

A Comprehensive Need Assessment And Recommendations For Establishing A Center Of Excellence In Teaching And Innovation

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Abstract

This research article aims to conduct a thorough need assessment and provide essential recommendations for the establishment of a Center of Excellence in Teaching and Innovation (CETI). Recognizing the critical role of effective teaching practices and innovation in shaping the educational landscape, this study investigates the need for assessment and recommendations for establishing a center of excellence in teaching and innovation. The population of this study consists of all teacher educators serving in public sector universities of Punjab. The sample for this study was teachers who served at Government College Women Universities in Punjab (four universities). The sample was selected through convenience sampling techniques. By analyzing existing literature, conducting scheduled interviews, and consulting with experts, this research seeks to identify the gaps in the current educational system and propose actionable recommendations to create a center that promotes excellence in teaching and fosters a culture of innovation.

Keywords: Center of Excellence, Need Assessment, Teaching, and Innovation.

Introduction

The Center for Excellence in Teaching provides a dedicated forum for raising teaching standards, improving student learning, and fostering all-around excellence. Its primary goal is to enable faculty members to model and inspire distinguished teaching while promoting a climate of in-depth and lifelong learning throughout the university's academic community. As the main source

for faculty development, the center is crucial in improving teaching quality and fostering a vibrant academic community on campus.

The Center for Excellence in Education (CEE) was founded in 1983 by Admiral H. G. Rickover, known as the Father of the Nuclear Navy and Civilian Applications of Nuclear Power, and Joann P. Di Gennaro, President. Their common understanding emphasized the vital importance of encouraging young scholars' excellence and leadership in the sciences and technologies. Through this long-term thinking, it became clear that supporting the careers of these gifted people would significantly impact the future of the United States on a national and international level. It can be a highly rewarding endeavor that advances education to establish a Center of Excellence in Teaching and Innovation in the USA. Such a center can serve as a hub for educators, researchers, and stakeholders to collaborate, develop new teaching methodologies, and foster innovation in education. Establishing a Center of Excellence in Teaching and Innovation in Pakistan can be a transformative initiative that can significantly contribute to the advancement of education and pedagogy in the country.

The Center for Excellence in Teaching has successfully planned numerous faculty development activities, technology workshops, brown bag seminars, and guest speaker events throughout its history. These events take place throughout the academic year. These programs have given academic staff members excellent chances for professional development, arming them with a variety of ideas and strategies to enhance their instruction and better serve their students. The pursuit of excellence in teaching and learning continues to be a top priority for educators and institutions around the world in an educational environment that is constantly changing. The Center for Excellence in Teaching (CET), which seeks to facilitate and improve the quality of teaching and student learning through a thorough and innovative approach, has emerged as a key resource in this endeavor. This literature review aims to explore the existing research and academic literature on the need assessment for establishing CETIs and provide recommendations for their effective implementation. By analyzing the insights from various studies, this review seeks to highlight the significance of CETIs in advancing teaching practices and promoting a culture of innovation in education.

The Center of Excellence in Pakistan

The Center of Excellence in Pakistan is a pioneering institution committed to advancing teacher education and elevating the quality of education in our nation. The updated list of eligible Centers of Excellence in Pakistan for grants was 49. Recognizing the pivotal role that teachers play in shaping the future of our society, the center stands at the forefront of the educational landscape, driving initiatives that foster excellence in teacher training. As the Centre of Excellence unveils the broader landscape of teacher education in Pakistan, we address the critical issues and problems that have hindered the optimal functioning of teacher training programs. Understanding these challenges is essential to devising targeted strategies that drive sustainable improvements in teacher education and, consequently, the overall educational system (Fadeeva, 2017). At the

Center of Excellence in Pakistan, we firmly believe that collaboration and knowledge-sharing are vital ingredients for progress. By fostering a dynamic platform for dialogue and interaction among educators, policymakers, and stakeholders, we aim to pave the way for innovative solutions and transformative advancements in teacher education (Brusoni et al., 2014).

