities, such as limited resource availability and institutional support. Despite policy efforts to promote research, there is little understanding of how stakeholders perceive these initiatives' roles, benefits, and challenges (Rossoni et al., 2024). According to research, perceptions have a substantial impact on research engagement, motivation, and institutional support (Li & Xu, 2024). Exploring these attitudes in the Eswatini context was crucial for identifying challenges and opportunities for strengthening research capacity and aligning higher education practices with national and global development targets.

Theoretical Framework

This study is grounded in social constructionist theory, which posits that knowledge, meanings, and realities are actively created through social interactions, language, shared practices and collective understanding (Berger & Luckmann, 2023). Empirical research in higher education and organisational studies has extensively supported this framework. For example, Burr (2024) showed how institutional norms and discourses shape faculty perceptions of research, influencing their engagement and attitudes. Similarly, Damaschin (2023) highlighted that shared meanings within organisations influence resource allocation and strategic priorities, emphasising that perceptions of research are socially negotiated and maintained. Additional empirical studies reinforce the significance of social constructionism in understanding perceptions within higher education. Lehtonen and Yang (2025) investigated European universities, revealing that perceptions of research value are constructed through interactions among faculty, administrators, and policymakers, emphasising the social and dynamic nature of these perceptions. In the African higher education context, research by Teferra (2025) and Shenkoya (2025) demonstrates that perceptions of research and innovation are shaped by local socio-economic realities, cultural norms, and international discourses, underscoring the importance of applying a contextual, social constructionist lens.

Selection of Literature for Review

The literature informing this study was selected through a systematic process designed to ensure comprehensiveness and relevance. An initial search was conducted across multiple academic databases, including Scopus, Web of Science, Google Scholar, and institutional repositories, utilising keywords such as "social constructionism", "perceptions of research", "higher education", "research culture", and "innovation". The inclusion criteria prioritised peer-reviewed journal articles, book chapters, and authoritative reports published within the last decade (from 2014 onwards) to reflect the most current research. To ensure a broad and balanced coverage, the review incorporated studies from diverse geographic regions—particularly focusing on African higher education contexts. The screening process involved an initial review of titles and abstracts to establish relevance, followed by full-text evaluations to identify empirical studies explicitly examining how perceptions of research are socially constructed in higher education settings. Citation tracking, expert consultations, and reference to seminal works (e.g., Berger & Luckmann, 2023; Burr, 2024) further strengthened the review's depth, ensuring that it captured both foundational theories and emerging debates. This multi-stage approach guarantees that the review is both comprehensive and reflective of the current state of the art, providing a solid empirical and theoretical foundation for the study.

Study Methodology and Data Collection Methods

Research Approach

The study used a qualitative research approach to explore the subjective experiences, attitudes, and meanings that participants attributed to research and innovation in their higher education settings (Braun & Clarke, 2025). Qualitative research is well-suited to exploring complex social phenomena in which context, personal narratives, and individual characteristics all play an important role in influencing perceptions (Lim, 2025). This method allowed the researchers to collect rich, detailed data that provided valuable insights into how stakeholders perceived and interpreted research activity, institutional support, and innovation practices. The qualitative technique facilitated an exploratory inquiry aimed at capturing the varied reality of Eswatini's higher education environment by emphasising the depth and diversity of participants' perspectives.

Research Design

The study used a narrative inquiry design, which is a qualitative methodology that collects and analyses stories and personal narratives to better understand how people make sense of their experiences (Braun & Clarke, 2025). Narrative inquiry enabled the researcher to explore participants' opinions of research and innovation in their own words, emphasising the role of context, identity, and meaning in shaping their attitudes (Clandinin, 2022). This design allowed the collecting of detailed personal accounts from academics, administrators, and students, capturing the breadth and diversity of their experiences. The objective of this study was to find underlying themes, patterns and variations that reflected how stakeholders built their understanding of research and innovation within Eswatini's higher education system.

A purposive sample of forty-eight participants was selected, including academic members, university administrators, and students from three higher education sites in Eswatini. The purposeful sample technique was designed to ensure diversity in academic disciplines, ranks, and administrative roles, so enriching the data with diverse viewpoints (Ahmad & Wilkins, 2025). The data-gathering process included organising focus group discussions and conducting semi-structured interviews to obtain rich, detailed narratives about participants' experiences with research and innovation. The design sought to elicit similar themes, differences, and unique insights from stakeholders, resulting in a thorough understanding of perceptions in the higher education setting.

