Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

Toward a Collective Competency Framework for Educational Support Professionals in Postsecondary Technology-rich Education

Mijke Geertruida Petronella Maria van As
Curio
Milou Jo-Anne Dorothea Hekhuizen
Avans University of Applied Sciences
Derk Bransen
Npuls
Daphne Yvette Sietske Vogel
daphne.vogel@inholland.nl

Inholland University of Applied Sciences

Research Article

Keywords: educational support professionals, third space professionals, competency framework, co-creation, educational technology, boundary crossing

Posted Date: August 12th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-10173330/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License. Read Full License

Additional Declarations: No competing interests reported.

Abstract

Traditional competency frameworks assume individual mastery as the foundation for professional effectiveness. This assumption becomes increasingly problematic for boundary-spanning professional roles, which may require fundamentally different models. Through an exploratory mixed-methods study involving 86 educational support professionals across 45 Dutch vocational, applied sciences, and research universities, we examined how third-space professionals in technology-rich educational contexts conceptualize essential competencies and envision their organizational implementation. Co-creative methodology fostered stakeholder ownership while maintaining empirical rigor. Results indicated an emergent pattern: practitioners predominantly conceptualized competencies as collective network capabilities distributed across professional teams rather than as individual attributes. Five specialized domains (advisor, coach, educational specialist, boundary crosser, innovator) emerged as complementary network functions for supporting technology integration and educational innovation. Taken together, these findings challenge dominant individual-focused competency theory and suggest that boundary-spanning roles may benefit from organizational approaches that differ from those typically associated with traditional professions.

Introduction

As technology becomes integral to post-secondary education, educational support professionals (ESPs) have emerged as crucial intermediaries, bridging pedagogical expertise, technological capability, and organizational development. These professionals are commonly characterized as third space professionals who operate across traditional organizational boundaries and span professional domains (Vogel et al., 2025; Whitchurch, 2012; Whitchurch & Healy, 2024). ESPs are defined as practitioners who focus on "guiding and empowering teaching staff, teams and management in delivering the best possible education" through "both content-related and process-based support," while “flexibly switching between different levels and contexts and thereby contributing to educational innovation, policy development and the use of technology in education" (Vogel et al., 2025). Whitchurch (2008, 2012) describes this technology-mediated boundary-spanning work as characteristic of 'third space professionals' who operate across conventional organizational boundaries, spanning academic and professional domains, distinguishing ESPs from traditional academic or administrative roles.

Traditional competency frameworks typically assume individual mastery as the foundation for professional effectiveness, and often rely on T-shaped professional models that combine broad knowledge with deep specialization (Guest, 1991; Le Deist & Winterton, 2005; Mulder, 2014). However, third space work spans multiple complex domains: pedagogical expertise, technological capability, organizational development, and stakeholder engagement, which may exceed individual capacity and challenge assumptions of comprehensive individual mastery. When professional roles require engagement with educational theory, rapidly evolving technologies, organizational politics, and change processes across institutional boundaries, assumptions of comprehensive individual expertise become increasingly difficult to sustain. Communities of practice theory ((Lave & Wenger, 1991; Wenger, 1998) emphasizes that complex professional knowledge develops through shared learning and socialization, while Page's research demonstrates that diverse teams outperform individual high performers when solving complex problems (Page, 2007). Together, these perspectives challenge competency frameworks that treat professional effectiveness as the outcome of individual mastery. This contrast raises the question: should competency frameworks for boundary-spanning professionals prioritize individual mastery or should they conceptualize competence as a collective capacity distributed across

collaborative networks (Hargreaves & Fullan, 2012)? This question has direct implications for organizational design. Do institutions need to develop comprehensive individual expertise, or cultivate complementary specializations within professional networks?

Recent syntheses identify a critical gap in the literature: while substantial literature explores third-space identities, organizational frameworks remain limited (Thorpe & Partridge, 2024; Veles & Carter, 2016). This gap is further evidenced by the persistence of role ambiguity, inconsistent classification, and misrecognition within institutional structures, challenges that recent scholarship identifies as central to sustainable career development for third space professionals (Veles & Patton, 2026). Existing international frameworks provide guidance but largely retain an individual competency perspective, leaving unexamined whether boundary-spanning roles require fundamentally different organizational approaches. For example, JISC's Digital Capabilities Framework primarily focuses on individual digital competencies, whereas DigCompEdu emphasizes individual digital-pedagogical integration without addressing the organizational development capabilities essential for third space work (JISC, 2019; Redecker, 2017). Similarly, the UK Professional Standards Framework provides comprehensive guidance but remains teaching-oriented and individually focused (Advance HE, 2023). To our knowledge, no comprehensive framework currently exists for ESPs, whose work spans pedagogical knowledge, organizational development, strategic planning, and stakeholder engagement. Moreover, adjacent frameworks developed for related roles, such as those targeting individual educators or academic developers, do not address whether such multidimensional expertise should be conceptualized as individual mastery or as collective network capacity (Grant & Kennie, 2024; Thorpe & Partridge, 2024; D. Y. S. Vogel et al., 2025).

Within the Netherlands, the absence of comprehensive, conceptually aligned frameworks manifests as sectoral fragmentation and underutilization of national initiatives, further complicating questions about individual versus collective competency development. Existing frameworks typically target single sectors (vocational education, universities of applied sciences, or research universities), rather than a unified post-secondary perspective. As a result, opportunities for cross-institutional learning and network development remain limited in a national system where collaborative capacity could yield significant benefits (Uerz et al., 2021, 2025a, 2025b; Vennix et al., 2021). National initiatives, such as the Acceleration Plan for Educational Innovation with ICT (Uerz et al, 2021), similarly remain underutilized due to insufficient stakeholder engagement (van Doorn et al., 2025). Together, this fragmented landscape constrains systematic exploration of whether ESP competencies should be organized around individual expertise or distributed across professional networks. To address these interconnected theoretical, international, and national gaps, this study develops and validates a competency framework for ESPs across Dutch post-secondary education using a co-creative methodology that positions practitioners as active stakeholders, thereby strengthening the framework's legitimacy and potential for adoption (Prahalad & Ramaswamy, 2004; Sanders & Stappers, 2008). Rather than imposing predetermined theoretical models, this study employs an exploratory approach that allows practitioners to conceptualize competencies in their own terms, enabling an empirical examination of whether ESPs primarily draw on individual mastery frameworks or articulate alternative organizational models. The study addresses two research questions:

- RQ1. How do educational support professionals conceptualize the competencies essential for their work across vocational, applied sciences, and research university sectors?
- RQ2. How do stakeholders envision implementing and organizing these competencies within institutional contexts?

Methods

Study design

This study employed an exploratory co-creative mixed methods design to develop and validate a competency framework for educational support professionals across Dutch post-secondary education, including vocational education, universities of applied sciences, and research universities. The mixed-method approach combined qualitative co-design and refinement with quantitative survey validation, integrating practitioner expertise throughout the research process (Creswell & Plano Clark, 2018; Prahalad & Ramaswamy, 2004; Sanders & Stappers, 2008). Data collection and analysis were conducted between October 2024 and July 2025 across four iterative phases (Fig. 1), allowing progressive development, validation, and refinement of the framework.

Participant recruitment

Participants were recruited using purposive sampling to include ESPs actively involved in teaching and learning innovation. Recruitment took place through established professional networks (e.g., the Dutch network and CTL networks), educational events, and snowball sampling via LinkedIn. Inclusion focused on professionals whose roles involved supporting educational innovation and professional practice improvement, in line with co-creative methodology requirements for stakeholder expertise and engagement.

