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Shared Conceptual Ground in CSCL: Evidence from a Global Survey

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Abstract: The maturity of scientific communities can be measured by their degree of alignment on a common conceptual vision to guide research efforts. Recently, scholars in the CSCL community have called for increased efforts to establish shared theoretical frameworks to accelerate progress in the field of CSCL. We investigate if the CSCL community aligns with key concepts, such as CSCL and collaborative learning. We conducted a survey with a sample of 50 CSCL scholars across 18 countries, prompting them to respond to open-ended questions related to key concepts in the field and future directions for the community. Findings revealed that while broad agreement exists on the importance of collaborative processes, interpretations of these key concepts diverge substantially, highlighting conceptual fragmentation. This study offers insights into the current state of a CSCL paradigm by identifying the extent of conceptual alignment among its members.

Introduction

Scientific progress depends on establishing a stable foundation of shared methods, concepts, and goals within a research community, a state referred to as “normal science” by Kuhn (1962). Without it, Kuhn argues, “all of the facts seem equally important” (p.15) leading to fragmentation and stagnation of scientific communities. Normal sciences are neither uniform nor monolithic, but allow for multiple methodological approaches. A normal science is characterized by addressing shared objectives and challenges in a field that are grounded in shared concepts (Baker, 2019). As such, normal science is a prerequisite to incremental progress along multiple frontiers, rather than a simple driver of convergence. A community with shared concepts and objectives can emancipate itself from purely interdisciplinary and applied knowledge production (Nowotny et al., 2003) toward self-ascribed disciplinary norms and standards that elevate a field to a distinct discipline. We argue that such maturation does not preclude our field from remaining open for democratization and transformation at its fringes to address urgent issues of learning (Funtowicz & Ravetz, 1994).

As a multidisciplinary field, Computer-Supported Collaborative Learning (CSCL) has given rise to several theories, methods, concepts, and goals (Cress et al. 2021). At the same time, researchers in the CSCL community call for increasing efforts to create seminal taxonomies of CSCL theory (Rummel, 2018). This raises the question of whether CSCL is a “normal science” yet - and if not what is needed to reach this state.

For a research field to become a “normal science”, Kuhn (1962) emphasizes the importance of a shared conceptual view among researchers. A shared conceptual stance seems, thus, an appropriate indicator of whether a field is in the state of normal science. For clarity (and to avoid confusion with similar concepts like common ground), we refer to this shared conceptual view as shared conceptual ground in this paper.

Once a community has established shared conceptual ground, it can identify the scope of its domain, previously seen as unattainable in CSCL, by Stahl (2021): “...previous attempts to circumscribe the field of CSCL have faltered” (p. 21). To conduct actions in this direction, we argue that it is crucial to determine where CSCL as a community currently stands, and what consensus exists regarding the core concepts of the field.

The time seems ripe to put CSCL to the test Awareness of potentially missing shared conceptual ground has grown among senior scholars in the field, as evidenced by workshops at recent ISLS conferences on the topic (e.g., ISLS 2024: 'Reimagining and Advancing CSCL Research and Building CSCL Community') and its presence

in recent literature (Baker & Reimann, 2024a; Rummel, 2018; Wise et al., 2017). Simultaneously, interest in CSCL remains strong, with emerging theories and frameworks addressing theoretical, pedagogical, and analytical dimensions (Baker & Reimann, 2024a).

Different approaches to determine to what extent there is shared conceptual ground within a research community exist: one approach involves analyzing communication and usage of concepts in the literature (e.g., Alozie et al., 2023; Simon et al., 2024). Such endeavors have been undertaken in CSCL and will be presented in the next section. However, these contributions focus on propositions of definitions in existing literature rather than their actual usage. Such analyses of definitions, typically through systematic literature reviews, face limitations, especially since CSCL studies often do not mention their conceptual perspectives on fundamental concepts (Strijbos & Fischer, 2007). In contrast, surveys have proven valuable tools for capturing differing perspectives, including for researchers who do not articulate their theoretical assumptions in their publications (Braun et al., 2021). Moreover, anonymity in surveys allows respondents to express their thoughts freely, mitigating potential social desirability bias (Dodou 2014). Researchers may align their personal perspectives with seminal literature. Next to anonymization, our survey avoids adherence to what respondents "think is right" by prompting them to explicitly come up with their definitions (instead of expressing agreement to existing definitions). In sum, survey methods, when properly executed, are adequate for capturing the present view of CSCL researchers at large.