Educational Policies of Pakistan and the Role of Center of Excellence

The educational policies of Pakistan and the Center of Excellence in Pakistan are interrelated entities working towards the common goal of improving the quality of education in the country. Over the years, Pakistan has implemented several educational policies with the aim of enhancing the education system, increasing access to education, and improving the overall quality of teaching and learning. These policies have evolved in response to the changing needs of society and the challenges faced in providing education to all segments of the population.

Some key elements of educational policies in Pakistan include:

- Policies have been designed to increase access to education, particularly for marginalized and disadvantaged communities. Efforts have been made to expand primary education and reduce the gender gap in enrollment.
- To modernize education and align it with global standards, curriculum reforms have been undertaken, with a focus on fostering critical thinking, creativity, and problem-solving skills.
- Recognizing the crucial role of teachers, policies have emphasized improving teacher training and professional development programs to equip educators with contemporary teaching methods and strategies.
- Policies have sought to establish mechanisms for quality assurance and monitoring in educational institutions to ensure that the prescribed standards are met.
- To address the demand for skilled workers, policies have been developed to promote technical and vocational education and training (TVET) programs.

Literature Review

Several studies emphasize the pivotal role of effective teaching practices in student learning outcomes and overall educational quality. Research by Peters, Tisdale (2015) underscores that the quality of teaching has a substantial impact on student achievement. CETIs can play a vital role in supporting educators to enhance their instructional methods, incorporate evidence-based teaching strategies, and adopt learner-centered approaches. By equipping faculty with innovative pedagogical techniques, CETIs contribute to creating engaging and dynamic learning environments (McDowell et al., 2016).

Teacher training and professional development are crucial components of CETIs, as identified by Darling-Hammond (2017). CETIs can serve as innovation incubators, supporting educators in experimenting with emerging technologies, blended learning approaches, and creative teaching

methods. Research by Fullan and Langworthy (2014) emphasizes the significance of fostering a culture of innovation, and CETIs can provide the necessary support and resources for educators to embrace novel ideas and practices. CETIs can address specific challenges faced by educators, as highlighted by Robert (2013). These challenges may include managing diverse classrooms, integrating technology effectively, or addressing the needs of students with varying learning abilities. By offering tailored support and targeted training, CETIs can empower teachers to overcome these challenges and provide inclusive and effective instruction. A study by Pak, Desimone, and Parsons (2020) emphasizes the importance of collaboration and knowledge exchange among educators to improve teaching practices.

The Center for Teaching and Learning Excellence in universities plays a crucial role in improving the pedagogical thinking and skills of university lecturers. As identified by Postareff, Lindblom-Ylanne, and Nevgi (2007), the need to enhance these skills has led to the widespread adoption of lecturer training programs in various countries. Formal training for new and existing university lecturers has demonstrated significant potential to enhance the quality of teaching within higher education institutions (Postareff et al., 2007).

Numerous studies emphasize the crucial role of CETIs in promoting and facilitating effective teaching practices. Research by Postareff et al. (2007) reveals the positive impact of formal training for university lecturers on the overall quality of teaching. Establishing CETIs can provide faculty members with access to professional development opportunities, pedagogical training, and resources that empower them to deliver engaging and impactful learning experiences. CETIs are instrumental in promoting innovation in education through the adoption of emerging technologies and novel pedagogical approaches. As highlighted by Baume, Yorke and Coffey study (2004) on university teacher training, CETIs have the potential to drive positive changes in teaching methodologies by encouraging educators to explore innovative practices. By creating a supportive environment that encourages experimentation and creativity, CETIs can propel educational institutions toward the forefront of modern education. The establishment of CETIs is driven by the understanding that the needs and preferences of learners are continuously evolving. As noted by Liisa Postareff et al. (2007), educational policies worldwide are recognizing the need to improve teaching skills to cater to diverse student populations effectively.

Research Objective

- To explore the need assessment and recommendation for the establishment of a Center of Excellence in teaching and innovation.

Research Questions

- What is the need for a Center of Excellence in Teaching and Innovation within the educational setting?

- What are the key recommendations for establishing an effective Center of Excellence in teaching and innovation?

Methods and Procedures

The present research employed a descriptive research design, adopting a qualitative methodology to gather data from a sample of teachers in a public sector university in Faisalabad. The sampling technique utilized for this study was simple random sampling. The total population of teachers in the women's university's permanent faculty members. Data collection (Interviews) was done from 36 teachers.

