Redefining Learning Outcomes in Higher Education through Centers for Teaching and Learning

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Abstract

This paper critically examines the role of Centers for Teaching and Learning (CTLs) in enhancing learning outcomes within higher education institutions. CTLs are pivotal in fostering effective teaching environments, enhancing faculty capabilities, and ultimately improving student learning outcomes. The paper delves into the theoretical underpinnings that inform CTL practices, highlighting the influence of adult learning theories, transformative learning, and critical pedagogy on faculty development initiatives. It assesses CTLs' strategies in course design and student assessment, discussing the practical challenges such as funding limitations and resistance to pedagogical shifts. Moreover, it explores the broader implications of CTLs on institutional policies and the integration of technology in teaching. The paper proposes strategic enhancements for CTLs, including increased funding, policy reform, and leveraging international collaborations to enrich teaching practices. Through a comprehensive analysis of CTLs' impact on learning outcomes, the paper underscores their indispensable role in the continuous evolution of higher education.

Key words

Learning Outcomes, Assessment, Higher Education, Faculty Development, Centers for Teaching and Learning (CTLs)

1. Introduction

Higher education is undergoing continuous transformation, driven by evolving student needs, technological advancements, and societal demands. Central to these transformations is the focus on learning outcomes, which define what students are expected to know, understand, and be able to do after completing their academic programs. These outcomes serve as a foundation for designing curricula, assessing student progress, and enhancing institutional effectiveness.

Centers for Teaching and Learning (CTLs) play a critical role in advancing learning outcomes by equipping educators with the tools and strategies needed for effective teaching. They provide professional development opportunities, promote innovative pedagogical practices, and support curriculum design. Grounded in established learning theories, CTLs apply research-based approaches to improve educational experiences.

This paper examines how CTLs enhance learning outcomes through faculty development, instructional support, and program evaluation. It explores the challenges CTLs face, such as limited resources and institutional resistance, and discusses strategies for strengthening their impact. By analyzing theoretical frameworks, practical applications, and policy recommendations, this study highlights

how CTLs can serve as catalysts of educational innovation and improvement in higher education.

2. Theoretical Framework

Learning outcomes are central to the mission of higher education, shaping both instructional practices and institutional policies. Centers for Teaching and Learning (CTLs) play a pivotal role in fostering environments where learning outcomes are effectively designed, assessed, and enhanced. Through faculty development, pedagogical support, and curriculum innovation, CTLs serve as catalysts for improving teaching effectiveness and student success. Theoretical perspectives on adult learning and critical pedagogy provide a foundational understanding of how learning outcomes can be developed and supported through CTLs. Knowles's (1984) andragogy emphasizes self-directed learning driven by intrinsic motivation and prior experience. Mezirow's (1997) transformative learning theory underscores the role of critical reflection in facilitating profound learning, while Freire's (1978) concept of critical pedagogy highlights the importance of dialogic, empowering learning environments that challenge inequities. Transformative Learning (TL) continues to be a dynamic and evolving theory, characterized by its expansion into new fields and the refinement of its foundational concepts originally proposed by Mezirow. Recent analyses of TL, particularly in the post-pandemic era, underscore its adaptability and significance in addressing emerging educational trends and challenges. Scholars have highlighted the importance of cultural identity and contextual factors in shaping both the interpretation and future development of TL (Kedraka, Karalis, & Raikou, 2024).

These theories guide CTLs in designing faculty development programs that are reflective, learner-centered, and socially responsive. Reflective practice and teaching innovation are equally essential in promoting learning outcomes. As Kedraka and Rotidi (2017) argue, Greek academia must make a transition from traditional teacher-centered methods to active learning approaches that emphasize critical thinking, motivation, and engagement. They highlight the need for reflective and experiential learning practices, along with international collaboration to enhance teaching effectiveness and retain students within the country's educational system. Schön's reflective practice model advocates continuous self-assessment among educators, fostering adaptive teaching. CTLs operationalize this by offering workshops, peer consultations, and collaborative research initiatives. By supporting methods such as active learning, flipped classrooms, and digital collaboration, CTLs encourage instructional innovation.

The Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG 2015) emphasize the importance of clearly defined learning outcomes in higher education. Standard 1.2, titled "Design and Approval of Programmes", highlights that institutions should ensure that programs are designed with explicit intended learning outcomes. These outcomes should align with the qualifications framework and reflect both academic and labor market expectations, fostering the personal development of learners (ENQA et al., 2015). Additionally, Standard 1.3, "Student-Centered Learning, Teaching, and Assessment", underscores that learning outcomes should support student-centered approaches. Institutions are encouraged to adopt teaching methods that enable students to achieve the intended learning

outcomes through active engagement and critical thinking (ENQA et al., 2015). Given the evolving landscape of higher education, a revision process for the ESG is currently underway, with a new version expected by 2027 (ENQA, 2024). This revision seeks to address emerging challenges and trends, ensuring that learning outcomes remain relevant and effectively contribute to the quality of higher education in the European Higher Education Area.

Maki (2010) described a culture of assessment as being grounded in an institution's educational values and supported by collaboration among leaders, faculty, staff, and students. Her Principles of an Inclusive Commitment emphasize embedding assessment into institutional roles, encouraging continuous evaluation rather than occasional reviews. Key institutional supports include accountability, accreditation, access to resources, student learning focus, and the Scholarship of Teaching and Learning (SoTL). Expanding on Maki's framework, Fuller (2011, 2012, 2014) developed the Survey of Assessment Culture to explore how assessment cultures develop and function in U.S. higher education institutions. Fuller (2011) defined a culture of assessment as "the overarching ethos that is both an artifact of the way in which assessment is done and simultaneously a factor influencing and augmenting assessment practice", promoting dialogue on assessment practices and their development.

Recent research emphasizes the importance of translating Maki's conceptual framework into actionable components within higher education institutions. Beckley's (2022) study identifies six essential dimensions that operationalize this framework through targeted survey questions: (1) fostering a shared institutional commitment to assessment, (2) establishing a well-defined conceptual framework for assessment practices, (3) promoting cross-institutional responsibility for assessment efforts, (4) ensuring transparency in reporting assessment findings, (5) connecting assessment outcomes to processes that drive meaningful institutional change, and (6) recognizing leadership and active participation in assessment activities. These dimensions collectively strengthen the culture of assessment and continuous improvement in higher education. Beckley's research highlights that while a strong culture of assessment is often perceived as beneficial, it can also hinder student learning if not properly aligned with educational goals. Similarly, Marques and Garrett (2012) stressed that the primary focus of assessment should be enhancing student learning rather than merely fulfilling accreditation requirements, ensuring that assessment processes remain purposeful and beneficial.

Weiner (2009) described a culture of assessment as the prevailing attitudes and behaviors within an institution that support the evaluation of student learning outcomes. Her framework highlights several key elements that contribute to a strong assessment culture, including the establishment of clear general education goals and a shared understanding of assessment terminology. Faculty engagement, continuous professional development, and administrative support play crucial roles in sustaining assessment efforts. The framework also emphasizes the importance of systematic assessment processes, comprehensive program reviews, and the evaluation of co-curricular activities. Institutional effectiveness is strengthened through transparent information sharing, strategic planning, and budgeting aligned with assessment results. Recognizing and celebrating achievements while fostering the development

of new initiatives further reinforce a culture centered on student learning in undergraduate education.

Competency-based education frameworks play a crucial role in shaping Centers for Teaching and Learning (CTLs) by emphasizing the definition and measurement of learning outcomes. In Germany, the KoKoHs initiative, supported by the Federal Ministry of Education and Research, has made significant strides in this area by developing over 100 competency models and measurement instruments for assessing both domain-specific and generic skills across higher education institutions (Zlatkin-Troitschanskaia, Pant, & Coates, 2016). These models align educational goals with national standards while fostering academic and professional development. Competencies are conceptualized as relatively stable trait dispositions that evolve through learning or diminish through forgetting. They are considered multidimensional and specific to fields of study, distinguishing them from general cognitive abilities or intelligence. The first KoKoHs funding phase (2011–2015) involved 24 collaborative projects and approximately 220 researchers who developed 40 competency models and more than 100 assessment instruments. These tools were administered to nearly 50,000 students across 220 higher education institutions to evaluate assessment quality comprehensively (Zlatkin-Troitschanskaia et al., 2016). Building on these efforts, a new KoKoHs initiative (2016–2020) aims to validate and expand existing competency models and instruments. This phase focuses on extending the models into additional study domains and incorporating methodological advancements in competency assessment, guided by the Standards of Educational and Psychological Testing (AERA, APA, & NCME, 2014). Despite these achievements, fostering student competencies remains uneven across institutions, study domains, and countries. The underlying reasons for these disparities have been insufficiently explored, presenting a critical area for future research in higher education policy and practice (Zlatkin-Troitschanskaia et al., 2016). The growing emphasis on academic competencies and learning outcomes is widely recognized as essential for promoting scientific and technological progress at national and international levels. However, longstanding challenges persist in teaching and acquiring these competencies across various educational domains, underscoring the need for continued innovation in higher education assessment practices (Zlatkin-Troitschanskaia et al., 2016).