Inspired by prior efforts in the learning sciences to survey its scholars (Yoon & Hmelo-Silver, 2017), we conducted a survey in the CSCL community, asking participants for their current definitions of key concepts (CSCL, Collaborative, and Cooperative Learning) through three open survey questions (SQ1-3). We focused on definitions since definitions are designed to convey the essence of a concept (Landau, 1984). Participants were thus prompted to choose what they think is the defining aspect of CSCL and collaborative learning (CL). If shared conceptual ground existed among participants, this would be clearly reflected in their choice of "essence." Furthermore, convergence in definitions of CSCL scholars would indicate the existence of a CSCL paradigm (Kuhn, 1962). As Kuhn (1962) explains, "normal science" is characterized by shared assumptions and methods, guiding the research community in selecting future research questions and problems. To address this aspect, we included an additional question (SQ4) in our survey about the participant's vision for the future of the field. Through the analysis of this survey, we intend to answer the two following research questions:

- RQ1: To what extent does the CSCL community align on the concepts of CSCL and Collaborative Learning (SQ1-3)?
- RQ2: Is there a shared understanding among CSCL members about the future of the field (SQ4)?

This paper is structured as follows: First, we explore the existing literature on the subject, followed by a presentation of our research design. We then present our findings and conclude with a discussion and further research perspectives. All sections are structured along our research questions.

Related work

CSCL literature features diverse definitions that make it difficult to define the scope of the domain itself. Stahl (2021) and Wise et al. (2017) concluded that giving a broad vision and using examples of what CSCL encompasses might be easier due to the variety of perspectives (Stahl, 2021). Kirschner & Erkens (2013, p. 5) defined CSCL as being "about learners learning together with the support of computers connected to each other via a computer network. Koschmann (2002, p. 18) in turn emphasizes meaning-making and joint activity. These definitions show the variation in scope and focus of both computer support and collaborative learning. It also highlights the fact that CSCL is a composite concept, depending on the definition of its components, themselves varying in scope (Hmelo-Silver and Chinn, 2015): Bruffee (1993, p. 3), for instance, describes collaborative learning as a process in which students become members of knowledge communities, while Behrend (1995) emphasizes the importance of the mutual engagement of participants in problem-solving activities. Dillenbourg (1999, p. 2), in turn, highlights the intention of learning among participants.

The variety of approaches in CSCL has sparked attempts to compare different definitions and unify them through literature reviews. Recently, Alozie et al. (2023) presented an attempt at a joint definition of collaborative learning and Simon et al. (2024) presented a joint definition of collaboration based on a literature review. Such efforts to consolidate CSCL terminology face limitations, as they draw on past literature rather than the actual use of these definitions.

Recognizing the absence of a joint conceptual foundation, the CSCL community has proposed a range of measures to address this issue. Wise et al. (2017) discuss a joint CSCL framework, Rummel (2018) presents a taxonomy to increase standardization in experiments for better comparison of results and Baker & Reimann (2024b) propose the use of Bayesian networks for the formalization of CSCL theories.

In *Future-looking conversations in CSCL*, Ludvigsen et al. (2016) predict the necessity to "survey the field at large as well as specific areas within the field" (p. 256). Since then, workshops and panels have been initiated. Ludvigsen et al. (2016) describe, for instance, a panel of senior CSCL researchers during the 2016 symposium "The Future of CSCL." While panelists have outlined the importance of conceptualizing collaborative learning, a shared vision has not been articulated yet.

In light of the limits of systematic literature reviews and actions undertaken so far, as well as the advantages of surveys to access researcher perspectives without the intermediary of their published work, we conducted a survey to explore the current, shared conceptual ground within the community.

Method

Survey design and procedure

A survey was collaboratively designed in three iterations by the authors of this manuscript, pre-registered at osf.io (https://osf.io/zmfq6), and implemented using LimeSurvey, in compliance with EU data protection standards. The survey was piloted with three research team members.

