



Teacher education is a deeply pedagogical process rooted in values, ethics, and the social purpose of schooling. Globally, it sits at the core of educational quality and fairness, as research in comparative and international education demonstrates: the training of teachers directly influences students' learning chances, social inclusion, and the democratic aims of schools. Teachers are not simply transmitters of curricula, but active professionals whose convictions, reflective skills, and ability to manage the complexities of classroom life give shape and substance to the educational experience itself.

The pedagogical dimension of teacher education frames teaching as a relational, context-aware, and ethically grounded profession rather than just a set of procedural skills. From a research perspective, this demands robust research methodologies that can critically examine the complex realities of schools and inform evidence-based policies. Equally important is the connection between theory and practice, which helps to bridge the persistent gap between universities and schools.

The contributions gathered in this volume reflect the richness and diversity of experiences showcased during the ATEE Spring Conference 2024, held at the University of Bergamo from May 29 to June 1, 2024. The volume presents 70 selected papers out of more than 300 presented by researchers representing over 40 countries.

This broad spectrum of studies highlights promising directions that can inspire renewed inquiry and concrete proposals aimed at improving contemporary educational systems.

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ATEE Spring Conference 2024

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Teacher education research in Europe: trends, challenges, practices and perspectives

May 29th – June 1st, 2024
S. Agostino, Bergamo



Edited by Nicole Bianquin and Francesco Magni





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BOOK OF PROCEEDINGS

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Università degli studi di Bergamo

2025

BOOK OF PROCEEDINGS ATEE Spring Conference 2024. Teacher education research in Europe: trends, challenges, practices and perspectives / Nicole Bianquin, Francesco Magni (edited by) - Bergamo: Università degli studi di Bergamo, 2025

ISBN: **978-88-97253-27-3**

DOI: [10.62336/unibg.978-88-97253-27-3](https://doi.org/10.62336/unibg.978-88-97253-27-3)

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<https://aisberg.unibg.it/handle/10446/309209>

An event organised by:

Dipartimento di Scienze Umane e Sociali, **University of Bergamo** // www.dsus.unibg.it

CQIIA – Centro per la Qualità dell’Insegnamento, dell’Innovazione didattica e dell’Apprendimento, **University of Bergamo** // www.cqia.unibg.it

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The contributions published in this book of proceedings have been evaluated through a double-blind peer review process. We would like to thank the members of the Scientific Committee, as well as the many other professors, researchers and experts who agreed to act as reviewers.

Collaborative and epistemic advances: a study on teacher agency

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Abstract

Teacher collaborative skills recall more than a joint collection of individual performances. The research aims to explore teacher agency in two work groups of teachers involved in collaborative and problem solving tasks. A multi-method approach was selected. The case study explores the teachers' interactions in co-building of shared knowledge objects, while following focus groups lead us to describe the teacher agency. To deepen the shared knowledge processes, the study took advantage from a reflective and meta-cognitive key by interviews, in order to weigh the value of the collaborative experience. The results help to lead out new criteria to develop collaborative and working-group methods, and inform training policies how to better qualifying teacher education curricula.

Keywords: teacher agency; collaborative skills; collaborative groups; teacher education; epistemic agency.

1. Introduction

For decades, education and training policies have been calling for the centrality of the teaching role in improving students' outcomes, focusing the importance of professional collaboration in knowledge advancement and learning environments adjustment.

Among the objectives described by the UNESCO document on Life Comp (Scott, 2015), the competence referred to "learning to know" calls upon the teaching professionalism to commit to both acquiring new knowledge and developing other more performative ones, in a continuous state of cognitive evaluation-revision-reconstruction. Processes of this kind require a change of mentality in the way of "looking" at knowledge, which implies the ability to read social conditions and resources such as collaborative ones as concrete opportunities to be exploited to knowledge expanding, to innovate and transform educational contexts (Mezirow, 1991).

