Transprofessional Course Design in Teacher Education

Facilitating Spaces for Negotiating Roles and Finding Common Ground

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Abstract - **In today's rapidly changing world, educators stand at the crossroads. Tomorrow's teachers are responsible of equipping their pupils with essential 21st-century skills, a task that transcends mere professional boundaries. As the educational landscape evolves, teacher education programs grapple with the mandate to adapt curricula to this new societal complexity. Our study delves into uncharted territory: the intersection where arts, culture, technology design and pedagogy converge. Collaborations between stakeholders from these diverse domains yield a wealth of insights. Through co-design, we negotiate roles, seeking common ground - a reflective practice that may give rise to a "third space". Drawing from our analyses, we propose essential aspects for facilitators of such processes to consider. These insights could contribute to the goal of nurturing safe, innovative "third" spaces where educators assume new roles and shape the future of interdisciplinary course design in teacher education.**

Keywords - curriculum design; co-design; professional collaboration; teacher education; role release; role expansion.

I. INTRODUCTION

To prepare teachers who can adeptly respond to the rapidly changing future demands in both society and the workforce, teacher education must align with 21st-century skills [1][2]. This imperative extends to the curriculum, which serves as a pivotal policy document across educational levels [3]. While primary school curricula have received significant attention in curriculum research, there has been a noticeable gap within higher education according to Karseth [3]. In this study, we delve into the dynamics that unfold when stakeholders from diverse disciplines collaborate to co-design a course in Teacher Education (TE) with the purpose of empowering future teachers through *cross-sectoral collaboration*. Through this effort, the aim is to enhance student teachers' ability to navigate the complexities of education, that extends beyond professional boundaries**.**

Internationally, Cross-Sectoral Collaboration (CSC) in school is common [4]-[7]. In Norway, increasingly, school time is allocated to external partners such as The Technological Schoolbag, Young Entrepreneurship, and The Cultural Schoolbag (TCS). While these partners play a role in realizing the curriculum, their primary purpose is to enrich students' experiences, knowledge, and skills. However, this development can pose challenges for teachers who must balance achieving educational goals with limited time for CSC. Therefore, it is crucial to empower future teachers to maximize the benefits of working with external actors and effectively integrate these experiences into the school day.

The study originates from the extensive project, pARTiciPED, which receives funding from The Research Council of Norway (2020-2024). The aim of pARTiciPED has been to foster CSCs between the cultural and educational sectors. Specifically, it seeks to address the contradictions within TCS program, which aims to provide students with access to cultural expressions during their education. The project investigates how student teachers can be empowered to act as agents of change in bridging the gap between schools and the cultural sector. Notably, this initiative arises from the asymmetric power relations that exist between schools and cultural institutions within the cultural schoolbag [8]-[11], where some teachers view themselves as having limited influence in TCS activities they facilitate for [8][12] and lack a clear *understanding of their roles* [13].

In the pARTiciPED project, we have aimed to facilitate for the emergence of novel collaborative practices and to understand the socio-material factors supporting the likelihood and longevity of such practices. In this, we have been steered by the aspirational concept of 'transformative mutuality' [14]. This concept encapsulates a reciprocal and transformative relationship, where participants engage in mutual learning, growth, and change. It transcends mere cooperation and delves into a deeper synergy—one that reshapes perspectives, empowers individuals, and enriches collective actions characterized by Eyal and Yarm as:

> …both parties taking an active approach, engaging willingly and enthusiastically in shared educational deliberation, and devising and implementing educational activities that have a synergistic effect, contributing to the growth of both parties on an individual and organizational level, as well as to the students. [14, p. 680]

We remained committed to nurturing 'third spaces' where transformative mutuality can develop, fostering connections that transcends disciplinary and professional boundaries, to facilitate dialogue among stakeholders in teacher education

institutions (both students and teachers), partner schools, and TCS. According to Gutiérrez [15] a third space is "a transformative space where the potential for an expanded form of learning and the development of new knowledge are heightened" [15, p. 152], where staff are engaged "in substantive dialogue about educational values, goals, and methods, leading to pedagogical innovation" [14, p. 651]. Third spaces thus aim at becoming "a place of invention and transformational encounters" [16, p. 244]. The third space is intended to operationalize the role of the (future) teacher, in line with Mølstad and Prøitz's [17, p. 4] understanding of the teachers' autonomy, defined as "the freedom and responsibility given to the teaching profession to plan teaching based on professional decisions and justification" (p. 4). A prerequisite when facilitating such third spaces is to develop an acute awareness and understanding of the importance of negotiating roles across the intersecting disciplines and professions. The negotiating of roles is critical to foster *interprofessionality* or even *transprofessionality.*