The survey included two sections. The first section contained demographics-related questions and questions relating to experience in the CSCL field (number of conferences attended, participant's CSCL context, years of experience in CSCL, academic position, native language, country of origin, gender, and age). The second section featured five open-ended and multiple-choice questions related to the definition of CSCL and collaborative learning to address RQ1, one open-ended question exploring participants' vision for the future of CSCL (RQ2) and the option to provide contact data to join a future expert panel on the topic. The complete survey is publicly available. All survey questions were mandatory.

Data collection took place between September 28th, 2024 and October 19th, 2024. Participants were recruited through a call for participation posted on dedicated online platforms, including the CSCL forum group on ISLS.org, the EATEL Discord server, and the ILSSA Discord server. A survey call was also shared via LinkedIn and a CSCL WhatsApp group with 10 members. Direct email invitations were also sent to primary authors in the field (as identified in Chu et al., 2024) and other researchers who were personal contacts of the research team. No incentives were offered for participation. Volunteer participants were informed about the data processing procedures in compliance with the General Data Protection Regulation (GDPR) on the first page of the survey and about compliance with the first author's institution's ethical review board regulations.

Participants

A total of 50 complete responses were recorded and included in the analysis. An additional seven survey entries contained only demographic information and were omitted. On average, participants took 20.4 minutes (SD = 18.3) to complete the survey. The gender distribution of the participants was balanced, consisting of 25 females and 23 males (one non-binary, one not disclosed).

Most responses were collected from participants living in France (n = 9, or 18%), the United States (n = 8, or 16%), and Germany (n = 6, or 12%). Other countries included China (n = 4, or 8%); Turkey (n = 3, or 6%); Japan, Greece, Croatia, and Chile (n = 2 for each, or 4%); and the United Kingdom, Morocco, Luxembourg, Iran, Finland, Ecuador, Canada, Belgium and Algeria (n = 1, or 2% for each). Additionally, two participants preferred not to state their country of residence.

Out of all participants, 18 (36%) reported having 11 or more years of experience as researchers in CSCL. Other participants reported 2 to 5 years of experience in CSCL research (n = 12, or 24%), while 10 participants (20%) indicated experience ranging from 5 to 10 years or less than 2 years. The majority of participants reported involvement in CSCL-related activities, with 29 (58%) having participated in more than four conferences or journal publications, and 19 (38%) reporting one to three such activities. Only two participants (4%) indicated limited involvement, with two or fewer instances of these activities. Assessed by academic position, 38% of participants were PhD students (n = 19), followed by 22% who were senior professors (n = 11). The remaining participants included 14% associate professors (n = 7), 12% assistant professors (n = 6), and 6% postdoctoral researchers (n = 3). The additional 8% (n = 4) identified as professors, bachelor students, lead researchers, or instructors.

Data processing and analysis

For data analysis, thematic analysis (Braun & Clark, 2006) and content analysis methods (Creswell & Creswell, 2022) were used. Thematic analysis provides codes and themes for responses to open-ended questions in the survey, helping to identify common or conflicting themes, categories, and codes in the data. As a component of

content analysis, frequencies of the themes and categories were also reported as an indicator of shared conceptual ground in the definitions.

We employed an open coding process to analyze a total of 194 responses to open-ended survey questions. The questions prompted the respondents to generate definitions of CSCL and collaborative learning, asked about knowledge of conceptual differences between collaborative learning and cooperative learning and how respondents envision the future of CSCL. Three coders conducted the coding independently, reviewing each response for relevant and meaningful information, detecting the relevant segments in the text, and then labeling them with codes in separate Word documents and Excel sheets. Considering the open-ended format of questions, multiple codes were assigned to a single response, leading to the identification of themes. After the initial open coding phase, the three annotators met with a fourth research team member to merge similar labels and resolve any conflicts in how they interpreted the answers in a shared spreadsheet (https://osf.io/jyrvc).

Each researcher then identified the themes individually on one survey question, before a final theme discussion with all coders took place. The team reached consensus on the themes and their structure on each question. Throughout this process, 10 out of the 200 responses were excluded due to their lack of content (e.g., blank responses, replies consisting of a single word). Krippendorff's Alpha was calculated to assess the reliability of the coding, achieving a score of 0.934 (Krippendorff, 2018), which indicates an excellent level of agreement among the coders (Marzi et al., 2024).