Data Generation Methods

Data was collected using two primary qualitative methodologies. Focus group discussions were used to collect data through group interactions, with members encouraged to share and respond to each other's perspectives on research and innovation. These discussions revealed collective perceptions, social norms, and shared sentiments, which frequently resulted in dominant themes and group consensus (Geampana & Perrotta, 2025). Individual interviews enhanced this process by offering a private space in which participants could openly share personal experiences, observations, and impressions that might be sensitive or difficult to express in a group context (Geampana & Perrotta, 2025). These interviews provided a better knowledge of individual experiences and perspectives, capturing nuances that supplemented the focus group data. Participants were chosen based on their involvement in research activities and their willingness to share their perspectives. The interviews and focus groups employed open-ended questions designed to elicit detailed stories and viewpoints about perceptions, experiences, and institutional practices concerning research and innovation. The interview guide was pilot-tested with three participants to ensure clarity and relevance.

Data Analysis

Data analysis used an integrated method that incorporated thematic and narrative analysis to create a deeper and more nuanced understanding of the data. Following Braun and Clarke's (2023) guidelines, the transcripts were familiarised, and significant portions were coded to find initial themes regarding attitudes of research and innovation. These themes served to highlight common patterns and shared perspectives among various stakeholder groups. Simultaneously, narrative analysis approaches were utilised to interpret personal stories and accounts, with a focus on how participants-built meaning, identity, and social reality through storytelling (Braun et al., 2025). This narrative viewpoint complemented the thematic approach by revealing the deeper, contextually integrated ways in which people make sense of their experiences. Together, these methods provided a comprehensive analysis: the thematic analysis highlighted overarching patterns and divergences, while the narrative analysis offered insights into individual experiences and the social and cultural contexts shaping those perceptions. This complementary combination allowed for both broad pattern recognition and in-depth understanding of personal and collective meaning-making processes.

Establishing Trustworthiness in the Study

Strategies to ensure trustworthiness included prolonged engagement in the field to build rapport and deepen understanding; peer debriefing sessions to discuss and refine the research process and mitigate biases; member checking, where participants reviewed and verified their narratives for accuracy; and triangulation, involving multiple data sources such as interviews, focus groups, and documents to enhance credibility and robustness. The selection of research instruments was based on relevance to the research questions, content validity, and overall appropriateness for capturing rich, contextual data. The quality of these instruments was further assessed through data saturation when no new themes emerged and pilot testing that confirmed clarity and suitability. These measures aim to ensure transparency, rigour, and credibility, providing a thorough understanding of the research procedures and strengthening the validity of the findings.

Ethical Considerations

Ethical considerations were carefully observed throughout the study. Prior to data collection, ethical approval was sought and granted by the relevant institutional authorities. Due to the nature of the study and the participant profile, the researchers conducted data collection directly, as the research did not involve minors or life-threatening issues, thus minimizing ethical risks. Participation was voluntary, and informed consent was obtained from all participants, clearly explaining the purpose of the study, procedures, confidentiality measures, and their right to withdraw at any time without penalty. Confidentiality was maintained through anonymization of data, secure storage of recordings and transcripts, and restricted access to the data. The researchers prioritized ethical standards to ensure the dignity and rights of participants were protected throughout the research process (Subedi, 2025).

Findings and Discussions

The primary findings drawn from the data gathered are presented in this section, along with perspectives from various stakeholders in Eswatini's higher education system. Three groups of participants are identified: administrators (represented by ADM 1-12), students (represented by SP 1-18), and lecturers (represented by LP 1-18). Their responses have been analysed to find recurring themes and divergent perspectives on the contribution of innovation and research to institutional growth. Three major themes that capture the participants' perceptions and overall understanding of how research and innovation impact higher education institutions were identified from the data collected from the lecturers and administrators.

These themes are (1) the strategic role of research and innovation in institutional development, (2) challenges and barriers to promoting research and innovation, and (3) policies and strategies and their impact on enhancing research and innovation. The following discussion elaborates on each theme, integrating participant insights with relevant theoretical frameworks to deepen the understanding of their implications for higher education in Eswatini.