In scientific literature the active contributions of teachers on student learning assumed increasing importance: that concerns not only their competence to design and develop instructional settings, but also organizational and school management too: so, the collaboration between teachers involved becomes crucial to affect productive school performances. The continuing professional development (CPD) of teachers must address and integrate «both individual and organizational development. It will need to build individual learning, but also collaborative learning as teachers move forward together to develop their communities of practice» (Bull & Gilbert, 2012 in Scott, 2015, p.15). This statement emphasizes how is important strengthening teachers' capacity for and awareness of their own learning. Teaching should be professionalized as a collaborative effort in which teachers are recognized for their work as producers of knowledge and key figures in educational and social transformation. Collaboration and team work should characterize teachers' activities (*ibidem*, 2015). Regarding the correlation between collaborative activities and training effectiveness, both the 2018 TALIS results and the scientific literature agree in identifying how some collaborative forms of CPD, such as peer learning (Kraft, Blazar & Hogan, 2018) and participation in professional networks (Paniagua & Istance, 2018) have more incisive and long-lasting effects on the change of teaching practices than more traditional training/updating activities, such as participation in courses or seminars. Considering the importance of diversifying opportunities for discussion and exchange of ideas in productive interaction (Jensen *et al.*, 2016), it would be necessary to invest in the creation of new education and training options capable of giving new structure to collaboration in a professionalizing sense, also through their integration within traditional formal paths.

2. The study

The first step of the study required a scientific literature review to identify the theoretical framework. We investigate the concept of teacher agency (TA), which defines the teacher's action endowed with intentionality and aimed to achieving personally chosen objectives (Bandura, 2018).

Recent studies indicate that simply bringing people together in groups and giving them tasks, or pooling a group's knowledge, are necessary but not sufficient conditions for productive collaboration (Barron, 2000, 2003; Perkins, 2003; Salas, Sims, & Burke, 2005; Scardamalia & Bereiter, 1991). Creating the premises for collaboration that brings about both the production of new knowledge objects and the advancement of individual knowledge necessities more than just individual performance of assigned collaborative tasks (Damşa *et al.*, 2010, p.145). The knowledge objects that emerge from collaborative practices, understood as products of collaborative agency, would be capable of point at the advancement of knowledge that is progressively structured in the shared interaction.

This paper aims to present a study on collaborative teacher agency, to describe its ability to support the knowledge creation and the development of group learning processes. The identification of the conceptual framework of agency and teacher agency (TA) in a socio-cultural perspective (Biesta & Tedder, 2007; Emirbayer & Mische, 1998; Priestley, Biesta & Robinson, 2015), has allowed us to outline the construct of epistemic agency and shared epistemic agency. Epistemic agency refers to the action directed at increasing in knowledge: in the research project design, it is understood both as a

self-activation of knowledge and as a production of new knowledge (Heikkilä *et al.*, 2023). Shared epistemic agency refers to the knowledge creation that develops within actions focused on collaboration and sharing among participants in team working. The research project design therefore postulates that the teacher's ability to provide a shared epistemic agency in interaction contexts appears positively correlated with better cognitive and collaborative performances addressed at solving practical questions at work.

The research aims to investigate collaborative agency and shared epistemic agency of special needs teachers involved in the initial education and training course TFA at the University of Trieste. From a preliminary survey realized on these students, it was highlighted that only a part of them declare to dedicate time to discussion and collegial collaboration to deal with complex situations at school, both in relation to specific work activity and in reference to other roles or functions covered in the school organization. The aim of the research concerns the identification of the characteristics of teacher agency useful for the project design of shared and collaborative experiences to improve teacher initial education and training. This allows us to hypothesize and look out a sustainable change within practices and their contents, and in CPD throughout the whole professional career, in accordance with the paradigm of lifelong learning.

The goals of the survey specifically concern two operational objectives: i. to explore and describe the characteristics of the shared epistemic agency that teachers put into play while interacting in facing a task in problem solving mode; ii. to explain and deepen the meaning of the collaborative actions undertaken, which teachers attribute to emerging group practices. The empirical investigation employed a qualitative multi-method (Trincherò & Robasto, 2019). The socio-constructivism learning framework recalls the concept of learning community (Hord, 2004), since it considers the advancement of knowledge as a progressive acquisition of learning that arises from mutual contributions. Knowledge objects, understood as cognitive artefacts (or ideas) elaborated in group's interaction, conceptually and operationally actualize collaborative efforts. They allow participants to remain anchored to the objective and constantly involved to its achievement, focus them on the creation and structuring of ideas and influence participation, involvement and regulation of shared collaborative efforts (Damşa *et al.*, 2010). Therefore, the shared knowledge objects represent the concrete products that arise from collaborative learning.