In this paper, we investigate the negotiation of roles when stakeholders from diverse disciplines collaborate to co-design a course in TE with the purpose of empowering future teachers through CSC in the pARTiciPED project. In Section 2, we present an elaborated background on roles in transprofessional collaborations, followed by the introduction of the two labs in the pARTiciPED project in Section 3. Our methodology is described in Section 4, while Section 5 presents our findings from unpacking the role negotiation concept in our labs. Lastly, in Section 6, we propose three central aspects for negotiating roles and fostering mutual understanding within professional co-design teams.

II. BACKGROUND

A. Roles in transprofessional collaborations

To understand types of professionalism we need to distinguish between a discipline and a profession. A discipline involves developing theories to comprehend the world. It encompasses the systematic study of a specific subject or field. A profession is essentially a practically applied discipline [18]. Disciplines can be separate and distinct from one another, each focusing on its unique area of inquiry. The degree of collaboration between disciplines can vary, leading to different levels of interaction:

- **Intra:** Disciplines exist in isolation (monodisciplinary).
- **Multi:** Disciplines coexist alongside each other.
- **Cross:** Disciplines interact and inform each other.
- **Inter:** Disciplines partially overlap.
- **Trans:** Disciplines almost fully overlap, fostering mutual learning and reciprocity.

Bernard C.K. Choi and Anita W.P. Pak [19] thoroughly review the differences in the definitions of multidisciplinary, interdisciplinarity and transdisciplinarity in the literature (1982-2006). They conclude by giving the following distinctions.

- At its most fundamental level, multidisciplinary collaboration is *additive* and involves various disciplines working independently or in sequence on a problem, maintaining their distinct boundaries.
- Interdisciplinary, on the other hand, fosters reciprocal *interaction* between disciplines, leading to the merging of boundaries and the creation of new shared methods, perspectives, and knowledge.
- Finally, transdisciplinary extends beyond academic disciplines, including non-scientists and other stakeholders, to examine whole systems *holistically.*

They emphasize how transdisciplinarity requires both *role release and role expansion. Role release* refers to the intentional relinquishing of specific responsibilities or tasks by team members. It involves allowing others to take over certain functions that were previously within an individual's domain. *Role expansion* involves broadening the scope of a team member's responsibilities. It encourages individuals to take on additional tasks or explore new areas.

The types of disciplinarity and how they depend on the (re)negotiation of roles in teams apply to transprofessional teams as well. It is important to note however, that in the same team the same individual can negotiate disciplinarity and professionality differently, depending on context.

B. Curriculum planning in transprofessional teams

In our context, a collaborative effort unites team members from diverse backgrounds, including cultural work, technology design, and education. Together, they co-design a TE course with the aim of fostering CSCs between the cultural and educational domains.

Curriculum planning, according to Goodlad [20], is an ongoing, hands-on process that aims to design educational programs to enhance learners' knowledge, skills, and attitudes. It is driven by the desire to close the gap between current state and future goals, with educational institutions bearing the responsibility to achieve these objectives [20]. Curriculum development requires decision-making at various level. Despite its importance across all educational levels, research on higher education curricula is relatively sparse [3]. This study contributes to this area by analyzing transprofessionalism in TE course design.

In Norway, TE is regulated by Framework Plan for Primary and Lower Secondary Teacher Education for Years 1-7 and 5–10. These plans outline the goals, structure, content, and desired educational outcomes for teaching at these levels [32][33]. This article zeroes in on curriculum for a course in TE focusing on CSC in Norwegian schools (from here referred to as the "CSC-course"), developed during the pARTiciPED project. The main aim of the course is to deepen student teachers understanding of interprofessional collaboration in schools and to elucidate their role in such cooperative undertakings.