The Strategic Role of Research and Innovation in Institutional Development

This theme captures perceptions of how research and innovation help higher education institutions thrive, gain credibility, and become more globally relevant. It emphasises that research provides knowledge and solutions, while innovation transforms findings into practical implementations that promote institutional advancement and competitiveness.

LP1 (Site A) commented

Research can help by generating knowledge on issues that buffer the development of the institution and brings about solutions while innovation introduces new things that can result to changes being implemented for its development

LP18 (site C) said

Research and innovation are fundamental to the growth and sustainability of our institution. They not only generate new knowledge but also strengthen our capacity to address real-life challenges. Through research, the institution builds credibility, contributes to national and global development agendas, and enhances its academic reputation

LP10 (Site B) averred

Innovation ensures that findings are translated into practical solutions, or policies that can directly impact communities. Ultimately, research and innovation drive continuous improvement in teaching, and institutional competitiveness.

ADM 9 (Site 3) stated

Research is the second pillar after lecturing and teaching. And there is no institution that can do well without research because research uncovers new knowledge that is needed for the institution to progress and find its way on the world map. When academics go into research, definitely they promote the university.

The response from LP1 emphasises the dual role of research and innovation in shaping institutional development through knowledge creation and practical change (AlQhtani, 2025). From a social constructionist perspective, this perception is socially constructed through shared institutional discourses that value research as a tool for problem-solving and progress. The participant's view reflects an understanding that the institution's identity and development are shaped collectively by its capacity to generate and apply knowledge, aligning with the idea that knowledge is constructed through social interactions and institutional norms (Berger & Luckmann, 2023). The emphasis on solutions and change indicates that the social reality of the institution is seen as mutable through research and innovation, reinforcing collective beliefs about their importance.

This statement by LP18 highlights the socially constructed nature of institutional credibility and reputation through research and innovation, emphasizing their role in aligning the institution with broader societal and global discourses. The participant perceives research as a means of constructing the institution's identity as credible and relevant, which is reinforced through its contributions to development agendas—an understanding shaped by collective narratives within the academic community and societal expectations (Nkambule et al, 2025). The social constructionist framework suggests that these perceptions are maintained and reproduced through language, policies, and shared practices that legitimize research as central to institutional success (Vygotsky, 2012). The reference to global agendas also indicates the influence of international discourses shaping local perceptions.

According to LP10, innovation is socially constructed as a bridge between theoretical knowledge and societal impact, reinforcing the collective understanding that research must lead to tangible benefits (Chauke, 2025). This perspective aligns with the social constructionist view that meanings are shaped through social processes—here, the process of translating research into practice. The focus on community impact and competitiveness reflects shared values within the academic and societal context, constructing the institution’s identity as responsive and socially engaged (Ul Hassan et al., 2025). The emphasis on continuous improvement underscores the dynamic, socially negotiated nature of institutional development driven by research and innovation.

This response from ADM9 positions research as a core component of the institution’s identity and global positioning, constructed through shared institutional narratives that elevate research as essential for progress and recognition. The view reflects socially constructed hierarchies within academia, where research is valued alongside teaching, forming a collective understanding of what contributes to institutional prestige (Kandiko Howson & Kingsbury, 2025). The emphasis on promoting the university further illustrates how social representations of success and progress are constructed collectively through language, policies, and academic culture, positioning research as a vital means of social mobility and reputation-building.

Each participant response reflects a socially constructed understanding of the role of research and innovation in higher education, shaped by shared discourses, institutional norms, and societal expectations.

Table 1. Exploring the Influence of Research and Innovation in Higher Education in Eswatini.

Aspect	Key Insights	Stakeholder Perspectives	Social Constructionist View
Role & Impact	Research and innovation are vital for institutional credibility, global relevance, and societal impact	Lecturers see research as core to growth; administrators emphasise institutional reputation.	Perceptions are socially constructed through shared discourses that value research for progress and recognition
Perception of Identity	Research builds institutional identity as credible and globally connected	Participants associate research with national and international development.	Collective narratives reinforce research as central to institutional identity, shaped by societal expectations
Transformation & Practicality	Innovation translates findings into practical solutions impacting communities.	Stakeholders view innovation as a bridge between theory and societal benefit.	The meanings of innovation are socially negotiated, emphasising their societal relevance.