Participants were embedded in diverse organizational settings (e.g., CTLs, faculty-based support roles, and innovation offices) across a broad range of disciplinary contexts (e.g., social sciences, humanities, and professional programs).

Participants across research phases

Across phases, participation ranged from smaller expert groups in the co-design and finalization phases to broader sector-wide representation during survey validation. Participant numbers and sector representation differed across the four research phases, ranging from smaller expert groups in the co-design and finalization phases to broader sector-wide representation during survey validation (Table 1).

Table 1

Participant and Institutional Distribution across Research Phases

	Phase 1 Co-design	**Phase 2 Survey validation**	**Phase 3 Focus group validation**	**Phase 4 Framework finalization and validation**
	n	***n***	***n***	***n***
Vocational education (mbo)				
Institutions	9	15	5	1
Respondents	10	22	5	2
Universities of applied science (hbo)				
Institutions	9	17	6	2
Respondents	11	38	6	4
Research universities (wo)				
Institutions	4	13	4	2
Respondents	5	26	6	4
Total institutions	*22*	*45*	*15*	*5*
Total respondents	*26*	*86*	*20*	*10*

Note. mbo = vocational education; hbo = *Universities of applied science*; wo = *Universities*. Some institutions could contribute participants to multiple phases.

Phase 1 Framework Development

Participants

Twenty-six representatives from mbo, hbo, and wo institutions (Table 1) participated in four 90-minute collaborative sessions. All participants were actively engaged in educational support and innovation work, with experience ranging from direct faculty support to institutional policy development. Participants functioned as expert co-designers, contributing situated experiential knowledge and contextualized insights that directly informed the conceptual structure and content of the initial framework.

Data collection:

Co-design sessions employed structured interactive techniques to elicit detailed accounts of participants' professional activities, responsibilities, and roles. Each session focused on a distinct segment of the professional task domain, enabling in-depth exploration of specific work practices while ensuring systematic coverage of the broader ESP role landscape.

Framework development procedures

Initial framework development integrated data three sources through iterative triangulation: (1) systematic document analysis of existing competency profiles from comparable professions, (2) inductive thematic analysis of stakeholder-generated data from co-design sessions analyzed through inductive thematic analysis, and (3) theoretical constructs derived from professional competence literature. The integration process followed established procedures for co-creative framework development (Sanders & Stappers, 2008), positioning stakeholders as expert co-designers whose experiential knowledge was systematically combined with empirical evidence.

Each competency domain was operationalized using Mulder's (2014) Knowledge, Skills, and Attitudes (KSA) framework, integrating stakeholder-identified priorities, preferred terminology, and sector-specific contextual requirements. Following Le Deist and Winterton's (2005) competence model, domains incorporated cognitive, functional, personal, and ethical competence dimensions. The framework drew on existing frameworks from comparable professions (Advance HE, 2023; Avans Hogeschool, 2022, 2025; JISC, 2019; MBO-digitaal, 2024; Redecker, 2017; Uerz et al., 2021, 2025a; Vennix et al., 2021; VSNU-NOA, 2019; Vuorikari et al., 2022)

This triangulated approach combined empirical analysis with practitioner expertise, thereby strengthening contextual relevance and the legitimacy of prospective adoption.

Phase 2 Quantitative validation

Participants

To ensure comprehensive validation across diverse stakeholder perspectives, survey recruitment targeted participants with varying relationships to framework implementation. Of the 133 submitted questionnaires, 86 met the inclusion criteria and were retained for analysis (valid response rate = 64.7%), representing 45 institutions. Respondents represented diverse professional roles across all educational sectors (Table 2): advisory or policy roles (63.2%), decision-making authority (13.8%), and target users (13.8%).

Table 2

Professional Role Distribution by Educational Sector

Professional role	mbo	hbo	wo	Total
	n	*n*	*n*	
Educational advisor	6	7	7	20 (23.3%)
Policy officer	2	4	2	8 (9.3%)
ICT&E coach/i-coach	2	4	3	9 (10.5%)
Innovation manager/coordinator	2	4	2	8 (9.3%)
Digital education advisor	0	3	3	6 (7.0%)
Professional development advisor	1	0	3	4 (4.7%)
Other roles	9	16	6	31 (36.0%)
Total	*22*	*38*	*26*	*86 (100%)*

Note. mbo = middelbaar beroepsonderwijs; hbo = hoger beroepsonderwijs; wo = wetenschappelijk onderwijs.

Instrument

A structured digital questionnaire was developed to assess perceived recognizability, practical applicability, and terminological clarity of each competency domain within the broader ESP population. Each competency domain was assessed through three items addressing recognition ("I recognize this role"), practical applicability ("This role is applicable in practice"), and terminology clarity ("The terminology is clear"). To avoid neutral response tendencies, items were rated on a 4-point Likert scale, ranging from "strongly disagree" to "strongly agree" (Chyung et al., 2017). Additional items assessed framework structure preferences, on whether the framework should comprise one unified profile, multiple differentiated profiles, or other configurations. The survey comprised 27 items in total (5 domains × 3 items + additional framework questions), with open-response fields for elaboration. Content validity was ensured through review by three project team members and an external expert in educational professional development.

Data analysis

Survey data were analysed using IBM SPSS Statistics 28 (IBM, 2020) to examine differences in competency domain recognition between educational sectors. Descriptive statistics (means, standard deviations, frequency distributions) were calculated for all competency domains. Internal consistency for each domain was assessed using Cronbach's alpha, with values ≥ .70 considered acceptable (Boeije, 2009). Given the ordinal nature of Likert-scale responses and violations of normality assumptions, nonparametric Kruskal–Wallis H tests were conducted to examine sectoral differences across educational sectors (mbo, hbo, wo), with significance set at $p < .05$.

Open survey responses and focus group transcripts were subjected to inductive thematic analysis following a systematic approach (Braun & Clarke, 2021). The lead researcher familiarized themselves with the dataset and conducted manual coding, grouping recurring patterns into themes reflecting stakeholder perspectives. Responses were analysed to address both research questions. For RQ1 (competency conceptualization),

responses describing framework structure and domain recognition were coded for conceptual patterns, including individual versus network-based terminology. For RQ2 (implementation), conditional statement responses ("I can only work with this profile if...") were subjected to thematic analysis to identify implementation requirements and organizational conditions. Quantitative validation results primarily addressed RQ1, while qualitative implementation themes informed framework refinement in subsequent phases.

Phase 3: Qualitative Refinement

Participants and procedure

Twenty participants recruited through CTL an Npuls networks represented all educational sectors across three sequential focus group sessions. Sequential scheduling enabled real-time monitoring of thematic saturation across focus groups. Focus groups facilitated collaborative interpretation of survey results through semi-structured interview guides (Spencer & Spencer, 2008), addressing six key topics organized by research question:

RQ1 (competency conceptualization): framework comprehensiveness, domain clarity, and terminology appropriateness. RQ2 (implementation and organization): institutional applicability, implementation barriers, and organizational approaches

Data collection

All sessions were audio-recorded with participant consent and transcribed using AI technology (Microsoft Copilot, 2025), with subsequent researcher verification to ensure the AI-generated transcripts were accurate and complete (> 95% accuracy threshold). Transcript accuracy was verified through systematic random sampling and manual cross-checking against original audio files, in accordance with established qualitative rigor standards (Braun & Clarke, 2021).