Goodlad et al. [21] present five curricular perspectives, with this article focusing on the perceived level—how the formal curriculum is interpreted into *local* lesson plans. Støren [22] suggests that local curriculum efforts can be seen in three dimensions: as a recipe to be understood, as a framework to be filled, and as a framework to be developed further. She posits with reference to Tronsmo [23] that at the third

dimension, teachers in their professional community creatively engage with the curriculum to evolve their practice and understanding of it.

C. Operationalizing spaces for negotiating roles and finding common ground

In pARTiciPED, we have aimed to democratize not only the way student teachers are empowered to become change agents as future teachers, but also how the course has *been designed*. In this, we have developed a methodological approach indebted to the core principles of co-design [24] adapted to our purposes as securing:

- *alternative visions* of 1) how new knowledge is created and shared and 2) how new skills and competences create conditions, opportunities and challenges related to what to learn and how in CSCs.
- *mutual learning* by finding common ground and ways of working that emphasize engagement, expressiveness, negotiation, and problem solving and that take place in actual settings in teacher education.
- *democratic practices* where power relations are equalized by giving everyone a voice and where all stakeholders act both in their own interest and in the interest of the common good.

In line with how Muller and Druin [25] see co-design as operationalizing third spaces in design, where the third space represents an in-between region where participants in the design process can engage in collaborative activities that transcend traditional boundaries, an intermediary zone where diverse knowledge and insights converge to inform the needs of organizations, institutions, products, and services. The experience is characterized by the 1) questioning of assumptions, possibly leading to fresh perspectives, 2) reciprocal learning where participants learn from one another, fostering mutual understanding, 3) the creation of new ideas by negotiating and co-creation of identities, working languages, and relationships and 4) polyvocal discussions where diverse voices contribute to rich discussions across differences [25].

III.   TWO CASES – ONE CURRICULUM

The pARTiciPED project has established various TCS labs, bringing together participants from diverse educational and creative backgrounds such as student teachers, teacher educators, artists, art educators, cultural workers, designers, and intermediaries. These labs host co-design workshops that employ a variety of methods and tools, promoting mutual learning and transformative partnerships. As part of this effort, the CSC-course in TE, was co-designed (in TE). A summary of two pivotal labs analyzed in this study is presented below.

A. Lab Performing Arts

The first TCS lab, hereafter referred to as Lab Art, fostered a collaboration between teacher education and an art institution, involving both educators and students, along with local partner schoolteachers, to solidify a practical application of co-design. Among the participants, some had a shared history of collaboration from previous projects, while others joined in the pARTiciPED project. The aim was to co-design and implement the CSC-course in TE tailored for aspiring primary school teachers. The process involved five workshops: the initial three focused on establishing a mutual understanding and mapping competencies and roles within the design team, allowing stakeholders to share perspectives on curriculum development. Choreopattern, a novel choreography-based design approach, merging station-based tasks with movement section, was employed in the two latter workshops to jointly co-design the content of the course [31]. A crucial aspect of this work was to develop relations between professional practice of education and art, as outlined in [32]. The intriguing aspect of role dynamics lies in the challenges encountered by the participants in the design team, which will have the primary focus in the discussion.

B. Lab Museum

The second TCS lab focused on engaging student teachers in designing Cultural Heritage Learning Experiences (CHLE) in collaboration with museum educators for four whole-day seminars. Student teachers were challenged to collaborate with museum educators and to include gaming technologies in their CHLE designs. To facilitate these student seminars, we had four co-design workshops involving teacher educators, technology experts, teachers, and museum educators. Between these workshops, weekly digital collaboration meetings were held to address practical issues. The initial co-design workshop served as an icebreaker, fostering mutual understanding, exchanging expectations, and providing an overview of the project and the applied co-design methodology. The second workshop inquired into TCS focusing on the challenges and opportunities in schools. The third workshop entailed a museum visit fostering a mutual understanding of the museum educator's perspective. Lastly, during the fourth workshop, we developed design cards to be utilized by students in the seminar to enable them to design a CHLE. An account of the seminars has been reported by [30]. Here, we focus on the collaboration of experts to co-design the student seminars.