Challenges and Barriers to Promoting Research and Innovation

This theme highlights the common obstacles faced by institutions, including limited funding, resources, institutional support, mentorship, and workload constraints. It reflects the systemic and contextual difficulties impeding active engagement in research activities.

LP17(Site C) shared that

There is no funding. If you want to attend a research conference, the university puts no funding because the people in leadership do not understand the importance of research.

LP9 (Site B) observed that

We have challenges of inadequate resources especially finances to support research activities and innovation. As a government institution, we have limited financing. The fees that students pay are very low, and they have been low for a very long time, so focus is on teaching and learning and less on research.

ADM 5 (Site B) stated that

This is a government run institution, and we do not do as we wish. College fees are controlled by the government and are low that to meet the ever-increasing student and institution demands. We have limited resources to channel towards research and innovation

ADM1 (Site A) commented that:

There is also a lack of support. I recall an instance when I had to attend a local conference; despite the institution financing my participation, I was undermined by the authorities. They had to assign someone with higher qualifications to accompany me during my presentation, even though this individual was not involved in any way with the research.

This response from LP17 highlights the systemic challenge of limited financial resources, compounded by a lack of understanding among institutional leadership about the value of research. From a social constructionist perspective, perceptions and meanings assigned by leadership shape institutional priorities, influencing resource allocation (Damaschin, 2023). The leadership's undervaluation of research reflects their constructed reality regarding what is deemed essential for institutional success, thereby marginalising research activities (Lehtonen & Yang, 2025). This social construction affects how resources are distributed, perpetuating a cycle where research is undervalued, and funding remains scarce. The participant's perception underscores how institutional meanings and beliefs about research impact tangible support mechanisms.

This response from LP17 highlights the systemic challenge of limited financial resources, compounded by a lack of understanding among institutional leadership about the value of research. From a social constructionist viewpoint, the perceptions and meanings ascribed by leadership determine institutional priorities, thereby affecting resource distribution (Damaschin, 2023). The leadership's undervaluation of research reflects their constructed reality regarding what is deemed essential for institutional success, thereby marginalising research activities (Lehtonen & Yang, 2025). This social construction affects how resources are distributed, perpetuating a cycle where research is undervalued, and funding remains scarce. The participant's perception underscores how institutional meanings and beliefs about research impact tangible support mechanisms.

The response given by ADM5 reflects the structural and contextual barriers rooted in governmental policies and economic constraints. The social constructionist framework emphasises how institutional realities are shaped by shared meanings and societal discourses—here, the discourse on government control and resource limitations constrains institutional autonomy (Berger & Luckmann, 2023). The perception that research is deprioritised due to external controls illustrates how societal structures and policies construct a reality where resource allocation for research is limited. The institution's inability to act independently in promoting research is a socially constructed outcome of broader societal and political discourses on resource management and educational priorities.

ADM1's response reveals challenges related to institutional support, recognition, and power dynamics. From a social constructionist perspective, the meanings attached to authority, expertise, and support influence institutional culture and behaviours (Berger & Luckmann, 2023). The act of undermining the participant's research participation reflects a constructed reality where authority figures define what is valued, often based on social hierarchies and perceptions of competence. The assignment of someone with higher qualifications as a form of symbolic capital indicates how social constructs around expertise and legitimacy influence behaviour within institutions. This dynamic discourages innovation and active engagement in research, reinforcing existing power structures.

Table 2. Barriers and Challenges to Promoting Research & Innovation in Eswatini Higher Education.