The ICAP framework categorizes learning activities into four distinct modes—interactive, constructive, active, and passive—each linked to different cognitive processes and learning outcomes (Wekerle et al., 2024). Research indicates that interactive and constructive activities result in deeper learning compared to active or passive engagement. This highlights the critical role of designing technology-enhanced learning environments that foster higher-order cognitive engagement. By encouraging meaningful interaction and knowledge construction, such environments can improve both students' cognitive development and motivational engagement, ultimately enhancing the overall learning experience (Wekerle et al., 2024).

Higher education institutions are responsible for equipping students with skills that foster lifelong learning and adequately prepare them for their future careers (OECD, 2019). Kummel et al. (2020) reviewed various approaches to measuring learning outcomes, including self-report measures and observable behaviors. For instance,

self-reported learning outcomes often focused on constructs like self-efficacy beliefs and intrinsic motivation. In contrast, studies utilizing observable behaviors assessed learning outcomes through indicators such as dropout rates, the number and duration of sessions attended, exam completion, and class attendance. Measures related to learning skills encompassed constructs like intercultural communicative competence, intercultural awareness, intercultural knowledge, and learners' reflective thinking levels. Elaboration-focused measures included assessments based on lecture content exams and problem-solving tasks. Additionally, personal initiative on a social level was captured through learning presence indicators, as assessed by social network analysis and quantitative content analysis in student public class discussions, alongside private products reflecting knowledge construction. In terms of digital activity, learning outcomes were measured using tracking systems and search activity data. Social interaction measures included team-learning outcomes, mutual feedback processes, and team discussions. Similarly, the University of Wisconsin-Madison (2024) categorized examples of student learning outcomes from various academic programs into four key areas: contextualization of knowledge, praxis and technique, critical thinking, and research and communication, offering a structured framework for evaluating academic program effectiveness.

Watson (2002, p. 208) describes a learning outcome as a noticeable change in learners' abilities, reflecting what they can accomplish after a learning experience that they could not do before. Learning outcomes are defined as clear statements outlining what learners are expected to know, understand, or demonstrate at the end of a learning process. They typically encompass acquired knowledge, skills, competencies, attitudes, and understanding resulting from educational experiences. Similarly, the European Higher Education Area (EHEA) and the European Union emphasize that learning outcomes specify what learners should know, comprehend, or be capable of performing upon completing a learning activity (EU, 2011). A central feature of these definitions is the focus on learners' achievements rather than the instructional goals set by educators.

Michelsen et al. (2016) describe the development and implementation of learning outcomes (LOs) across different education systems, highlighting variations in adoption processes. In England, the integration of LOs evolved gradually, starting with vocational education and training (VET) before extending into higher education through increasingly formalized practices. This progression aligned LOs with skills development and employability objectives. Despite their established presence, LOs have not emerged as a central focus but are frequently used as tools to communicate educational expectations to students. Conversely, Norway's adoption of LOs was more rapid, driven by the National University Colleges Admission Service (NUCAS) system, which compelled institutions to adapt quickly. In this context, LOs were initially seen as regulatory instruments institutions needed to follow. However, the admission system operated through a corporatist model where educational institutions and the state collaborated. Depending on local implementation, LOs served multiple roles: as capacity tools for informing students, as learning tools for enhancing teaching methods, and as symbolic tools representing a commitment to outcome-based education (Michelsen et al., 2016).

Shafait et al. (2021) present empirical evidence highlighting the indirect impact of emotional intelligence (EI) on learning outcomes through mediating factors such as self-directed learning and knowledge management processes (KMPs), including knowledge creation, acquisition, storage, sharing, and utilization. Their findings demonstrate that EI positively influences self-directed learning, which in turn enhances learning outcomes. Additionally, the study reveals that learning outcomes—encompassing social, cognitive, and personal development, as well as satisfaction with the university experience—play a crucial role in fostering creative performance among academic and administrative staff, particularly in terms of creative self-efficacy and leadership support (Shafait et al., 2021).