Data analysis

Thematic analysis followed the systematic approach of Braun and Clarke (2021). Data saturation was systematically assessed using established criteria (Boeije, 2009). tracking the emergence of novel themes, conceptual distinctions, and implementation considerations across sequential focus groups. No new substantive themes emerged during focus group three, confirming adequate data collection for reliable analysis. Identified themes were organized according to both research questions: themes addressing competency content, domain definitions, and conceptual models (individual versus network-based) were categorized under RQ1, while themes addressing implementation approaches, organizational conditions, and practical application strategies were categorized under RQ2.

Phase 4 Framework finalization

Participants and procedure

Ten sector representatives (Table 1) from five institutions who had participated in earlier phases were purposively selected to ensure cross-sectoral representation and continuity of stakeholder involvement. These participants participated in structured consensus-building sessions aiming to finalize the framework. Framework modifications were derived through structured synthesis of empirical findings from Phases 1–3 and

theoretical constructs identified in the literature review. Proposed changes were explicitly mapped to empirical evidence and discussed in plenary sessions.

Data integration procedures

Divergences between stakeholder preferences and empirical findings were addressed using predefined decision criteria, including (a) cross-sectoral consistency, (b) strength of qualitative convergence, and (c) psychometric thresholds established in Phase 2. Terminology revisions were determined by examining sector-specific response distributions and qualitative frequency patterns, and by consulting implementation experts to ensure conceptual clarity and practical usability. Statistical standards for internal consistency ($\alpha \geq .70$) were maintained while prioritizing stakeholder input for terminology and practical implementation. All proposed modifications were circulated among Phase 4 participants for iterative review. Consensus was defined as the absence of substantive objections following structured discussion rounds.

Ethical considerations

The study was classified as exempt from full institutional review, involving only professional consultation with no vulnerable populations, sensitive data collection, or significant risk to participants. All participants provided informed consent, were aware of their right to withdraw, and participated voluntarily through professional networks. Data were handled in accordance with GDPR requirements. The research posed minimal risk, focusing on professional perspectives regarding educational support competencies rather than personal information.

Use of AI technology

Microsoft Copilot assisted with focus group transcription and manuscript text formatting. The research team made all substantive decisions and interpretations.

Results

Validation results are organized into sections corresponding to the four research phases and two research questions. Sections address RQ1 (How do educational support professionals conceptualize essential competencies?) and RQ2 (How do stakeholders envision implementing and organizing these competencies within institutional contexts?).

Phase 1: Framework development (RQ1)

Framework structure

Co-design sessions with practitioners across mbo, hbo, and wo resulted in a competency framework comprising basic competencies and five specialised domains. Participants frequently framed these domains in terms of team composition rather than individual requirements, enabling the development of a unified ESP definition applicable across all three sectors (Vogel et al., 2025). Analysis of co-design session outputs identified five recurrent competency domains: boundary crosser, advisor, coach, educational specialist, and innovator (Fig. 2).

Legend

The framework comprises basic competencies shared by all educational support professionals and five specialized domains: boundary crosser, advisor, coach, educational specialist, and innovator. Each ESP develops expertise in one or more domains while maintaining basic competencies. ESPs collaboratively represent the full spectrum. Detailed descriptions are provided in Appendix A, Tables 6–11.

The complete framework (Fig. 2 in short, and complete Table 6–11) for a network of ESPs comprises:

- Basic competencies: core knowledge, skills, and attitudes essential for all educational support professionals
- Five specialized domains:
    - Connecting across boundaries; boundary crosser
    - Strategic and practical advising; advisor
    - Facilitating professional development; coach
    - Enhancing educational quality with didactics; educational specialist
    - Directing educational innovation; innovator

The complete framework, along with detailed competency descriptions for each domain, is provided in Appendix A, tables 6–11. This framework formed the basis for quantitative validation in Phase 2.

Phase 2: Quantitative validation (RQ1)

Psychometric validation

Survey validation (n = 86) assessed framework recognisability, practical applicability, and terminology clarity. All five domains demonstrated acceptable internal consistency (α = .759–.817), exceeding the predefined threshold (α ≥ .70). Table 3 presents domain recognition and internal consistency statistics. Kruskal-Wallis H tests revealed no statistically significant sectoral differences across all domains (all p > .05), indicating consistent framework recognition across mbo, hbo, and wo contexts (Table 4).

Table 3
Competency Domain Recognition and Internal Consistency

Competency domain	***M***	***SD***	**Range**	**Cronbach's α**	**Items**
					n
Advisor	3.43	.62	2.33-4.00	.759	3
Educational specialist	3.40	.69	2.00–4.00	.817	3
Boundary crosser	3.34	.69	2.00–4.00	.759	3
Coach	3.30	.75	1.67-4.00	.810	3
Innovator	3.21	.71	1.67-4.00	.817	3

Note. All means based on 4-point Likert scales (1 = strongly disagree, 4 = strongly agree). All domains demonstrated acceptable internal consistency (α ≥ .70).

Table 4

Sectoral Differences in Competency Domain Recognition Based on the Kruskal-Wallis Test

Competency Domain	H (2)	*p*
Advisor	0.169	.919
Coach	3.279	.194
Innovator	1.377	.502
Boundary crosser	1.189	.552
Educational specialist	0.224	.894

Note. No significant differences detected across mbo, hbo, and wo sectors (all p > .05). Sample sizes: mbo (n = 22), hbo (n = 38), wo (n = 26).

Evidence related to network conceptualization.

Survey data (n = 86) provided initial evidence of network-based thinking. When asked about framework structure, 47.7% (n = 41) used team-based or network-based terminology in open responses. Representative statements included:

"Within teams, this helps determine everyone's strengths and knowing who has which expertise." Another stated: "*For support, the whole set is useful. In practice, competencies will be present in fragmented form*." Among responses expressing individual mastery concerns (11%, n = 8), one stated (Survey ID 27): *"I would caution against too many sub-competencies per profile. That makes implementation more difficult, and you quickly seek a jack of all trades (even in a team context)*." Another stated (Survey ID 9): "*No one can meet all these characteristics*." Other responses referenced collective approaches: "*Could make a quick scan for a team to assess which competencies are mastered collectively*."

Implementation requirements from survey data (RQ2)

Conditional survey responses (n = 74) identified five implementation requirement categories: role clarity (28%), professional recognition (27%), framework purpose clarity (16%), terminology concerns (16%), and format accessibility (9%). Concerns about individual mastery feasibility (11%) foreshadowed tensions that became more explicit in Phase 3.

Phase 3: Qualitative Refinement (Q1 + Q2)

Focus group discussions addressed both research questions: competency conceptualization (RQ1) and practical implementation approaches and organizational conditions (RQ2).

RQ1: Competency conceptualization

Focus group participants (n = 20) across mbo, hbo, and wo confirmed cross-sectoral convergence in core professional challenges, with comparable statements observed across all three groups. For example, one

participant stated (FG1, P4, translated from Dutch): "*We all struggle with the same question: how do we support teachers effectively in a rapidly changing educational landscape?*" (FG1, P4).