Challenge/Barrier	Detailed Description	Participants/Source	Theoretical Insights
Lack of Funding	Institutions lack financial resources to support research activities, attend conferences, or fund innovation projects. Leadership's limited understanding of research's importance further exacerbates funding shortages	LP17 (Site C)	Reflects systemic undervaluation of research; social constructionist perspective suggests leadership's perceptions shape resource allocation, marginalising research efforts (Damaschin, 2023).
Inadequate Resources	Limited infrastructure, laboratory facilities, and financial means hinder research development. The low and stagnant student fees restrict the institution's capacity to generate additional research funding.	LP9 (Site B)	Socio-economic constructs around education funding influence institutional priorities; social narratives focus on teaching rather than research (Demuth & Gergen, 2025).
Lack of Institutional Support and Recognition	Researchers experience a lack of support and recognition, including bureaucratic hurdles and hierarchical undermining. An example includes an individual being undermined despite institutional funding for conference participation.	ADM1 (Site A)	Power dynamics and social hierarchies influence institutional culture; social constructs around authority and expertise impact support for research (Berger & Luckmann, 2023).
Workload and Capacity Constraints	Heavy teaching loads and administrative duties limit faculty members' time and energy for research activities, reducing research output and engagement.	Implied across responses	Institutional focus on immediate teaching needs creates a social construction that research is secondary to teaching obligations
Structural and Policy Barriers	Government policies control fees and funding, limiting institutional autonomy and prioritisation of research. Resources are allocated based on political and societal discourses that favour teaching over research	ADM5 (Site B)	Institutional realities are shaped by societal discourses; policies reflect broader societal discourses about resource management and role of higher education (Berger & Luckmann, 2023).

Policies, Strategies, and Their Impact on Enhancing Research and Innovation

This theme focuses on the existing or emerging policies and strategies aimed at fostering a research culture. It also considers the perceived effectiveness and gaps in these policies, along with how research and innovation influence teaching quality and student outcomes.

ADM 4 (site A) observed that:

No strategies nor policies currently in place to encourage research and innovation among faculty and staff

ADM 9 (Site C) highlighted that:

I have not heard of any strategies or policies the institution has in place to encourage research and innovation. But I know of a colleague who makes sure that they collaborate and publish with the students that they supervise

ADM 6 (Site B) explained that:

We are starting to put in a strategic policy because of ESHEC (body that ensures that universities and colleges meet national standards for quality) demands that policy so that we start offering degrees. Currently there is no policy that encourages research and innovation among faculty and staff.

LP3 (site A) commented that:

Research and innovation significantly enhance education quality by ensuring that teaching is grounded in the latest knowledge and practices. You find that students involved in research gain practical experience, which boosts their employability, and readiness for postgraduate studies.

ADM 10 (Site C) remarked that:

Since research involves generation of new knowledge, this makes lecturers to be competent in delivering lectures and improves the content they offer to students. It makes the content being delivered relevant.

The response from ADM4 reveals that the institutional environment at Site A lacks formal mechanisms—such as policies, strategies, or frameworks—to foster a culture of research and innovation among faculty and staff. From a social constructionist perspective, this absence indicates that the shared social understanding of research's value within this institution has not yet been fully developed or institutionalised. The social reality here is still in formation, possibly characterised by a dominant narrative that prioritises teaching or administrative duties over research activities (Nkambule et al., 2025). This lack of policy suggests that research and innovation are not yet socially constructed as core institutional values, which influences faculty perceptions, motivation, and behaviours related to scholarly activities. Furthermore, this situation may perpetuate a cycle where the absence of formal recognition or support discourages faculty from engaging in research, thereby reinforcing the social reality of research being peripheral rather than central (Menard, 2025). The construction of institutional priorities, therefore, remains centred around other domains, perhaps due to historical, cultural, or resource-related factors that are shared beliefs shaping the collective understanding of what constitutes institutional success.

ADM12 emphasises the absence of formal policies supporting research but notes active informal practices—such as collaboration and publishing with students—that foster research activities. From a social constructionist framework, these informal practices serve as micro-level social constructs that contribute to building a research culture within the institution. These shared norms and routines help construct a social reality where research is valued, even without institutional mandates. Such practices can gradually influence perceptions about the importance of research, leading to the social construction of a research-orientated identity among faculty and students. The participant's awareness of these informal collaborations suggests that social interactions among faculty and students are critical sites where shared meanings around scholarly work are negotiated and reinforced. These interactions serve as agents of socialisation, shaping the collective understanding and gradually constructing an institutional culture that may evolve to include formal policies in the future.