The survey method therefore includes both the analysis of the ideas created by the group, understood as knowledge objects, and that of the verbal interactions that occurred between participants to find agreements or develop work directions, with the aim of observing the collaborative ways and dynamics within which these objects progressively develop. Further levels of study aim to notice the perception of the teachers involved on the quality of the collaborative work carried out, in relation to the products processed, and to deepen its effectiveness in a reflective way.

3. The research project design

The qualitative survey expected multiple tools, methods and data collection activities (Fig.1). The case study involved two groups of teachers, who differ in their previous work experience at school (with/without experience). An instructional project design task in a problem-solving manner was given to them. Each group of teachers received the request to imagine and develop an educational experience for high school students, including those with special educational needs, based on the discovering and valorization of a modern art museum resources. The task is formulated into multiple intermediate steps (hypothesis; analysis of the idea and its applicability; design/planning of the educational proposal to solve the task). These steps affect the supporting of the creation, in the group, of shared knowledge objects which teachers elaborate in verbal interactions. As intermediate or final products of group work, these shared knowledge objects will constitute the significant units for data analysis, with the double value of supporting participation and collective negotiation, as well as stimulating their creative potential.

The case study is followed by the teachers' elaboration of a group self-assessment report on the activity carried out, which allows for the collect of information about the aspects that they consider important, and on the ways in which they perceive and attribute value to the shared epistemic agency.

The final moments of the investigation have expected the use of the focus group practice, supported by semi-structured interviews, which introduced the participants to the in-depth analysis of the collaborative actions undertaken, facilitating them in observing the phenomenon in a multi-perspective mode (Speer *et al.*, 1992) in order to rethink the experience carried out in a reflective manner (Schön, 1993).