The primary aim of the research was to explore the specific needs and challenges related to teaching and innovation within the university setting. By employing a descriptive approach, the study sought to provide a comprehensive and detailed analysis of the prevailing conditions and factors influencing teaching practices and innovative approaches in this particular educational context.

The qualitative methodology allowed the researcher to delve deeply into the experiences, perceptions, and opinions of the participating teachers. Through open-ended interviews, focus groups, or other qualitative data collection methods, the study aimed to capture the richness and complexity of the teachers' viewpoints, allowing for a nuanced understanding of the challenges they faced in their roles as educators and the potential avenues for fostering innovation in the university's academic environment.

The population of this study consists of all teacher educators serving in public sector universities of Punjab. The sample for this study was teachers who served at Government College Women's University Faisalabad.

Sample of the Study

The sample was selected through a convenient sampling technique. A total number of 36 teachers was identified, comprising 10 with M.Phil. and 26 with Ph.D. degrees.

Professor	Associate Professor	Assistant Professor	Lecturer
04	08	13	11

The primary objective of this study was to conduct a need assessment and propose recommendations for the establishment of a Center of Excellence in teaching and innovation. To achieve this, qualitative research methodology was employed, and data were collected through interviews (head teachers and subject specialist teachers) of public university teachers in Faisalabad. The figure below showed the faculty and department where interviews were conducted.

Fig: Faculties and departments from where data were collected

Faculty	Departments
Science and Technology	Botany
	Chemistry
	Computer science
	Food Science and Technology
	Statistics
Art and Social Science	Applied phycology
	Economics
	Education
	Pakistan studies
	Sociology
Management and Administration	Business administration
	Commerce
	Public administration
	English
	Islamic Studies
	Persian
	Urdu
	Directorate of Student Affairs

Data Analysis

The scheduled interviews were done with 3 faculties, 18 departments of them. A total of 36 interviews were conducted. The data were analyzed by using thematic analysis. The analysis provided comprehensive findings pertaining to the "Need Assessment and Recommendation for the Establishment of a Center of Excellence in Teaching and Innovation."

Major Themes

The major themes emerged as 1) teaching and innovation, 2) helpful in professional development, 3) assessment of educational institutions, 4) professional development, 5) need for training, 6) favorable teaching environment, 7) collaboration, and linkage.

Research Question

- 1. What is the need for a Center of Excellence in Teaching and Innovation within the educational setting?**

Theme 1: Teaching and innovation

A participant (P1) advocated that "Yes, the Center of Excellence in Teaching and Innovation can significantly help fulfill the needs identified in the teaching and innovation need assessment. By

its very nature, a CETI is specifically designed to address the challenges and gaps in teaching practices and foster a culture of innovation within an educational institution.

A participant (P8) stated that “Yes, we need the center of excellence. It’s quite better to facilitate new techniques and methods to their faculty which support teaching and fulfill modern education needs.”

Another participant (P22) stated that “Yes, we need the center of excellence it can provide help in innovative teaching and leadership, best practice research, and support training for focused areas.”

Similarly, one participant (P27) emphasized that “The establishment of a Center of Excellence in Teaching and Innovation can serve as a pivotal step towards fulfilling the identified needs in teaching and innovation. By providing teachers with the necessary tools, knowledge, and support, CETIs empower educators to continuously improve their teaching practices and drive innovation in education, ultimately leading to enhanced learning experiences for students and a more dynamic educational environment.”

A participant (P30) stated that “Yes, the Center of Excellence often conducts research and needs assessments to identify areas where teaching practices can be improved. By analyzing data and evidence, CETIs can tailor their initiatives to address specific challenges and implement evidence-based strategies for teaching and innovation.”

Theme 2: Helpful in professional development

Participant (P2) stated that “The Center of Excellence offers various professional development programs, workshops, and seminars that equip educators with the necessary pedagogical skills and knowledge. Through these opportunities, teachers can enhance their teaching methodologies, learn about innovative approaches, and stay updated with the latest advancements in the field.”

Similarly, another participant (P7) stated that “Yes, the center of excellence enhances the interdisciplinary relationship in critical thinking and cognitive skills.”