Two domains received domain-specific feedback. The innovator role was described as cyclical rather than continuously embedded: "T*he organisation needs an innovator sometimes, but at certain times a lot and other times very little*" (FG3, P5). Within the coach domain, participants distinguished pedagogical coaching from technical support: "*You have the technical coach... and you have the pedagogical coach. Those are two different roles"* (FG2, P3). These discussions informed the refinement of both domain descriptions. Across three sequential focus groups, the framing of competencies evolved progressively. In FG1, participants questioned the feasibility of individual mastery: "*Does an individual profile actually help, especially since our goal is to create more connection?"* (FG1, P5). In FG2, discussions explored distribution across organisational levels. By FG3, participants explicitly articulated network-based configurations: *"Everyone has a foundational level of competencies, with variations/accents on the individual level.*

Implementation approaches (RQ2

Regarding implementation (RQ2), participants described the framework primarily as a conversation tool rather than a formal evaluation instrument. Spider web diagrams were proposed to visualise collective competency coverage across team members, identifying strengths, gaps, and complementary specialisations (FG3, P2). One participant reported immediate application: *"I have already used the competency profile as a conversation document to discuss with my supervisor, and that was successful" (FG3, P6).*

Three recurring implementation challenges emerged: professional recognition, organisational coordination, and terminological alignment. Existing classification systems were described as failing to capture role breadth: "*Within the UFO profile, you are classified as an executive video maker... but you also act as an advisor, and an innovator*" (FG3, P2). Participants noted that formal recognition did not automatically translate into improved employment conditions. Regarding terminology, one participant questioned the term boundary crosser: "*The intention is to describe someone who actively connects and integrates different domains" (FG2, P1).* Discrepancies in job titles across institutions remained a concern: "*One institution refers to it as a coach, while another describes it as a kind of key user function" (FG1, P6)*

Phase 4: Framework finalization (RQ2)

Consistent with Phase 2 survey findings and focus group discussions, the framework was positioned as a network-based competency model rather than an individual mastery framework. The network approach specifies that not every educational support professional is expected to fulfil all competency roles individually. Instead, competency domains are described as collectively distributed across networks of ESPs through complementary specialization and collaboration. The finalized documentation explicitly contrasts individual T-shaped configurations with distributed network configurations.

Framework refinement based on implementation feedback

Table 5

Framework Evaluation Based on Stakeholder Feedback and Validation Results

Stakeholder Feedback	Framework Modification	Rationale (Why change was needed)	Outcome (What change was achieved)
"Boundary crosser too abstract."	Renamed to "bridge-builder" (bruggenbouwer)	Term was perceived as too vague and inaccessible	Enhanced terminology clarity
"Coach overlaps with advisor"	Refined process-focused vs. content-focused distinction	Feedback indicated role confusion	Improved domain differentiation
"Individual vs. network unclear."	Made network-based positioning explicit	Stakeholders requested more precise network-level positioning	Increased implementation clarity
"Need basic competencies."	Emphasized basic competencies across domains	Practitioners emphasized importance of basic competencies	Comprehensive basic competences coverage

Stakeholder feedback across validation phases resulted in four framework refinements (Table 5): renaming the boundary crosser to bruggenbouwer (bridge-builder) in the Dutch version, refining the coach domain to distinguish between process-focused and content-focused support, making network-based positioning explicit in the framework documentation, and emphasizing basic competencies as a shared foundation across all domains. The accompanying documentation specifies that the framework is intended to support professional development dialogue and network reflection rather than formal individual performance evaluation. The framework was made available in multiple formats, including visual schematics (Fig. 3), detailed competency descriptions (Appendix A), and summary overviews to support implementation across institutional contexts. The refined framework was presented to stakeholders representing all educational sectors for final validation. No additional changes were requested. The refined framework received final validation from stakeholders across all educational sectors, with no additional modification requests.

Figure 3 contrasts an individual T-shaped professional with a network-based competency model. The left panel shows a single ESP attempting to span multiple domains. The right panel shows a collaborative network of ESPs, each representing a specialized domain (blue, yellow, pink, green, or orange).

Discussion

This study developed and validated a competency framework for ESPs in Dutch post-secondary education using a co-creative, mixed-method design, comprising basic competencies and five specialized domains (Cronbach's α = .759-.817). Beyond psychometric validation, findings indicate that ESPs conceptualize competencies primarily as collectively enacted network functions rather than individually accumulated capabilities.

RQ1: How do ESPs conceptualize essential competencies?

Framework development and validation

This structure reflects systematic integration of existing competency profiles, stakeholder-generated experiential knowledge, and established competence frameworks (Le Deist & Winterton, 2005; Mulder, 2014). Survey validation demonstrated acceptable internal consistency across domains and no statistically significant differences in recognition between vocational education, universities of applied sciences, and research universities, suggesting that core ESP competencies are recognized across institutional contexts despite structural variation. The specialized domains encompass not only technical capabilities but also collaborative skills, organizational understanding, and evidence informed practice, essential for boundary-spanning work in technology-rich educational environments. This broader scope contrasts with predominantly technology-focused frameworks like JISC and DigCompEdu, providing comprehensive guidance for institutions developing third-space professional capacity (JISC, 2019; Redecker, 2017).

Progressive shift toward network conceptualization

Survey data indicated that a substantial proportion of ESPs conceptualize competencies in collective rather than purely individual terms. Approximately half of survey respondents (47.7%) used team- or network-based terminology to describe the framework, in the absence of explicit prompts for collective interpretation. Respondents who questioned individual mastery expectations frequently emphasized the impracticality of comprehensive individual coverage and instead suggested a complementary distribution of roles within teams. Focus group analysis showed increasing clarity and explicitness in how participants articulated distributed competency coverage across three sequential sessions. Across sessions, participants progressively moved from questioning individual mastery feasibility (FG1), to exploring distribution across organizational levels (FG2), to explicitly framing the framework as describing collective team function (FG3). By the final session, participants described a configuration in which all ESPs share foundational competencies while developing differentiated specializations that together ensure comprehensive coverage. This progression mirrors patterns observed in collaborative professional learning research, where practitioners increasingly recognize the limits of individual capacity in complex practice (Hargreaves & Fullan, 2012).

RQ2: How do stakeholders envision implementation?

Network-based implementation approaches

Stakeholders consistently framed implementation around collective competency coverage, describing practical tools such as spider web diagrams and positioning the framework explicitly as a developmental conversation tool rather than a formal evaluation instrument. This emphasis on developmental dialogue over performance evaluation aligns with implementation research indicating that practitioner ownership and value alignment facilitate sustained adoption (Prenger et al., 2022; Serdyukov, 2017). The use of visual mapping tools corresponds with research on team-based reflection and competency mapping as mechanisms for coordinating distributed expertise (Eraut, 1994). Participants' caution against immediate HR alignment reflects awareness of tensions between developmental and evaluative uses of competency frameworks (Spencer & Spencer, 2008), suggesting that network-based frameworks require different adoption strategies than traditional individual frameworks.

Implementation barriers and institutional conditions

Despite articulated implementation strategies, stakeholders identified structural and organizational constraints clustering around role clarity (28%), professional recognition (27%), terminology concerns (16%), framework purpose clarity (16%), and format accessibility (9%). Professional recognition emerged as the most recurrent concern, with participants reporting that existing classification systems poorly captured hybrid roles spanning multiple functions. These patterns are consistent with literature on hybrid professionals whose work transcends established job classifications, complicating career progression and remuneration structures (Whitchurch & Healy, 2024). Recent empirical evidence from Australian higher education confirms that role clarity and consistent classification are foundational to sustainable careers for educational advisors, directly shaping professional identity, recognition, and access to formal career development (Simpson, 2026). Terminology challenges highlight the importance of culturally appropriate language in adopting the framework (Sanders & Stappers, 2008). The organizational fragmentation mirrors findings on structural barriers where institutional silos and budget pressures limit collaborative capacity (van Doorn et al., 2025; Vennix et al., 2021).