IV.   Methodology

In this paper, we revisit our experiences from co-designing the CSC-course in TE to discuss how we negotiated roles and found a common ground as reflective practice. Reflective practice is 'learning through and from experience towards gaining new insights of self and practice' [26]. John Dewey [27] was among the first to identify reflection as a specialized form of thinking. He considered reflection to stem from doubt, hesitation, or perplexity related to a directly experienced situation and stresses how we learn from 'doing', i.e., practice. Donald Schön [28] defines reflection as a method to move from one design cycle to another until one reaches a final product. He proposes two types of reflection that contribute to the advancement of design work: reflection-in-action referring to the act of thinking and doing while in action, and reflection-on-action referring to the analysis of a design move after the process has happened. We have applied Schön's

notion of reflection-on-action to reflect on negotiating roles and finding common ground in two labs in the pARTiciPED project, where we have been leading researchers and have collaborated with other stakeholders to maintain a co-design methodology to enable transprofessional collaboration in the course design.

We did our reflective analysis in two steps. The initial step commenced with a meeting among us researchers, where we shared our experiences from the two labs. We reviewed archived materials including meeting minutes, workshop plans, and prior publications detailing the lab activities. Through this process, we identified and categorized the evolving roles of participants and analyzed how these roles were manifested during workshops. We applied the concepts of *role release* and *role expansion* in another cycle of analysis in each of the two labs to explore the different facets of negotiating roles and finding common ground. We have chosen a storytelling approach to share our findings by exemplifying findings with vignettes from our labs. We were inspired by the concept of method stories [29], where Lee calls on the design field to "reflect and re-specify its research direction for design methods, especially for empathic design methods, that is, not by developing new tools or pinning-down practices into recipes, but rather towards empowering designers to be more sensitive and comfortable with the design-led, local approaches that are essential to empathic design methods".

V. Unpacking Roles

In the following, we aim to highlight three intriguing aspects that illustrate the complexity of negotiating roles and finding common ground in transprofessional course design in teacher education: the challenge of balancing many roles simultaneously, overlapping competence, and perceived ownership.

A. Balancing roles in course design

During Lab Art, educators from teacher education and professional art institutions assumed multiple roles that were not sufficiently articulated or negotiated throughout the series of workshops. Rather, the roles were fluid, with educators transitioning between them as they deemed necessary. Table I illustrates some of the formal roles that became apparent as participants engaged with the lab.

Notably, the table indicates that educators from teacher education and art education face a particularly demanding challenge in managing multiple roles, ranging from at least four to six each. They must make strategic decisions about which roles to adopt as the project unfolds. For example, within a single session, the project leader (first author) must balance PhD supervision, manage the pARTiciPED project, and lead and facilitate the workshop. Meanwhile, art educators are balancing their responsibilities as principals of their art university college, their roles as professional artists, and their participation in co-design workshops. The potential for 'role release' adds another layer of complexity to managing these roles on an individual level. To illustrate, consider the first workshop in the Lab Art: Teacher educators had organized a session employing scenario-based drama to simulate a typical visit by TCS to a school. The participants were cast in acting roles, which some of them found uncomfortable and ineffective. Consequently, the activity fell short of its potential.

In Lab Museum, roles were assigned based on participants' backgrounds. A workshop facilitator orchestrated the workshop activities, informed by participant input, and worked closely with the project leader. Each participant had a specific role: a project leader, a PhD candidate, a teacher educator, a museum educator, a student teacher, and two in-service teachers (see Table II). Participants' roles intersected mainly in the role as scientific researcher, emphasizing a shared commitment to research objectives and the collection and analysis of workshop data.

TABLE I.   Formal roles in Lab Art

	Teacher educators	Art educators	Student teachers	In-service teachers
Participants no.	1	1	1	3	1	2
Project/Lab leader	x					
PhD-candidate			x			
PhD supervisor	x					
Scientific researcher	x	x	x			
Artistic researcher		x		x		
Educator	x	x	x	x		
Student					x	
School teachers						x
Art teachers		x	x			
Professional artists		x	x			
Principals			x			
Workshop leader	x	x	x	x		
Manager of the co-created course in TE		x				