3. Centers for Teaching and Learning in Higher Education

Centers for Teaching and Learning (CTLs) are institutional units dedicated to enhancing teaching effectiveness, supporting faculty development, and improving student learning outcomes. They provide resources, training, and consultations aimed at fostering pedagogical excellence. CTLs function as hubs for professional learning, bringing together educators committed to continuous improvement

Centers for Teaching and Learning (CTLs) equip students with essential academic skills that enhance their learning efficiency and academic performance. They provide guidance on effective study techniques, including time management, overcoming procrastination, and strategic text reading and studying. Students also learn methods for efficient note-taking, skimming and scanning texts for meaning, managing extensive information, and proofreading written work (Asimakopoulos et al., 2021).

The European University Association (EUA) highlights that CTLs are generally located within institutions, with their primary mission being to support the development of the institution's learning and teaching. These centers contribute to the strategic development of educational practices, ensuring that institutions can effectively respond to changing educational landscapes (EUA, 2024).

Internationally, prestigious institutions such as Harvard University offer specialized programs through their CTLs. An example is the Higher Education Teaching Certificate, which equips educators with effective postsecondary teaching methodologies (Harvard Online, n.d.).

The roles and responsibilities of CTLs have evolved significantly, reflecting the dynamic landscape of higher education. They are now central to promoting educational reforms and assisting faculty members in adopting innovative teaching practices (Inside Higher Ed, 2023).

Faculty development is a central function of CTLs, involving training sessions, seminars, and one-on-one coaching. These initiatives help faculty refine their teaching strategies, implement evidence-based practices, and address diverse learning needs. Through instructional improvement programs, CTLs encourage faculty to adopt active learning methods, design inclusive curricula, and integrate formative assessments.

CTLs also support curriculum design, assessment, and learning technologies. They assist in developing course frameworks aligned with institutional learning outcomes and accreditation standards. Assessment support includes creating rubrics, conducting program evaluations, and using data analytics to enhance teaching

effectiveness. Furthermore, CTLs facilitate the adoption of learning technologies such as Learning Management Systems (LMS), digital collaboration tools, and virtual labs, ensuring that faculty remain current with technological advancements.

According to Kaltsidis et al. (2021), academics perceive teaching as a core aspect of their multifaceted professional duties. However, there is a recognized need to enhance teaching practices. Faculty members identify "good teaching" as being characterized by thorough preparation, extensive knowledge of the subject matter, effective communication with students, experience, ICT skills, and an inherent aptitude or "talent." Despite this, the importance of formal training and a foundational background in teaching and learning often receives less emphasis. Academics express a willingness to improve their teaching effectiveness through professional development initiatives, collaboration with colleagues, and the creation of networks to exchange ideas and best practices.

CTLs further contribute to enhancing institutional effectiveness through data-driven decision-making. An institutional focus on learning outcomes, which indicate if, how, and what students are learning, is essential for gaining faculty support in institutional reform efforts (Welsh & Metcalf, 2003). Curricular reform often fails because faculty perceptions of the curriculum are based on anecdotal evidence rather than empirical data. Without shared evaluation results, opponents of reform may argue that the current curriculum is sufficient, while proponents may push for change without clear justification. Instructional consultants can bridge this gap by providing data-driven assessments, ensuring that faculty decisions are grounded in evidence. In practice, data collection methods such as surveys, focus groups, and interviews bring diverse perspectives into the decision-making process. This approach has helped skeptical faculty recognize the need for change and prioritize key areas for improvement. Additionally, involving neutral consultants from Centers for Research on Learning and Teaching (CRLTs) has increased credibility and trust in the process (Cook & Kaplan, 2011). Establishing clear guiding principles, goals, and assessment procedures is considered a best practice for sustaining teaching centers (Sorcinelli, 2002). Although early research highlighted limited evaluation of faculty development programs (Centra, 1976), assessment literature has since grown. However, comprehensive evaluation models for teaching centers remain uncommon, as few centers conduct holistic assessments (Hines, 2009). Documented evaluations include consultations, workshops, and return on investment analyses (Bothell & Henderson, 2004). Needs assessment models are also well-represented, emphasizing critical evaluation processes (Sorcinelli, 2002; Travis et al., 1996). Given the importance of demonstrating impact in higher education, faculty development professionals should adopt a comprehensive evaluation approach that looks beyond the success of isolated initiatives to consider the broader effectiveness of their centers (Cook & Kaplan, 2011).