Findings

RQ1: shared conceptual ground on CSCL and collaborative learning

SQ1: Definition of computer-supported collaborative learning

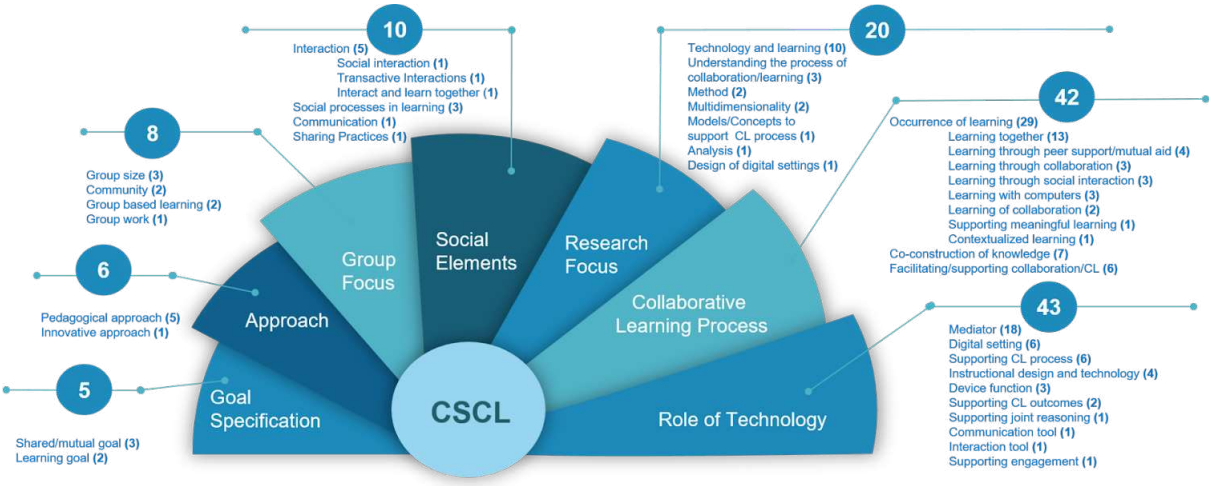
Seven main themes were identified in response to SQ1, *"How do you define Computer-Supported Collaborative Learning (CSCL) in one sentence?*". Ranking the themes by frequency reveals the following order from highest to lowest: **role of technology** (n = 43), *collaborative learning process* (n = 42), *research focus* (n = 20), *social elements* (n = 10), *group focus* (n = 8), approach (n = 6), and *goal specification* (n = 5*)* (See Figure 1).

In defining CSCL, the *role of technology* was a key theme, primarily expressed as a mediator, through categories like technology mediation (n = 18), computer mediation (n = 7*)*, Internet (n = 4), ICT (Information and communication technology) (n = 3), and instructional design (n = 1*)*. Some participants defined technology as a digital setting (n = 6) or as support for the CL process *(*n = 4*)*, while others included instructional design. A few definitions also described technology as a device or highlighted its role in communication and engagement.

Three main categories emerged in the explanations of another key theme, the *collaborative learning process*: variations of learning *(*n = 29), co-construction of knowledge (n = 7), and facilitating/supporting collaboration/CL (n = 6). The majority of participants elaborated on the collaborative learning process in their definitions of learning in some form. Within this theme, variations in definitions included phrases like learning together (n = 13), learning through peer support (n = 4), learning through collaboration (n = 3), and learning through social interaction (n = 3). A few participants also mentioned learning with computers (n = *3*) and learning of collaboration (n = *2*) as a specific learning purpose. Additionally, some participants mentioned learning with computers (n = *3*) in their definitions. Furthermore, learning of collaboration (n = 2) was identified as the specific purpose of learning. Single-person expressions such as supporting meaningful learning and contextualized learning also appeared in the definitions related to the occurrence of learning in CSCL. Concerning *research focus,* a significant portion of the participants' definitions emphasize CSCL as a research field (n = 20). Under this theme, the most frequently mentioned category was that CSCL is a technology and learning-focused field of research. Additionally, CSCL was defined as research-oriented through its emphasis on understanding collaboration, being described as a method, highlighting its multi-dimensional aspects and its connections with models, concepts, analysis and design.