TABLE II.   Formal roles in Lab Museum

	Technology Designers	Teacher educator	Museum communicator	Student teacher	In-service teachers
Participants no.	1	1	1	1	1	1	2
Project/Lab leader	x						
PhD-candidate			x				
PhD supervisor	x						
Scientific researcher	x	x	x	x			
Teacher educator				x			
Student						x	
School teachers							x
Museum educator				x			
Workshop leader		x					
Manager of the co-created course in TE				x			

B. Overlapping competence

From Table 1, it is evident that the design team in Lab Art have overlapping roles. Although at different educational levels, all participants are educators in some form, except for the two students. One of the teacher educators, who is also a PhD candidate, has formal education in art and art pedagogy, expertise that aligns with that of the art educators. Moreover, several participants have informal background in art, such as theater, dance, and music, indicating a level of disciplinary expertise. The art educators, having been associated with various TE programs in Norway for years, possess knowledge of that context. They also share a research interest with one of the teacher educators who engages in artistic research. Additional role overlaps also exist. However, what is particularly intriguing are situations when participants in the workshop bring to the table expertise usually confined to other's domain, necessitating a release of roles to allow others to take over certain functions, a transition that can be challenging.

An example that stands out is the instance where the PhD candidate utilized her art expertise to co-develop Choreopattern with the other teacher educators, drawing upon choreographic elements. This joint effort led the teacher educators to venture into the realm of the art educators, which introduced challenges in the design team [31]. These challenges demanded immediate attention to propel curriculum development forward. During this period of change, art educators stepped into principal roles, while teacher educators shouldered the responsibilities of project leaders and PhD supervisors. Notably, the shift in roles among some team members precipitated new roles for others. If not handled judiciously, such role shifts can swiftly lead to counterproductive interactions.

In Lab Museum, participants assumed roles as experts in their respective fields, with minimal overlap in competence. During the second workshop, the in-service teachers took center stage, discussing challenges and opportunities in facilitating for TCS activities in schools. The expertise of the teachers in framing TCS within school practices was acknowledged by the other participants. Likewise, during the third workshop, the museum educator took the lead, guiding the group through the museum and offering an enriching learning experience for the design group.

C. Perceived ownership

In Lab Art, stakes were high for both teacher- and art educators, each demonstrating significant perceived ownership. Teacher educators were invested, motivated by the course's alignment with their student teachers' needs and the overarching goals of the pARTiciPED project, of which they were owners. Similarly, the art educators, who also served as principals of their college, were committed to supervising their students in their artistic work. This shared perceived ownership of the outputs of a co-design process have numerous advantages: collective sense of responsibility, the imperative of a successful outcome, and intrinsic motivation for the tasks.

In contrast, not all participants perceived a high degree of ownership of the process and outputs in Lab Museum. The student teacher tended to adopt a polite and somewhat guest-like position in most workshops, perhaps due to feeling junior in comparison to other participants. While the in-service teachers contributed to discussions in the second workshop, they had few responsibilities throughout the seminars and workshops. The teacher educator and the project leader (who also had roles as PhD supervisor and researcher) felt the greatest sense of ownership for the co-design activities, the teacher educator being responsible for the implementation of the course being co-designed and the project leader being responsible for overall goals for the lab. The low perceived stakes made it less challenging to facilitate for safe interactions in Lab Museum, and we believe a higher degree of perceived ownership would have benefited the outputs and outcomes of the lab.

VI. Finding Common Ground

There are certain considerations project leaders must take when aiming to provide safe "third" spaces [25] for sharing and assuming new roles. We highlight three aspects worth considering when seeking to negotiate roles and establish common ground in professional co-design teams: the facilitators level of investment, the need for renegotiating roles and the degree of association between the professions.

A. The facilitators level of investment

In Lab Art and Lab Museum the facilitators assumed markedly different roles in organizing and leading the workshops. In Lab Museum, an external and experienced facilitator from the design field (third author) led the workshops. Her relatively low level of investment in the co-design outcomes allowed her to concentrate on optimizing the process. In Lab Art, teacher educators with limited participatory design experience at the time, led most workshops, including the first author. They had a high level of investment in the process however, as they were not only facilitators, but also directly responsible for the course to be co-designed. This required them to balance their facilitator role as securing participation from all parties with making active contributions in the design of the curriculum.