Framework refinement addressed these barriers through four strategic modifications (detailed in Results Phase 4): repositioning the framework explicitly as a developmental instrument rather than a formal evaluative mechanism (Prahalad & Ramaswamy, 2004; Sanders & Stappers, 2008). However, fundamental institutional challenges remain: existing organizational structures create ongoing tensions with network-based implementation approaches, requiring broader institutional innovation supporting collaborative professional models.

Theoretical Contributions

Our findings challenge dominant competency frameworks that assume individual mastery as the foundation for professional effectiveness (Guest, 1991; Le Deist & Winterton, 2005; Mulder, 2014). T-shaped models position professionals as combining broad horizontal knowledge with deep vertical specialization (Guest, 1991), and even collaboration-focused frameworks such as CanMEDS retain the individual as the unit of analysis (Frank & Danoff, 2007). In contrast, ESPs in this study framed competencies as network functions where effectiveness emerges through distributed expertise. Emerging scholarship positions boundary-spanning work as simultaneously enabling innovation and exposing professionals to precarity when institutional frameworks remain anchored to traditional structures (Simpson, 2026; Whitchurch, 2008, 2012).

The distributed interpretation aligns with theoretical perspectives conceptualizing competence as relational and collective. Communities of practice theory (Wenger, 1998) explains how shared expertise develops through collective engagement rather than individual accumulation. Boundary crossing research emphasizes the role of relational coordination and negotiated meaning in navigating multiple domains (Akkerman & Bakker, 2011). The concept of professional capital illustrates how collective configurations of expertise can generate capacity that exceeds isolated individual contributions (Hargreaves & Fullan, 2012). Page's (2007) research demonstrates that diverse teams outperform individual high performers in solving complex problems. Together, these perspectives conceptualize competence as embedded in relational and organizational configurations, providing a theoretical basis for examining network-level capability in boundary-spanning practice (Hodges & Lingard, 2013; Langlois, 2020).

The present findings extend Whitchurch's (2008, 2012) foundational work by suggesting that boundary-spanning effectiveness depends not only on individual competence but also on collective arrangements that sustain

performance across multiple domains. Participants' articulation of competence in distributed terms indicates that the analytical unit for competency in third space roles differs fundamentally from traditional professional contexts, contributing to emerging theories of collective competence (Hodges & Lingard, 2013; Langlois, 2020) and carrying direct implications for how institutions structure support services and allocate resources for educational innovation.

Methodological Contribution

The co-creative methodology employed in this study illustrates how structured stakeholder engagement can be combined with empirical validation procedures to develop professional frameworks (Serdyukov, 2017). This participatory design approach aligns with research emphasizing practitioner involvement in the development of professional standards and frameworks (Sanders & Stappers, 2008). Systematic implementation-focused revision incorporating stakeholder feedback to refine terminology and clarify the framework's collective positioning provides a template for professional profile development in emerging fields where practitioner engagement is essential for validity and adoption.

Practical Implications

The validated framework addresses gaps in professional standards for third space professionals, offering more comprehensive guidance for hybrid boundary-spanning functions than predominantly technical frameworks such as JISC, DigCompEdu, and PSF (Advance HE, 2023; JISC, 2019; Redecker, 2017; Whitchurch & Healy, 2024).

The distributed competency model has implications for institutional organisation and professional development. HR departments could develop competency portfolios acknowledging collective expertise rather than seeking comprehensive individual mastery. Professional development programmes may shift their emphasis toward cultivating complementary specialisations within networks, and institutions may need frameworks for distributed accountability that recognise that educational support emerges from coordinated network capabilities. This approach offers resource-efficient alternatives for institutions with limited specialist capacity (Eraut, 1994; Le Deist & Winterton, 2005).

In the context of technology integration, the framework suggests developing distributed digital capacity across ESP networks rather than relying on individual digital champions. For example, professionals might specialize in digital pedagogy, technology adoption, or faculty development, respectively. This distributed approach addresses critiques of digital champion models that create dependency on individual experts and fail to develop sustainable institutional capacity (Howard & Maton, 2011; Kirschner et al., 2004). Initial implementation reports indicate that the framework can serve as a tool for professional dialogue, role clarification, and development planning (Prenger et al., 2022).

Limitations

This study has several limitations. First, participants were recruited through established professional networks, which may have resulted in an overrepresentation of highly engaged professionals. While this approach enabled meaningful co-creation, the applicability of the framework across broader ESP populations requires systematic validation. Second, the collaborative culture in Dutch education may have influenced the acceptance of network models; international replication studies are needed to examine the transferability of this approach across

different cultural and educational contexts. Third, it remains unclear whether the distributed framing reflects established practice patterns or aspirational orientations toward collaborative solutions in response to increasing complexity. Finally, our validation demonstrates the framework's recognizability and stakeholder acceptance but does not provide evidence of implementation effectiveness or long-term impact. The study focused on competency conceptualization and stakeholder validation rather than implementation outcomes, leaving questions about practical effectiveness for future research.

Future Research

The network-based implementation vision revealed in this study creates practical tensions with institutional structures that assign responsibilities individually, evaluate individual performance, and credential individual capabilities. How institutions can reconcile network-based competency coverage with individual accountability requirements represents an unresolved challenge requiring implementation research. Future validation requires systematic evaluation of effectiveness, comparing our framework against alternative competency models, longitudinal tracking of adoption across diverse institutional contexts, and international replication. Research could examine implementation dynamics through pilots in institutions with limited collaborative traditions and investigate how different cultural contexts conceptualize ESP competencies. Additionally, future research could focus on how professional networks learn collaboratively and distribute competencies across network members.

Conclusion

This study developed and validated a competency framework for third-space professionals in educational support and examined how they conceptualize their roles. The distributed competency configuration identified during validation contributes to competency theory by highlighting the relevance of network-level capability in boundary-spanning roles. The network interpretation suggests a sophisticated understanding of professional competency in complex organizational contexts, acknowledging the distributed expertise requirements of effective practice. Although further research is required to evaluate implementation effectiveness and transferability across contexts, the framework provides a structured basis for institutions seeking to organize educational support capacity through coordinated, complementary expertise.