Regarding less frequent themes, *social elements* (n = 10) were occasionally included in definitions. This theme is elaborated upon in terms of interaction (n = 5), social processes in learning (n = 3), communication (n = 1), and sharing practices (n = 1). Another theme with relatively little consensus was the *group focus* (n = 8). Within this theme, a few definitions specifically mentioned group size (e.g., dyadic, two or more, more than two). Additionally, terms such as community, group-based learning, and group work were also used scarcely to emphasize the group aspect in CSCL definitions. Though not frequently, some participants defined CSCL as an approach *(*n = 6). A few respondents specified this as a pedagogical approach or an innovative approach. Lastly, a small number of participants specified a goal in their definitions of CSCL. Under the theme ***of goal specification*** (n = 5*)*, these definitions highlighted shared/mutual goals or learning goals.

Figure 1
Frequency of Identified Themes and Underlying Categories of CSCL Definition



SQ2: Definition of collaborative learning

Seven main themes emerged in response to the survey question "*How do you define Collaborative Learning (CL) in CSCL in one sentence?*". Collaborative learning process (n = 56), Agent(s) (n = 32), Goal specification (n = 23), Social elements (n = 14), Group focus (n = 10), Role of technology (n = 6) and Utilization/Uses (n = 2) (See Figure 2).

In defining CL, *collaborative learning process* was the primary theme. Four main categories emerged in the explanations of collaborative learning processes: Occurrence of learning (n = 27), co-construction of knowledge (n = 16), learning activities (n = 11), and mode of collaborative learning process (n=2). The occurrence of learning had different variations, yet mostly centered around learning together (n = 14), which supports the co-construction of knowledge (n = 16) with the varied learning activities (n = 11), including collaborative activities. **Agent** was another theme that was mentioned with regard to the learning process and group focus. Learners (n = 9), peers (n = 6), students (n = 4), and people (n = 4) were mainly seen as agents in CL. Notably, a group of human/tech agents was also seen as an agent in CL. Almost half of the participants *specified a goal* in their definitions of CL. Under the theme of goal specification, these definitions mostly revolved around a common goal (n = 14), which included shared goal (n = 11), academic goal, predetermined and co-determined goal. It also included codes like common vision, mutual learning goal, individual goal, negotiation, learning goal, etc.

Figure 2
Frequency of Identified Themes and Underlying Categories of the Collaborative Learning Definition

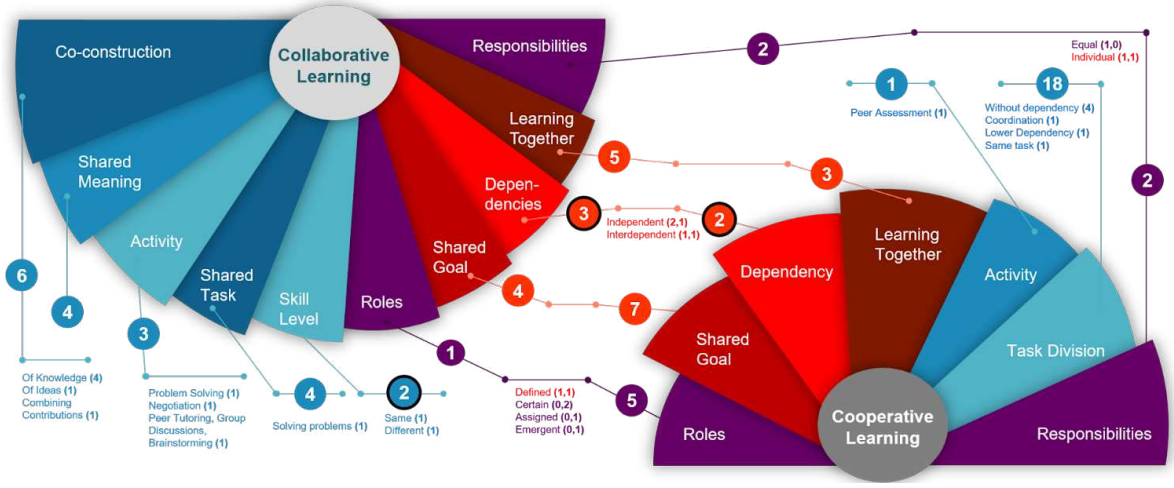
The *role of technology* was mentioned by a few participants and was not seen as central in CL. Technology was attributed to a mediator and observer role as well as the roles of scaffolding, augmenting, and mediating interactions. In defining CL, participants included *social elements* in their definitions, and this was centered around interaction (n = 11), including general interaction terms, social interactions, transactive interactions, discourse, and reasoning together. Imitation, synergy, and interactive process were mentioned as part of the social elements. Participants mentioned *group focus* in their definitions of CL mostly related to the group composition (n = 7) as two or more learners, between three-six learners, and a small group. Lastly, despite being infrequent, the *utilization or the use of CL* was considered a pedagogical approach or strategy.