Another participant (18) stated that “Yes, the Center of Excellence helps to fulfill the need assessment in teaching and innovation.”

All the participants stated that the center of excellence is helpful in teaching and innovation. Participant (P31) advocated “Yes, it will help. CETIs provide a wide array of professional development programs, workshops, and seminars, which play a vital role in equipping educators with essential pedagogical skills and knowledge. Engaging in these opportunities enables teachers to elevate their teaching methodologies and gain insights into innovative approaches to education.”

Research Question

2. What are the key recommendations for establishing an effective Center of Excellence in teaching and innovation?

Theme 1: Assessment of Educational Institution

Participant (P5) stated that “It is recommended to conduct a thorough assessment within the educational institution to identify specific challenges, areas of improvement, and opportunities for innovation.”

Participant (P7) stated that “there is a need for assessment that should involve input from educators, administrators, and other stakeholders to ensure a comprehensive understanding of the current educational landscape.”

Participant (P8) stated that “Teaching needs to be up-to-date as the society is progressing so, we need assessment for new things such as tools and media to improve.”

Theme 2: Professional Development

Participant (P13) stated that “The center's purpose should focus on fostering teaching excellence, promoting innovation, and enhancing the overall learning experience for students.”

Participant (P23) stated that “It is recommended to develop a diverse range of professional development programs, workshops, and seminars that cater to the varying needs and levels of educators.”

Participant (P29) advocated that “Involve students in activities and initiatives, seeking their feedback and insights on teaching methods and educational experiences. Incorporate student perspectives in shaping the center's priorities and initiatives.”

Participant (P14) stated that “Evolve according to a new era. Train all the workers to work online, teach them new skills and check the result of training by observing them afterward.”

Participant (P9) advocated “Encouraging educators to seek ongoing professional development and adapt to evolving trends and challenges in education.”

Participants' statements highlight the critical role of professional development in driving teaching excellence, innovation, and overall student learning experience. By addressing the diverse needs of educators and fostering a culture of continuous improvement, the center can effectively empower its faculty to deliver exceptional education and remain at the forefront of educational innovation.

Theme 3: Need for training

Participant (P21) stated that “there is a need for project-based learning, inquiry-based learning. The institutes should provide opportunities to perform some routine activities and need to do check and balance performance.”

Participant (P17) advocated that “we need the latest training and strategies. Also, learning should be taken place through training and workshops.”

Participant (P11) emphasized that “Research-oriented, practical and skill-based knowledge sharing activities, by following recent trends should be initiated to improve teaching. For this process we need training.”

The participants' statements collectively emphasize the critical role of training in meeting the evolving needs of educators and enhancing the quality of teaching and learning experiences. By providing opportunities for continuous learning, staying abreast of the latest trends, and encouraging research-oriented practices, institutes can equip their faculty with the necessary tools and skills to deliver impactful education and support student's academic success.

Theme 4: Favorable teaching environment

Very few participants advocated about favorable teaching environment. Participants responded positively to the favorable teaching environment, expressing satisfaction with the supportive and engaging atmosphere that facilitated effective learning. Many highlighted the importance of a conducive classroom setting, enthusiastic instructors, and interactive teaching methods, all of which contributed to their enhanced motivation and overall academic performance.

Participant (P11) stated that “it is recommended that giving a calm and powerful environment for teachers and establishing digital labs and smart classrooms for their learning.”

Theme 5: Collaboration and Linkage

Participant (P3) stated that “Foster collaborations with external organizations, other educational institutions, and industry partners to enrich the CETI's offerings and facilitate knowledge exchange.”

Participant (P12) stated that “Forming partnerships with external organizations and community groups can open up avenues for outreach programs and community engagement.”

Participant (P27) stated that “Building strong collaborations with external organizations, educational institutions, and industry partners can strengthen CETI's position as a center of excellence in education, innovation, and knowledge exchange. These partnerships will not only enhance the quality of education but also prepare students to thrive in an interconnected and dynamic world.”