Based on these insights, we acknowledge that experienced facilitators, with relatively low level of investment in the outcomes of the process, have more flexibility to strategically position themselves to optimize the workshops by adapting the process to unforeseen situations. They can more effectively maintain focus on the processes and other participants are potentially less inclined to suspect the facilitator of pursuing his or her own interests. Therefore, it is essential to consider the level of investment that facilitators have in the co-design outcomes to ensure mutual learning, growth, and change within professional co-design teams

B. (Re)negotiating roles

In professional teams doing co-design workshops, the roles of participants need to be continuously negotiated. This collaborative process extends throughout the project, allowing participants to renegotiate their roles based on the specific design needs in different phases of the work. In Lab Art, where prior collaboration existed among several participants,

role negotiation was informed by shared work history, and primarily served to integrate new team members rather than redefining roles held by existing team members. Conversely, in Lab Museum, where participants were initially unfamiliar with each other, role negotiation commenced from the project's inception to establish common ground.

This highlights the substantial influence of participants' shared work history on role negotiation. When team members are already working together, proactive negotiation or even reevaluation of roles becomes critical before delving into co-design activities, such as curriculum design. This deliberate step must facilitate for both role release and role expansion, to secure transprofessionality in the co-design activities. Upon reflection, Lab Art could have benefited from one or more pre-workshops where participants established a new common ground and explicitly defined new roles and expectations. Such clarity would have allowed for thorough discussions about each participant's responsibilities and contributions in the new project, ultimately enhancing dialogue among stakeholders.

Explicitly agreeing on roles, as well as re-negotiating and redefining them, emerges as a central topic when professional teams collaborate in co-design, becoming transprofessional.

C. Association between the professions

In the two labs, participants engaged in collaborative efforts, each contributing from their unique professional vantage point. The degree of collaboration between the professions varied, resulting in distinct negotiation dynamics among stakeholders.

When analyzing the interplay between teacher education and external partners in the pARTiciPED project, we observe a more solid association between the professions represented in Lab Museum compared to Lab Art. History dissemination as a practically applied discipline in museums is relevant for teacher education and teacher educators with history as subject. Both professional groups have compatible skills, knowledge, and educational aims. Conveying history is not exclusively reserved for museum educators. Teachers, social scientists, guides, and others can effectively communicate historical narratives across various contexts. In contrast, art occupy privileged positions in society. Creating art remains the domain of professional artists and artists participating in Lab Art can more readily leverage this position to assume power in the collaborative process.

Facilitators must possess the skills to detect and balance these emergent power dynamics. This necessitates a willingness among all involved participants to adapt their perspectives in alignment with the activities and project's overarching goals. Such adaptability can prove challenging for everyone, also artists, who naturally hold a strong sense of ownership over their artwork and their artistic processes.

VII. CONCLUSION

Facilitating safe "third" spaces for negotiating roles and finding common ground across professions remains a challenge. In this paper, we have highlighted and discussed some aspects of this work, using the ongoing research project pARTiciPED as case. When facilitating for negotiating roles it is important to 1) map the roles in play (one participant can have many), 2) map the participants' overlapping and not overlapping competence, and 3) map the participants' ownership of the outcomes of the process. The three maps will be helpful in the facilitation of co-design activities. We believe that to achieve high degree of collaboration (and engagement) between the professionals in design teams, articulating roles, goals, and competence is what should come first.

When facilitating for finding common ground we find it is important 1) to make sure that the facilitator has not conflicting roles and is not to invested in particular outcomes, 2) to provide participants with a shared work history the opportunity to renegotiate and reset their roles before going to deep into the design work and 3) to identify and handle power dynamics that become barriers to role release and role expansion – for instance if the participants insist on holding on to professional roles that traditionally have had a privileged position in society (i.e., artists, doctors and professors).

In conclusion, achieving high degree of collaboration in professional collaborations is not a straightforward process and demands deliberate and thoughtful facilitation. Sometimes a transprofessional outcome remains elusive, however. We believe that if there is little potential for both role release and role expansion in the team being mobilized, a facilitator needs to handle this head on. If the initial co-design workshop phase fails to facilitate for articulation and re-negotiation of roles, it is better to reassemble the group rather than re-articulating entrenched disciplinary and professional barriers to collaboration.

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