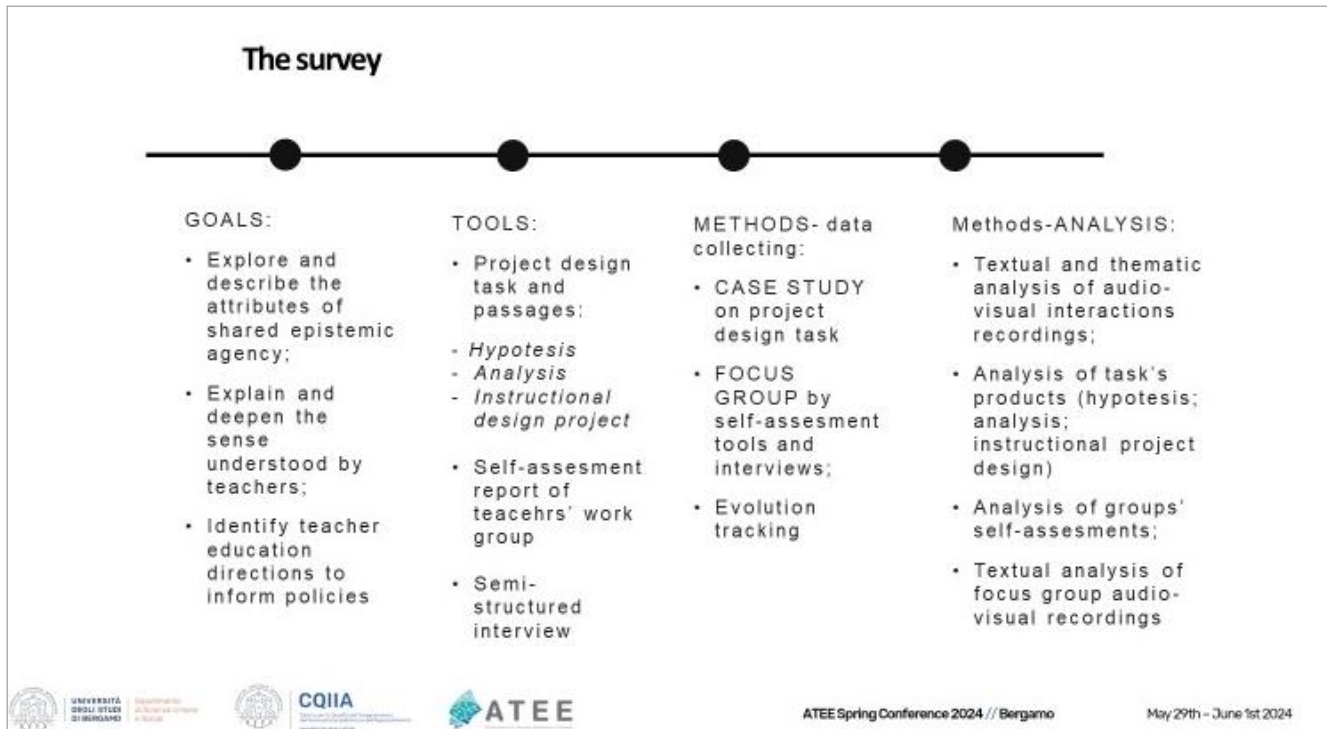


Figure 1: The research project design.

The research methodology expected a preliminary check of the participants' acquisition of instructional project design skills, carried out within the initial education and training courses for special needs teachers-TFA. The limits of the research concern those related to the selection of the sample (volunteer), which reduces the level of representativeness of the qualitative study, both in the context of the teacher education and training, and in reference to the all of teacher population. With the multi-method approach, the descriptive intent of the research prevailed over the exploratory one: the tools selected by the researcher tended to investigate by an in-depth analysis the teacher agency, gradually compressing the focus on the reading and reflexive understanding of the experience. Even the identification of preliminary conceptual categories (Damşa *et al.*, 2010) for the case study has in fact limited the field of analysis in terms of their description: by reducing the possibility of identifying new categories in addition to those represented, the selected significant units respect an idiographic intent rather than a qualitative-informative one.

The conceptual categories assumed as reference for the study are those connected to epistemic agency, constituted by epistemic intentional actions, as the follows:

- actions of information gathering and declarative knowledge: its concerns the exploration and searching for sources and materials as a starting point for the creation of new ideas;
- actions aimed at sharing and negotiating ideas: from the exchange and comparison of opinions a shared conceptual structure is composed which acts as a common basis for undertaking further cognitive efforts;
- actions of active participation in epistemic creation: its consists in the creative production of new ideas.

The regulative agency instead indicates the actions that guide and support the processes of epistemic advancement, such as:

- projective actions, which look at the perspective of future opportunities, and look at the choice of objectives for the project development;
- actions of control and monitoring of the progress of activities, and those used to overcome obstacles;
- actions aimed at the care and maintenance of relationships that support the group in the management and resolution of procedural obstacles.

4. First findings

From the findings of the multi-method survey, we observe that the professional experience of the teachers involved does not influence the characteristics of the collaborative agency expressed in the group work, nor their quality. However, it emerges that some socio-relational aspects, such as familiarity and the degree of confidence between the participants, play an inclusive role in fostering the collaborative interactions of the participants of both groups, simplifying their common work, as indicated by an extract recording of the case study:

«X, mi dispiace, non c'è mai stata occasione, durante il corso, di interagire. E invece con Y e Z siamo molto affiatati. Dai viaggi in treno a, proprio, le relazioni durante il corso, *e questo probabilmente ci faciliterà anche nel fare* [...]. Questo pomeriggio, invece, X, ci conosciamo e spero che, tanto quanto siamo affiatati con Y, lo saremo anche con te, ecco. *Sicuramente il proposito è buono e di più*»

«X, I'm sorry, there was never a chance, during the course, to interact each other. Instead, with Y and Z, we are very close. From the train rides to, indeed, the relationships during the course, *and this will probably also make it easier for us to do* [...]. This afternoon, instead, X, we get to know each other and I hope that, as close as we are with Y, we will also be with you, that's it. *Surely the intention is good, and more*»

The level of familiarity given by the previous connection between the participants, and the disposition based on the willingness to be involved in the task assigned, become elements capable of influencing the productive collaborative interaction for the resolution of the problem solving task, as also demonstrated by the analysis of the knowledge objects produced, which are richer in the ideational proposals and more articulated in the explanation of the project design planning.

Within the epistemic agency, also called *collaborative agency with focus on knowledge* (Fig.2), the first findings refer to the importance of relational practices that support collaborative learning for the creation of knowledge and for its advancement, benefiting then from the comparison and negotiation between diversified reciprocal contributions. It is necessary, however, to point out a certain lack, in the two groups, of collaborative actions systematically pointed towards at the knowledge increase, while there is greater awareness of the importance of acting jointly in order to solve the problem solving task. The hypothesis is that this result may refer to the lack of specific professional collaborative experience, related to the structural lack of initial education and training activities systematically addressed at its development (Fig.2).