SQ3: Comparison of collaborative learning and cooperative learning

For the question "*Can you differentiate between the concepts of Collaborative Learning and Cooperative Learning?"* 78% or 39 participants responded "yes", 12% or 6 participants answered "no", and 10% or 5 participants answered with "undecided". Nine themes were identified for collaborative learning and 7 themes for cooperative learning. As illustrated in Figure 3, The three most emphasized themes related to cooperative learning are: *task division* (n = 18), *shared goals* (n = 7), and *roles* (n = 5). Themes associated with collaborative learning exhibit comparatively lower frequencies. The most frequent theme was *learning together* (n = 5), followed by *knowledge co-construction* (n = 4), *shared meaning* (n = 4), *shared goal* (n = 4) and *shared task* (n = 4).

Figure 3

Frequency of Identified Themes for Survey Question 3: Collaborative and Cooperative Learning



In red: Themes present for both collaborative and cooperative learning explanations. Purple: A single overlapping code. Black outline: contradictory codes for one theme. *Note:* Numbers indicate frequency, numbers in parentheses indicate frequency for collaborative, then cooperative learning, if present in both.

The themes, *learning together, shared goal, dependency* and *roles* emerged for both collaborative and cooperative learning (red). There were also conflicts within both cooperative and collaborative definitions (black outline), such as *dependency*, with one participant stating that collaborative learning would be characterized by dependency and another mentioning interdependency. The same was observed for cooperative learning. For cooperative learning, one participant claimed that *roles* would be defined, while another mentioned the emergent nature of *roles* in cooperative learning.

Themes without conflicts defining collaborative learning were *knowledge co-construction, shared meaning* and *shared task* as well as the *activity* for collaborative learning. As for cooperative learning, with one exception mentioning groups working on the same task, *task division*, *roles*, and the *activity* had a proportionally low conflict rate.

RQ2: Shared conceptual ground on the future of CSCL

The analysis of participants' views on the future of CSCL (*SQ 4:* **"**Where do you see CSCL heading toward in the future?") revealed seven key themes, each reflecting different aspects. Six responses were excluded from the analysis as they were either empty or unintelligible, leaving 44 valid responses. The identified themes include collaboration between humans and Artificial Intelligence (AI) systems and their integration, technological

advancements in CSCL, inclusiveness and diversity in education, shifts in pedagogical approaches and models, terminology changes, challenges and barriers in CSCL integration, and roles and responsibilities in CSCL.

The most prominent theme for this survey question was *human-AI collaboration*, with participants emphasizing collaboration and interaction between humans and AI agents (n = 25) within educational settings. Participants frequently referenced AI's potential to transform learning environments by facilitating interactions and collaboration between humans and AI, ultimately enhancing the collaborative experience among learners. Specific mentions included human-AI collaboration/interaction (n = *25*) and AI integration (n = *20*), highlighting AI's evolving roles, such as digital agents (n = 14) and large language models (LLMs) (n = *10*).

Another significant theme involved the deployment of *advanced technologies in CSCL*, with a particular focus on immersive Virtual Reality (VR)/Augmented Reality (AR) learning platforms (n = 9), AI/Metaverse/big data/mobile networks (n = 20), and data analytics for personalized instruction (n = 13).

Participants acknowledged *several challenges and barriers in the CSCL* community, including concerns around establishing common ground (n = 11), enhancing epistemological understanding (n = 10), gatekeeping issues (n = 7), and limitations due to small-scale controlled studies (n = 13).