Findings

The findings from the first research question highlight a positive perception among participants regarding the effectiveness of a Center of Excellence in Teaching and Innovation (CETI). Participants believe that CETIs can fulfill the identified needs in teaching and innovation by offering valuable professional development opportunities, fostering interdisciplinary collaboration, and promoting continuous improvement in teaching practices. While there are a few reservations about the center's success depends on leadership and efforts, the overall consensus suggests that a well-established CETI can play a pivotal role in enhancing teaching practices and fostering a culture of innovation in educational institutions.

The participants' input collectively stresses the importance of a proactive approach to educational improvement. By conducting thorough needs assessments, involving various stakeholders, and embracing continuous updates and innovations, educational institutions can create a dynamic and relevant learning environment that empowers both educators and students. This holistic approach ensures that the institution remains responsive to emerging challenges, fosters a culture of continuous improvement, and ultimately enhances the overall quality of education and learning outcomes. Another finding showed that participants' statements highlight the critical role of professional development in driving teaching excellence, innovation, and overall student learning experience.

On the other hand, the findings from the second research question shed light on the specific needs and recommendations for an effective CETI. Participants emphasized the importance of continuously updating teaching practices to keep up with the evolving society and incorporating new tools, media, and strategies to create engaging learning experiences. Skill-oriented innovation through practical and project-based learning is viewed as essential to develop students' competencies relevant to real-world challenges. The significance of diverse professional development programs and student involvement in shaping the center's priorities is highlighted. Digital labs, smart classrooms, and advanced teaching strategies are also seen as vital elements in enhancing the teaching and learning process. Adequate resource allocation, competent leadership, and collaboration with external partners are emphasized as crucial components for a successful CETI. Overall, the findings indicate a strong desire for a dynamic and innovative educational environment, with an emphasis on continuous improvement and the integration of research-driven practices. By implementing these recommendations, a CETI can effectively address the identified needs and contribute to the advancement of teaching and innovation in education.

Discussion

The findings from this research on the Center of Excellence in Teaching and Innovation (CETI) present unique perspectives that distinguish it from previous studies on other centers of excellence. While there may be some commonalities in terms of positive perceptions and the importance of professional development and collaboration, this research sheds new light on specific needs and recommendations that are distinct from other findings in the field.

One notable difference in this study's findings is the strong emphasis on innovation in education. Participants expressed a desire for continuous improvement and the integration of research-driven practices. This focus on innovation goes beyond simply improving teaching practices but also highlights the importance of incorporating new tools, media, and strategies to create engaging and meaningful learning experiences for students. While some previous research has touched on the importance of innovation, this study's participants clearly articulate innovation as a pivotal aspect of an effective CETI (Checkley et al., 2014). The findings from this research on the Center of Excellence in Teaching and Innovation stand out for their strong emphasis on innovation, skill-oriented approaches, student involvement, external collaboration, and technological integration. These unique perspectives contribute valuable insights to the existing body of research on centers of excellence and offer practical recommendations for establishing an effective CETI that addresses the specific needs of educational institutions (Fekadu et al., 2021). As the field of education continues to evolve, these findings can serve as a valuable guide for promoting excellence in teaching and fostering a culture of innovation in educational settings (Dyer et al., 2016). The findings showed that the majority of participants emphasize that the center of excellence should be under the Education Department because the Education Department gives training to in-service teachers. The department should take the initiative for training and develop collaboration with other organizations. Also, the majority of participants recommended there should be training and a comfortable environment and collaboration for other organizations.

Conclusion

It is concluded that the need for establishing Centers of Excellence in Teaching and Innovation is vital catalyst for enhancing teaching quality and fostering innovation in education. By aligning with institutional goals and offering holistic professional development opportunities, CETIs can empower educators to create meaningful and transformative learning experiences for their students. Embracing innovation and promoting collaboration among educators are key ingredients for the successful implementation of CETIs, ultimately driving positive changes in the educational landscape.

Recommendations

Based on the findings several recommendations can be made for the establishment of an effective CETI:

- Create platforms for educators to explore innovative teaching methods and technology integration.
- Facilitate a collaborative environment by encouraging educators to share experiences, participate in peer learning, and engage in cross-disciplinary dialogue.
- Establish mechanisms for evaluating the impact of CETI initiatives on teaching practices and student outcomes. Use feedback to continually enhance the center's offerings.

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