The response from ADM6 reflects an evolving social reality, where external standards, the Eswatini Higher Education Council (ESHEC), are catalysing institutional change. The institution's move toward developing a strategic policy signifies an active process of social construction, where external discourses and demands are being integrated into internal norms and practices. This process involves negotiation among stakeholders, which leads to the construction of a new institutional identity that recognises research and innovation as essential components. The mention of external standards also highlights the role of social influences—such as accreditation bodies—in shaping institutional realities (Kayyali, 2024). The institution is in a transitional phase where shared understandings are being negotiated and constructed through policy development, which will influence faculty perceptions, behaviours, and the overall research culture. This external-internal

dynamic demonstrates how social realities are constructed through interactions between external expectations and internal institutional responses.

Participant LP3 articulates a shared social understanding that research and innovation are integral to educational excellence and student outcomes. The emphasis on practical experience, employability, and quality reflects a collective belief system that constructs research as central to the identity and purpose of higher education. Such shared narratives influence institutional priorities, resource allocation, and individual motivations, thus actively shaping the social reality of what constitutes quality education. From a social constructionist perspective, these beliefs are reinforced through discourse, institutional policies, and everyday practices, creating a cultural environment where research is valued and seen as essential for societal and economic development. This shared understanding influences both the social identity of the institution and individual faculty members' perceptions of their roles.

ADM9's response underscores a social construction of professional identity where research is integral to teaching effectiveness (Geletu & Adige, 2023). The shared belief that research improves lecturer competence and relevance constructs an institutional reality where scholarly activity is not optional but central to effective teaching. This understanding influences how faculty perceive their roles, responsibilities, and professional development, actively constructing a culture that values research as part of academic excellence. From a social constructionist perspective, such shared beliefs are reinforced through interactions, peer recognition, and institutional expectations, which collectively shape the social reality of what it means to be an effective lecturer. Over time, these shared understandings can influence policy, resource distribution, and individual motivation to engage in research.

The presence or absence of formal policies, as well as informal practices, all contribute to shaping the institutional reality regarding research and innovation. External standards and discourses play a crucial role in influencing internal constructions, while shared meanings around quality, competence, and relevance reinforce the cultural fabric of higher education institutions in Eswatini.

Building on the insights from administrators and lecturers, it is equally important to consider students' perspectives, as their awareness, engagement, and perceptions of research and innovation significantly influence the overall research culture within higher education institutions. The following themes derived from students' experiences shed light on their level of involvement, understanding, and the potential opportunities for fostering a more inclusive and active research environment.

Themes that Emanated from Students

Awareness and Engagement in Research and Innovation Activities

SP6 (focus group A) averred that:

We only appear to learn about research as part of our final research project. My knowledge is restricted to what is required for our graduation requirements because we haven't participated in any research projects or innovation contests.

SP10 (focus group B) explained that:

To be honest, I know very little. Unless I actively seek out information, I don't hear much about research or innovation projects at the college, which mostly focusses on coursework and practical skills.

SP14(individual interview) highlighted that:

I'm aware. The university provides regular updates on ongoing research projects, conferences, and innovation competitions via emails, seminars, and our student site. However, I believe I could be more involved if I understood more about the unique opportunities.

SP6 highlights a limited awareness and engagement with research and innovation activities, primarily viewing research as a requirement for graduation rather than an integral part of their

academic journey. This suggests that the curriculum may emphasise research as a procedural task rather than fostering active participation or promoting a culture of innovation (Isabirye et al., 2025). The participant's perception indicates a need for more integrated research experiences throughout the academic programme to cultivate deeper understanding and interest. The lack of participation in extracurricular research or innovation contests can hinder the development of research skills and innovative thinking among students, which are crucial for higher education's role in societal development (Villanueva-Paredes et al., 2024).

SP10 underscores a significant gap in awareness and engagement, attributing it to a lack of proactive communication and exposure. The focus on coursework and practical skills suggests a possibly traditional or skill-centric curriculum that does not sufficiently emphasise research and innovation as integral components. The participant's statement reflects the importance of institutional efforts to raise awareness and foster a culture of research by proactively disseminating information and creating opportunities for student involvement (AlQhtani, 2025). This gap may also hinder students from recognising the importance of research in their academic and professional development.