The regulative agency or *collaborative agency with focus on the processes* observed in the two groups tends to express a way of progress forward that is based on the composition of a "fusion of perspectives" between participants. Strongly characterized by socio-relational components such as inclusive willingness, propensity to agree, and use of narrative strategies for sharing experiences, the regulative action of the two groups appears to be aimed at creating an "empathic proximity" capable of facilitating procedural steps, supporting productive comparison and simplifying the overall work. The preference given by the groups to take care of the regulation of socio-relational dynamics, however, leaves the final quality of the shared knowledge objects unchanged. These results should be correlated to the concept of team entitativity, which underlines how groups vary in relation to the degree of entitativity gathered, referred to the psychological cohesion that is established in social

groups which, in relation to the tasks assigned, determines substantial differences in collective performance (Meneses *et al.*, 2008, p.498).

CASE STUDY: FINDINGS			
EPISTEMIC AGENCY Focus on knowledge		Qualitative analysis	Critical Issues
	Explore	Clarifying shared informations	<i>Search and gather informations to better face the problem</i>
	Communicative	Sharing ideas and opinions by self-reported past experiences	<i>Negotiate the choice of the idea to define agency direction</i>
	Structure	Membership joint actions to develop tasks' knowledge objects	<i>Tasks' procedural compiling versus interrogative and reflective practice</i>
	Creation	Ideas connection	<i>Ideas coordination</i>
REGULATIVE AGENCY Focused on processes		Qualitative analysis	Critical Issues
	Projective	Interpretation on the procedure to fill up the tasks	<i>Decision making</i>
	Regulative	Organizational on procedure	<i>Checking the process, revision, modification</i>
	Relational	Differ between groups in relation to members' familiarity	<i>Realational agency influences work efficacy</i>

Figure 2: First findings in epistemic agency and regulative agency.

5. Conclusions

The results of the study reveal that social-relational skills are strongly correlated with professional collaborative competence, but they do not prove to be predictive of greater quality in the advancement of knowledge directed to solving problems. This leads to the importance of the appointment, within the initial teacher education and training, to professional induction and CPD, both in forms and ways of collaborative learning and in epistemic skills.

In educational settings' design, epistemic advancement should be linked to the following criteria:

- take control over the collection and clarification of information and ideas to better qualifying epistemic advance;
- take collective responsibility towards the effective creation of knowledge;
- take care of decision-making processes.

Into the regulative agency, it becomes necessary to support the control of procedures through the acquisition of logical structures and positive behaviors for the management of collaborative interaction processes, as well as in the planning setting. It thus becomes necessary to provide joint opportunities assigned to establishing concrete references to guide operational and reflective behaviors, the latter aimed at systematically questioning ideas and hypotheses to qualify the evaluation of their necessity and relevance, supporting decision-making processes.

Teacher education and training should know new solutions centered on collaborative practices, linked to other active and heuristic ones (inquiry education; research skills; collaborative problem solving tasks). Teacher induction could benefit from peer-tutoring methods on epistemic and regulative collaborative processes, while traditional collegial contexts could turn in a collaborative-agentive direction to support CPD.

In the field of teacher education, the results show how teachers need to acquire pedagogical and professional awareness of the value of collaborative practices, which are implicit and/or unrecognized in their potential for strategic and professional growth. The development of shared epistemic agency is related to the choice and progressive creation of personal fulfillment goals (Sen, 2000). Their conversion into practices displays the transformation of teacher agency. That is, the choice of what really matters to the teachers becomes an essential condition for giving meaning to actions aimed at the development of self-fulfillment paths in a human agency sense (*ibidem*, 2000). This allows us to look at teachers as "change agents" in work contexts for their commitment to the creation and transformation of actions in a bottom-up way, which aspire influence contexts and the educational system as a whole. The sense of collaborative and epistemic agency, supporting the rethinking of teacher work and professionalism, thus becomes a key reason for the achievement of a personal and social emancipation in school context in a sustainable and pedagogical direction.

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