Abbreviations

AI
Artificial Intelligence
CanMEDS
Canadian Medical Education Directives for Specialists
DigCompEdu
Digital Competence Framework for Educators
ESP(s)
Educational Support Professional(s)
hbo
Hoger Beroepsonderwijs (Universities of Applied Sciences)
HR

Human Resources
IBM
International Business Machines
ICT
Information and Communication Technology
JISC
Joint Information Systems Committee
KSA
Knowledge, Skills, and Attitudes
mbo
Middelbaar Beroepsonderwijs (Vocational Education)
Npuls
National Program for Educational Innovation with ICT (Npuls program name)
PSF
Professional Standards Framework
RQ
Research Question
SPSS
Statistical Package for the Social Sciences
UK
United Kingdom
wo
Wetenschappelijk Onderwijs (Universities)

Declarations

Ethics approval and consent to participate: This study was conducted in accordance with the Declaration of Helsinki, the Netherlands Code of Conduct for Research Integrity, and the General Data Protection Regulation (GDPR). Under Dutch law, formal review by a Medical Research Ethics Committee (METC) is required only when a study falls within the scope of the Medical Research Involving Human Subjects Act (WMO). As this study involved a voluntary, anonymous questionnaire, focus groups, and co-design sessions with educational professionals, addressing professional competencies rather than sensitive, burdensome, or medical/psychological content, it did not fall within the scope of the WMO and consequently did not qualify for review by an institutional ethics committee. This is consistent with official guidance from the Central Committee on Research Involving Human Subjects (CCMO)(Boeckhout et al 2020, CCMO (2022), the Dutch national body responsible for WMO assessments, and reflects standard practice for this type of research in the Netherlands. The study was conducted collaboratively across multiple institutions (Curio, Avans University of Applied Sciences, and Inholland University of Applied Sciences), involving participants from 45 educational institutions across the Dutch mbo, hbo, and wo sectors, under the coordination of the Npuls national educational innovation programme, hosted by SURF. All participants provided informed consent prior to participation, were informed of their right to withdraw at any time without consequence, and participated voluntarily; all data were collected and processed anonymously.

Consent for publication: Not applicable (no individual person's data is presented).

Clinical trial number: not applicable.

Data availability: The datasets generated and analysed during the current study (survey data, focus group transcripts, and co-design session outputs) are not publicly available due to participant confidentiality agreements and GDPR requirements. Anonymised data supporting the findings of this study are available from the corresponding author upon reasonable request and subject to institutional approval.

Funding

This work was supported by the Dutch National Growth Fund through the Npuls national educational innovation programme.

References

1. Advance HE. (2023). *Professional standards framework for teaching and supporting learning in higher education 2023*. Advance HE. https://advance-he.ac.uk/knowledge-hub/professional-standards-framework-teaching-and-supporting-learning-higher-education-0?_gl=1*1pkqkcx*_gcl_au*MTE0NjcyMzA5OC4xNzUzMTgyNzEw&_ga=2.193937709.144646158.1753182710-912740473.1753182710
2. Akkerman SF, Bakker A. Boundary Crossing and Boundary Objects. Rev Educ Res. 2011;81(2):132–69. https://doi.org/10.3102/0034654311404435.
3. Avans Hogeschool. (2022). *ICTO-ondersteuners profielen*.
4. Avans Hogeschool. (2025). *Magazine ICTO 2025*.
5. Boeije H. Analysis in qualitative research. Sage Publications Ltd; 2009.
6. Boeckhout M, Beusink M, Bouter L et al. *Niet-WMO-plichtig onderzoek en ethische toetsing*, p. 19. https://open.overheid.nl/documenten/ronl-b73df3ea-1cff-42d5-b4df-4491381c17e3/pdf (2020, accessed oktober 2024).
7. Braun V, Clarke V. (2021). *Thematic Analysis: A Practical Guide*. 1–100.
8. Centrale Commissie Mensgebonden Onderzoek, Vragenlijstonderzoek. https://www.ccmo.nl/onderzoekers/aanvullende-informatie-over-bepaalde-soorten-onderzoek/overig-onderzoek/vragenlijstonderzoek (accessed Octobre 2024).
9. Chyung SY (Yonnie), Roberts K, Swanson I, Hankinson A, editors. (2017). Evidence-Based Survey Design: The Use of a Midpoint on the Likert Scale. *Performance Improvement*, *56*(10), 15–23. https://doi.org/10.1002/pfi.21727
10. Creswell JW, Plano Clark VL. (2018). *Designing and conducting mixed methods research* (Third Edition). SAGE.
11. Eraut M. (1994). *Developing Professional Knowledge And Competence* (0 edn). Routledge. https://doi.org/10.4324/9780203486016
12. Frank JR, Danoff D. The CanMEDS initiative: Implementing an outcomes-based framework of physician competencies. Med Teach. 2007;29(7):642–7. https://doi.org/10.1080/01421590701746983.

13. Grant J, Kennie T. (2024). The characteristics and career pathways of third space research professionals: Reflections from practice. *HEPI Report 177*. https://www.hepi.ac.uk/2024/08/08/the-characteristics-and-career-pathways-of-third-space-research-professionals-in-universities-reflections-from-practice/
14. Guest D. (1991). The hunt is on for the Renaissance Man of computing. *The Independent*.
15. Hargreaves A, Fullan M. Professional capital: Transforming teaching in every school. Routledge Taylor & Francis Group; 2012.
16. Hodges BD, Lingard L, editors. The question of competence: Reconsidering medical education in the twenty-first century. ILR; 2013.
17. Howard S, Maton K. Theorising knowledge practices: A missing piece of the educational technology puzzle. Res Learn Technol. 2011;19(3):191. https://doi.org/10.1080/21567069.2011.624170.
18. IBM. (2020). *SPSS statistics for Windows* (Version 27.0) [Computer software].
19. JISC. Digital capabilities framework. Joint Information Systems Committee; 2019.
20. Kirschner PA, Hendricks M, Paas F, Wopereis I, Cordewener B. Determinants for Failure and Success of Innovation Projects: The Road to Sustainable Educational Innovation. Association for Educational Communications and Technology; 2004. https://eric.ed.gov/?id=ED485042.
21. Langlois S. Collective competence: Moving from individual to collaborative expertise. Perspect Med Educ. 2020;9(2):71–3. https://doi.org/10.1007/S40037-020-00575-3.
22. Lave J, Wenger E. Situated Learning: Legitimate Peripheral Participation. 1st ed. Cambridge University Press; 1991. https://doi.org/10.1017/CBO9780511815355.
23. Le Deist FD, Winterton J. What Is Competence? Hum Resource Dev Int. 2005;8(1):27–46. https://doi.org/10.1080/1367886042000338227.
24. MBO-digitaal. (2024). *Handreiking competentieprofiel van de digitaal vaardige MBO-docent*. https://mbodigitaal.nl/wp-content/uploads/2025/02/MBO-Digitaal-Competentieprofiel-v2.pdf
25. Microsoft Copilot. (2025). [Computer software]. https://copilot.microsoft.com/
26. Mulder M. (2014). Conceptions of Professional Competence. In S. Billett, C. Harteis, & H. Gruber, editors, *International Handbook of Research in Professional and Practice-based Learning* (pp. 107–137). Springer Netherlands. https://doi.org/10.1007/978-94-017-8902-8_5
27. Page SE. (2007). *The difference: How the power of diversity creates better groups, firms, schools, and societies* (pp. xxiv, 424). Princeton University Press.
28. Prahalad CK, Ramaswamy V. Co-creation experiences: The next practice in value creation. J Interact Mark. 2004;18(3):5–14. https://doi.org/10.1002/dir.20015.
29. Prenger R, Tappel APM, Poortman CL, Schildkamp K. (2022). How can educational innovations become sustainable? A review of the empirical literature. *Frontiers in Education*, *7*. https://doi.org/10.3389/feduc.2022.970715
30. Redecker C. European Framework for the Digital Competence of Educators: DigCompEdu. JRC Publications Repository; 2017. https://doi.org/10.2760/178382.
31. Sanders EBN, Stappers PJ. Co-creation and the new landscapes of design. CoDesign: Int J CoCreation Des Arts. 2008;4(1):5–18.
32. Serdyukov P. (2017). Innovation in education: What works, what doesn't, and what to do about it? *Journal of Research in Innovative Teaching & Learning*, *10*(1), 4–33. (world). https://doi.org/10.1108/JRIT-10-2016-0007