SP14 demonstrates a moderate level of awareness, recognising the efforts of the university in disseminating information about research and innovation activities. However, the participant perceives a gap in understanding the opportunities available, which affects their willingness or ability to participate actively. This suggests that while information dissemination is happening, there may be a need for more targeted engagement strategies, such as workshops, mentorship programmes, or clearer communication about how students can participate. Enhancing understanding of these opportunities could significantly boost student involvement and foster a stronger research culture.

Impact of Research and Innovation on Learning and Future Careers

SP24 (focus group C) stated that:

Research and innovation make my studies more relevant and interesting. They assist me grasp real-world challenges and improve my problem-solving skills. I believe that participating in these activities will offer me an advantage in the job market by demonstrating that I am proactive and imaginative.

SP7(individual interview) shared that:

I believe they could make learning more engaging and relevant. If I had more opportunities to work on projects, I believe it would enhance my confidence and better prepare me for the job, particularly in hands-on trades and technical areas.

SP4(focus group A) commented that:

Research and innovation are critical for expanding knowledge and staying current, but inadequate institutional investment reduces exposure to new ideas, thereby affecting future career competitiveness.

The response given by SP24 emphasises the transformative role of research and innovation in making higher education more practical and engaging. By engaging with real-world problems, students can develop critical thinking and analytical skills that are vital in modern workplaces (O'Neill & Short, 2025). The proactive involvement in research activities also demonstrates a student's initiative and innovative capacity, qualities highly valued by employers. This aligns with the concept that experiential learning through research can bridge the gap between academic knowledge and real-world application, ultimately improving employability and career readiness.

SP7's response underscores the significance of project-based and experiential learning in fostering confidence and practical skills. For students in trades and technical areas, direct involvement in research projects or hands-on activities can deepen understanding, improve technical competencies, and foster a sense of ownership over their learning (Safitri et al., 2024). Engaged learning through innovation not only motivates students but also equips them with skills directly applicable to their future careers, making education more aligned with industry needs. The

participant demonstrates that experiential learning increases self-confidence and readiness for employment in technical fields.

The response from SP4 highlights the importance of institutional support in fostering a research-rich environment. Adequate investment in research infrastructure, funding, and faculty expertise is crucial for exposing students to cutting-edge knowledge and innovative practices (Kazim et al., 2024). Without sufficient institutional backing, students may miss out on opportunities that could enhance their competitiveness in the job market. The statement underscores the need for higher education institutions to prioritise research and innovation to ensure students are well-prepared for evolving industry demands.

Strategies to Foster a Culture of Research and Innovation

SP12(focus group B) suggested that:

Increasing industrial collaborations, providing research-focused internships, and setting up innovation hubs on campus could encourage students to get more involved.

SP17 (individual interview) observed that:

Organising more competitions, granting research funding, and creating forums for students to display their ideas would inspire us. Encouraging lecturers to incorporate research projects into their courses may also help to develop a research culture.

SP2 (focus group A) said that:

It could be beneficial to hold frequent innovation fairs, give small grants for student initiatives, and include research assignments into classes.

This response from SP12 emphasises the importance of establishing stronger links between academia and industry to foster a culture of research and innovation among students. Industrial collaborations can provide practical insight, real-world problems, and opportunities for applied research, which can motivate students to participate actively in research activities (Naseer et al., 2025). Internships focused on research enable students to gain hands-on experience, bridging the gap between theoretical knowledge and practical application. Innovation hubs serve as creative spaces that foster collaboration, experimentation, and entrepreneurship, providing students with resources and mentoring to develop innovative ideas.

The participant SP17 highlights the role of incentives and platforms in motivating students to engage in research and innovation. Competitions serve as a stimulating environment that encourages creativity, healthy competition, and practical application of ideas. Providing research funding alleviates financial barriers, enabling students to undertake meaningful projects (Russell et al., 2025). Forums for idea presentation foster a community of shared knowledge, networking, and peer learning, which can further inspire student involvement. Additionally, integrating research projects into coursework by lecturers embeds research culture into everyday academic activities, making research a routine part of students' academic experience (Matjašič & Vogrinc, 2025). This approach aligns with experiential learning theories, emphasising active participation and practical engagement.