Outcome-based education (OBE), rooted in behaviorist learning theories (Morcke et al., 2013), has evolved over the past five decades as a key approach to preparing a professional workforce aligned with societal needs. Central to OBE is curriculum assessment, which supports objectivity and consistency in evaluating higher education programs. Ebel et al. (2020) identified several effective assessment strategies for higher education curricula. These include creating a clear assessment plan with

defined roles and timelines, forming faculty-led committees for engagement, and involving students in the process. Curriculum mapping ensures alignment between courses and assessment tools, while a mix of direct and indirect indicators, such as course assignments and alumni interviews, provides comprehensive evaluation. Standardized rubrics reduce variability, and follow-up actions like revising teaching plans and reassessing program outcomes support continuous improvement. Regular assessments every two to three years sustain program effectiveness.

Effective curriculum assessment involves several recommended practices. Marhaya et al. (2017) concluded that writing retreats provided valuable support for both experienced and early-career researchers by fostering collaboration and shared writing practices. They recommended that universities organize regular writing retreats to enhance the scholarship of teaching and learning.

According to Alyasin et al. (2023), the connection between a program's mission and its learning objectives is established through a collaborative process involving consensus-building and iterative reviews among key stakeholders, including faculty, students, and external experts. The mission statement reflects the program's core values, intended goals, and overall impact, incorporating both short-term and long-term objectives. These goals are further translated into specific, evidence-based learning objectives. Importantly, learning outcomes are determined not by the specific content taught in the classroom or the instructional materials chosen by the instructor, but rather by the broader curriculum and its defined objectives. Additionally, the university's assessment framework provides a structured approach by setting clear guidelines and standards, ensuring that faculty members integrate learning assessments into their course designs (Alyasin et al., 2023).

4. Challenges and Prospects

Despite their critical contributions, CTLs face several challenges. Funding constraints often limit their capacity to expand services or invest in new technologies. Institutional resistance, stemming from entrenched traditions or skepticism about pedagogical change, can hinder the adoption of innovative teaching practices. Additionally, balancing diverse faculty needs with limited staff and resources presents an ongoing challenge.

However, CTLs hold significant potential for fostering innovation and collaboration. By building strategic partnerships with academic departments, libraries, and external organizations, CTLs can expand their reach and impact. Establishing communities of practice among faculty promotes peer learning and collective problem-solving. Investing in continuous staff development ensures that CTL professionals remain effective change agents within the institution.

Promoting an inclusive teaching culture involves overcoming challenges such as resistance to change and concerns about faculty workload. Holt et al. (2011) noted that teaching and learning centers (CTLs) operate in a state of continuous change, navigating the competing demands of university administrators and academic departments. Institutional leaders often prefer centralized, standardized professional development programs, while faculties favor personalized, decentralized approaches tailored to their specific needs. Successfully balancing these approaches enables CTLs

to support both institutional goals and individualized faculty development, fostering a more inclusive and effective teaching culture.

Duchatelet et al. (2024) emphasize the persistent challenge within the academic community of identifying which elements of learning environment design effectively promote specific generic learning outcomes. This issue raises critical questions about whether current teaching practices and related research are still influenced by underlying assumptions. For example, some educators may presume that case-based learning environments are less suitable for developing socio-communicative skills compared to service-based environments. The authors argue that understanding the connection between learning environment characteristics and learning outcomes requires a more nuanced perspective. Teachers are encouraged to move beyond potential biases and assumptions, recognizing the complexity of this relationship and adapting their practices accordingly (Duchatelet et al., 2024).

Moreover, Tzotzou et al. (2024) emphasize that the professional development of teachers in the 21st century can be enhanced through the continuous revision and updating of in-service training (INSET) programs. These programs should focus on essential thematic areas that support the renewal of teachers' knowledge and skills in response to global socio-educational trends and the directives set forth by supranational organizations.

Additionally, maximizing the effectiveness of self and peer assessment in higher education involves thoughtful instructional design. Instructors need to decide whether assessments should be performed individually or collaboratively. If a collaborative approach is chosen, determining the optimal team size for peer assessment groups becomes essential to ensure fair evaluation and meaningful learning experiences (Rico-Juan et al., 2021).