33. Simpson C. The impact of role clarity on sustainable careers for EdAdvisors in Australian higher education. J High Educ Policy Manag. 2026;48(2–3):167–83. https://doi.org/10.1080/1360080X.2025.2603754.
34. Spencer LM, Spencer PSM. Competence at Work models for superior performance. Wiley; 2008.
35. Thorpe C, Partridge H. The Third Space in Higher Education: A Scoping Review. High Educ Policy. 2024. https://doi.org/10.1057/s41307-024-00374-z.
36. Uerz D, van Zanten M, Kral M, Gorissen P, van der Neut I, Tondeur J, Nackaerts U, Howard S. (2021). *Raamwerk docentcompetenties onderwijs met ICT*. Versnellingsplan. https://www.versnellingsplan.nl/Kennisbank/raamwerk-docentcompetenties-onderwijs-met-ict/
37. Uerz D, van Zanten M, van Rooij P, Kral M. (2025a, June). Competentieprofiel voor het ondersteunen van onderwijsinnovatie met ict. iXperium Centre Expertise. https://www.ixperium.nl/wp-content/uploads/2025/07/Competentieprofiel-ondersteunen-van-onderwijsinnovatie-met-ict_2025.pdf
38. Uerz D, van Zanten M, van Rooij P, Kral M. (2025b, June). Competenties voor het ondersteunen van onderwijsinnovatie. iXperium Centre Expertise. https://www.ixperium.nl/wp-content/uploads/2025/07/Onderlegger-Competentieprofiel-Ondersteunen-van-onderwijsinnovatie-met-ict_2025.pdf
39. van Doorn M, Bulder E, Wakkee I. (2025, June). *Impactanalyse voor Npuls. Instrumenten voor docentondersteuning bij onderwijs(innovatie) met ict*. Npuls. https://Npuls.nl/kennisbank/impactanalyse-voor-Npuls-instrumenten-voor-docentondersteuning-bij-onderwijsinnovatie-met-ict/
40. Veles N, Carter M-A. (2016). Imagining a future: Changing the landscape for third space professionals in Australian higher education institutions. *Journal of Higher Education Policy and Management*. (world). https://www.tandfonline.com/doi/abs/10.1080/1360080X.2016.1196938
41. Veles N, Patton W. From individual resilience to system responsibility: Introduction to the double special issue, Sustainable Careers in Higher Education. J High Educ Policy Manag. 2026;48(2–3):125–34. https://doi.org/10.1080/1360080X.2026.2627771.
42. Vennix J, Dekker P, Hebbink E, Peet A, ter Beek M, den Hopster D, van Geel M. (2021). *Rapport: Focus op de onderwijskundig ICT-professional*. https://www.versnellingsplan.nl/Kennisbank/focus-op-de-onderwijskundig-ict-professional/
43. Vogel DYS, Papavoine F, van As M, Stumpel N. (2025). *Definitienotitie Docentondersteuning*. https://Npuls.nl/kennisbank/definitienotitie-docentondersteuning/
44. Vogel DYS, Timmer-Hekhuizen MJD, Papavoine F, Stumpel N, van As M. (2025, October 15). *Competentieprofiel voor netwerk docentondersteuning in het vervolgonderwijs: Handvat voor een toekomstgericht netwerk van docentondersteuning*. Npuls. https://Npuls.nl/kennisbank/competentieprofiel-docentondersteuning
45. VSNU-NOA. Competentie-instrument voor de Nederlandse Universiteiten. Universiteiten van Nederland; 2019.
46. Vuorikari R, Kluzer S, Punie Y. DigComp 2.2, The Digital Competence framework for citizens: With new examples of knowledge, skills and attitudes. Publications Office of the European Union; 2022. https://data.europa.eu/doi/. 10.2760/115376.
47. Wenger E. Communities of Practice: Learning, Meaning, and Identity. 1st ed. Cambridge University Press; 1998. https://doi.org/10.1017/CBO9780511803932.

48. Whitchurch C. Shifting Identities and Blurring Boundaries: The Emergence of *Third Space* Professionals in UK Higher Education. High Educ Q. 2008;62(4):377–96. https://doi.org/10.1111/j.1468-2273.2008.00387.x.
49. Whitchurch C. Reconstructing Identities in Higher Education: The rise of 'Third Space' professionals. Routledge; 2012. https://doi.org/10.4324/9780203098301.
50. Whitchurch C, Healy G. The concept of third space as an enabler in complex higher education environments. Lond Rev Educ. 2024;22(1). Article 1. https://doi.org/10.14324/LRE.22.1.42.