SP2's response advocates for creating an environment that encourages continuous engagement with innovation through regular events and incentives. Innovation fairs act as platforms for showcasing student ideas, fostering peer recognition, and stimulating entrepreneurial spirit (Suryawanshi et al., 2024). Small grants for student initiatives lower financial barriers and motivate students to pursue innovative projects, promoting a proactive research culture. Incorporating research assignments into coursework ensures that research becomes an integral part of the learning process, helping students develop critical thinking, problem-solving, and research skills (Ajiga et al., 2025). This holistic approach aligns with active learning strategies, emphasising experiential and participatory education that can cultivate a sustained culture of research and innovation.

Table 3. Summarises the themes that emerged from students regarding research and innovation in Eswatini's higher education institutions.

Theme	Findings from Students	Implications
Awareness and Engagement in Research and Innovation Activities	- Limited awareness; research seen mainly as a graduation requirement (SP6). -Little proactive communication; focus on coursework and practical skills (SP10). - Some awareness of university updates, but a need for better understanding of opportunities (SP14).	- Curriculum emphasises procedural research rather than active participation. - Need for integrated research experiences and proactive dissemination of opportunities to foster a research culture.
Impact of Research and Innovation on Learning and Future Careers	- Research makes studies more relevant and improves problem-solving skills (SP24). -Opportunities to work on projects could enhance confidence and employability (SP7). -Limited institutional investment affects exposure and future competitiveness (SP4).	- Experiential learning bridges academic knowledge with practical skills. - Institutional support is crucial for providing research opportunities and infrastructure to boost career readiness.
Strategies to Foster a Culture of Research and Innovation	Suggestions include industrial collaborations, research internships, innovation hubs, competitions, research funding, and forums for idea sharing (SP12, SP17, SP2).	- Building partnerships with industry, incentivising participation, and embedding research into coursework can promote a vibrant research culture. -Practical platforms and financial support motivate student engagement and creativity.

Recommendations

To foster a robust research and innovation culture, higher education institutions in Eswatini should develop and implement clear policies that embed research as a core institutional value. Increasing resource allocation, including funding, infrastructure, and human capital, is essential. Establishing industry collaborations and creating innovation hubs can stimulate practical engagement and entrepreneurship among students. Incorporating research and innovation components into curricula and extracurricular activities will promote active participation. Building capacity through training, mentorship, and awareness campaigns can shift perceptions and motivate staff and students. Policymakers should also review funding models and provide targeted support for research initiatives.

Conclusion

This study has demonstrated that perceptions of research and innovation within Eswatini's higher education institutions are socially constructed through shared discourses, institutional norms, and societal influences. These perceptions are not fixed but are actively shaped and reinforced through social interactions, policies, and external discourses, which collectively influence research engagement, resource allocation, and institutional priorities. By applying a social constructionist framework, the research highlights how these perceptions impact the development of a research culture and the broader growth of higher education in the country. Despite widespread recognition of the importance of research and innovation for institutional credibility, societal development, and global relevance, systemic challenges—including limited funding, inadequate institutional support, and policy gaps—continue to impede progress. These barriers are rooted in complex social and

structural constructs that shape institutional realities and stakeholder attitudes. Addressing these systemic issues requires a comprehensive approach, including the development of clear policies, increased resource allocation, fostering industry collaborations, and embedding research components into curricula and extracurricular activities. This study contributes to the current literature by providing a nuanced, qualitative understanding of how perceptions are socially constructed within a specific sociocultural context. It underscores the importance of changing social narratives and institutional practices to promote a more research-orientated environment. Ultimately, fostering a positive social construction of research and innovation is essential for transforming higher education in Eswatini, making it more relevant, competitive, and capable of contributing meaningfully to national and societal development.

Supplementary Materials: The following supporting information can be downloaded at the website of this paper posted on Preprints.org.

Conflicts of Interest Statement: The author declares that there is no conflict of interest regarding the publication of this research study.

Informed Consent: A written consent from the school principals was also secured via a written letter describing the study's objectives. Following that, participants received letters of consent outlining the issues of confidentiality, privacy, and voluntary involvement.

Ethical Approval: Secured from relevant Institutional authorities. Informed consent was obtained from all participants, clearly explaining the purpose of the study, procedures, confidentiality measures, and their right to withdraw at any time without penalty.

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