Follow-up is a vital feedback process in educational interventions, offering insights into their impact and effectiveness. For teachers' professional development, follow-up evaluates whether participants apply and sustain new concepts and teaching practices over time. It also provides feedback on participant satisfaction and program effectiveness, helping educators and providers refine or decide on the continuation of such initiatives (Kedraka & Tzovla, 2023).

Bracken and Novak (2019) emphasize that while the implementation of Universal Design for Learning (UDL) in higher education has made significant progress, continued effort is essential. Ensuring equitable access and successful learning outcomes for students from diverse backgrounds remains a persistent challenge. As policies and practices in higher education evolve, so too do the barriers to learning, requiring ongoing adaptation. Educators, as catalysts for positive cognitive and social transformation, have the potential to create meaningful change by applying the principles of UDL. The text highlights that the full potential of UDL can only be realized when it is effectively integrated at every level of the educational system, ensuring that all learners receive equal opportunities to succeed—a goal that remains urgent and necessary for those dedicated to inclusive education (Bracken & Novak, 2019).

5. Policy Recommendations and Future Directions

To strengthen the impact of CTLs, embedding their practices in institutional policies is crucial. University leadership should formally recognize CTL contributions in strategic planning, accreditation processes, and faculty evaluation systems. Policies supporting regular pedagogical training, instructional grants, and research on teaching effectiveness can institutionalize a culture of teaching excellence.

Scaling and sustainability require long-term funding models and collaborative governance. Establishing dedicated budgets for CTL operations ensures consistent support for faculty development and instructional innovation. Encouraging cross-institutional partnerships can facilitate resource sharing and best practice dissemination. Looking ahead, prioritizing inclusive, evidence-based, and technology-enhanced teaching practices will position CTLs as pivotal drivers of educational transformation in higher education.

Embedding assessment into teaching practices ensures meaningful student learning outcomes and continuous curriculum improvement (Ebel et al., 2019; Huda et al., 2022). Huda et al. (2022) conducted a quasi-experimental study using a Matching-Only Post-Test-Only Control Group design. Student learning outcomes were evaluated using a 40-item test instrument, with 38 items considered valid and a reliability coefficient of 0.880. Results from an independent t-test analysis revealed that students in the experimental group outperformed those in the control group, indicating that the blended learning approach effectively enhances learning outcomes in higher education.

Strengthening international collaboration can enhance the effectiveness of Centers for Teaching and Learning (CTLs). European initiatives like the Bologna Process and the Tuning Project have promoted harmonized learning outcomes and student mobility across higher education systems, ensuring that CTLs adopt global best practices (Arnold et al., 2020). The Bologna Process exemplifies how national education systems can acknowledge their differences while working toward greater harmonization and compatibility across borders (Guri, 2021). For learning outcomes to support credit transfer, stakeholders must trust the frameworks and policies guiding their implementation. The European Credit Transfer and Accumulation System (ECTS) exemplifies this by standardizing student workload and aligning learning outcomes across institutions, fostering consistency and trust despite some limitations (Arnold et al., 2020). European higher education's strong leadership has embedded learning outcomes and credit transfer policies into institutional frameworks, supported by quality assurance agencies. Initiatives like the Tuning Project and CALOHEE ensure transparency and interconnected policies that streamline outcomes-based credit transfer (Arnold et al., 2020). Globally, increased focus on accountability, quality assurance, and access has driven reforms centered on learning outcomes. These policies facilitate academic mobility and credit transfer through greater transparency and standardization in education systems (Lennon, 2016; Arnold et al., 2020).

6. Conclusion

Centers for Teaching and Learning (CTLs) are crucial for enhancing educational quality in higher education by supporting faculty development and promoting effective teaching strategies. They help faculty and institutions adapt to educational demands through targeted support in course design, pedagogical training, and the integration of research into teaching practices. Despite the challenges of constrained resources and institutional inertia, CTLs can thrive through strategic collaborations and persistent advocacy for their value within the educational landscape. For sustained impact, CTLs require consistent support from institutional leadership, adequate funding, and recognition in strategic planning and assessment. Enhancing CTLs' capacity will equip them to continue their critical role in shaping learning outcomes and preparing students for future challenges.

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