Figures

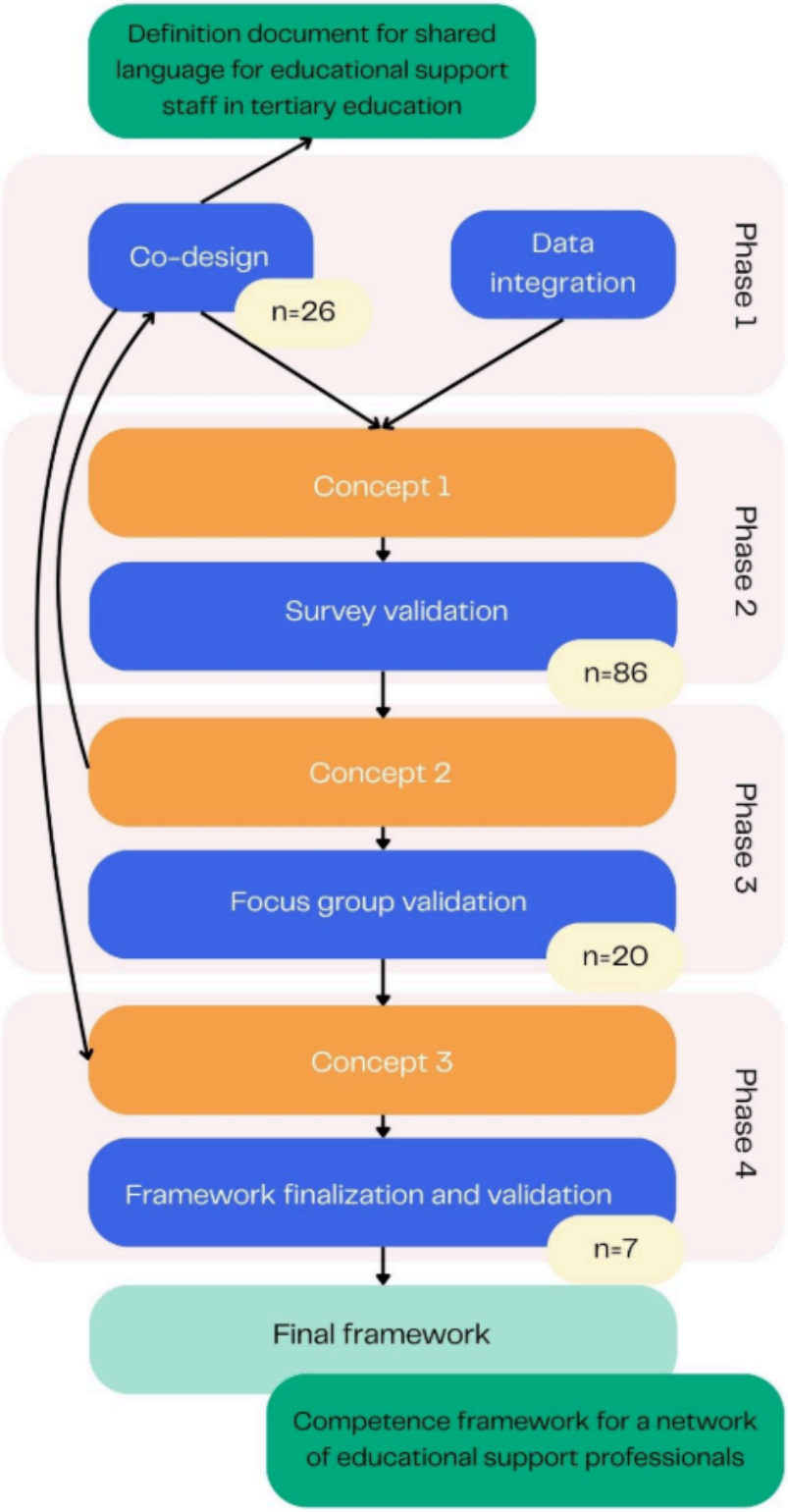


Figure 1

Research Design with Four Phases

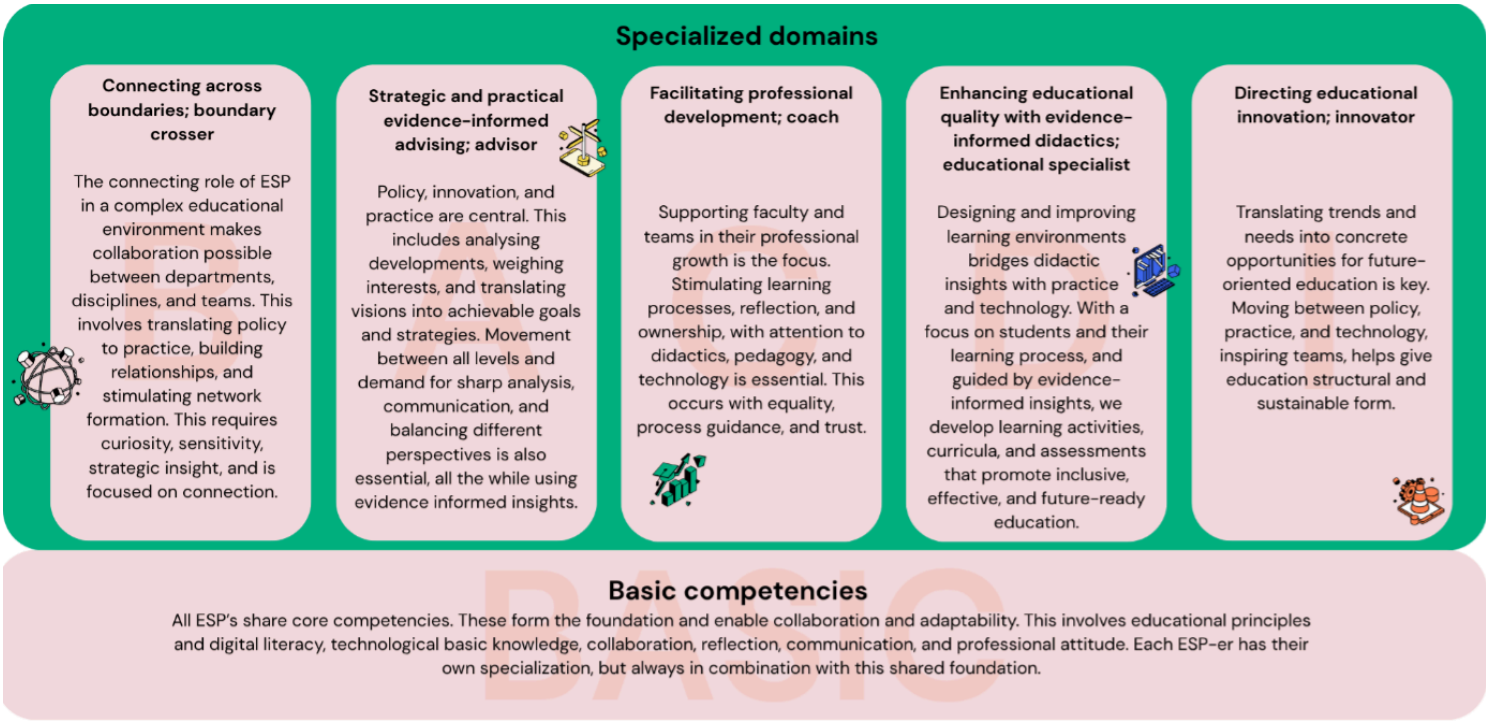


Figure 2

Competency Framework Structure

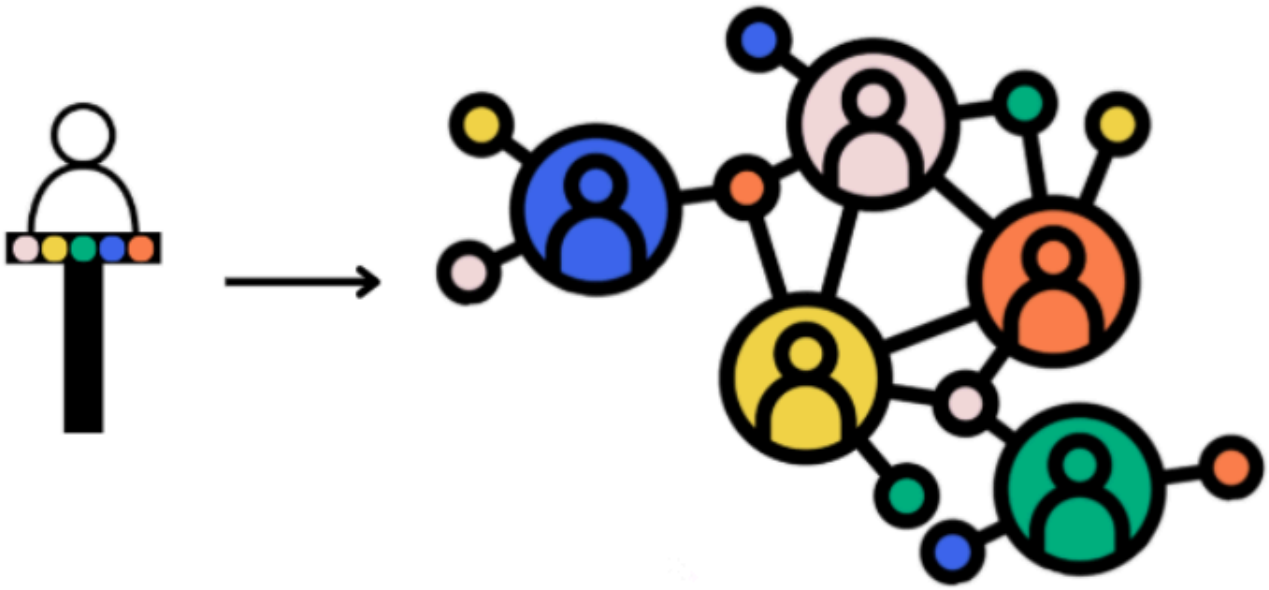


Figure 3

From Individual to Network-based Competency Model

Legend: The figure shows the transition from individual T-shaped ESPs (left) with limited cross-domain capacity to a collaborative network (right) where professionals access distributed expertise across specialized domains. Colored nodes represent different competency specializations.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- 260706artilcleESPnamesappendix.docx