Inclusivity and diversity were seen as essential for creating equitable learning environments. Participants referenced diversity in education (n = 14) and inclusiveness in a learning environment (n = 13), highlighting the need for the CSCL community to prioritize equity and diversity. *Shifts in Pedagogical Approaches and Models* emerged as a recurring theme, with participants noting shifts toward asynchronous, multicultural, and human-centered learning models. Mentions of popular pedagogical approaches (n = 10) and the transition to asynchronous models (n = 10) demonstrate a transformation in educational models aligned with new modes of collaboration.

Participants emphasized *changes in terminology* indicating an evolving landscape within CSCL for the future. References to broadening scope (n = 6) and shift from CS to technology-supported terminology (9 times) highlight a need for conceptual change aligned with the integration of technology-supported collaborative practices.

The *role of educators* emerged as another theme, with participants highlighting the need for integrating teachers into CSCL design (n = 9) and establishing hybrid baselines for learning outcomes (n = 7).

Figure 4
Frequency of Identified Themes of CSCL's Future

In summary, participants outline a comprehensive landscape that prioritizes human-AI collaboration over other technology, inclusiveness, equity, evolving pedagogical approaches, terminology changes, and the clear roles of instructors, but also highlight challenges in the field.

Discussion and future research

In this study, we investigated the extent to which CSCL scholars currently share a conceptual understanding of the community's key concepts (CSCL, collaborative learning, and cooperative learning). Achieving a shared conceptual ground is essential for building a common body of theory in the field, but also to accelerate collaboration and progress in CSCL research. We conducted a survey asking 50 participants across 18 countries to define these key concepts and performed a thematic analysis of their responses.

Our findings suggest that participants did not share conceptual ground beyond agreeing on the terms "computer," "collaboration," and "learning" as relevant to the field (RQ1): High-level themes such as *collaborative learning processes* and *role of technology* emerged in SQ1 ("*How do you define Computer Supported Collaborative Learning (CSCL) in one sentence?*") and SQ2 ("*How do you define Collaborative Learning (CL) in CSCL in one sentence?*"). Nevertheless, underlying perceptions of what both collaborative learning and CSCL entail differed widely. CSCL as a field seems to stand now for collaborative learning supported

by *technology* (*67%*), which coincides with recent calls in the literature for reconsidering the name of the field (Baker & Reimann, 2024b). When asked to distinguish collaborative learning from cooperative learning in SQ3, survey participants identified "co-construction" and "shared meaning" as well as a "shared task" as characteristics of collaborative learning, whereas "task division" was associated with cooperative learning (46% of respondents answered "yes" to "*Can you differentiate between the concepts of Collaborative Learning and Cooperative Learning?*" This perception differs from the literature, which distinguishes the two concepts based on teacher roles, cooperative learning roles, and the extended social skill required for collaborative learning (e.g., Gamson, 1994; Yang, 2023). Furthermore, there was no consensus among participants on whether *learning together* and the *shared goal* are distinctive features of either collaborative or cooperative learning (SQ3). Such differences highlight the challenge of clearly defining either one of these concepts, further underscoring the lack of a clear, shared conceptual understanding. Learning together was also a frequent code among SQ1 and SQ2, raising the question: "*what do you mean by "learning together?"*. This question has been a focus of the community's efforts since Dillenbourg (1999) included the concept in his definition of collaborative learning in *What do you mean by collaborative learning?* Even though these themes were frequent, the sub-themes and specific codes vary to an extent that devoids the themes of conceptual sharpness.

Our conclusion that CSCL, at least presently, is not a normal science is further supported by the results of SQ4 showing participants' focus on technological novelties such as *Human-AI Collaborations*, before other technological advancements like VR or AR, instead of a clear vision how the community should shape its future (e.g., a leading role to provide recommendations for designers or developers of groupware and collaborative activities, integration of AI or how to address the decreasing contributions to its main conference). In turn, the emergence of the theme *Challenges in CSCL* indicates the absence of and desire for such a guiding paradigm. This points towards a certain degree of awareness among respondents for the issue.

Even though some shared conceptual ground on the importance of AI in collaboration exists, which aligns with Edwards et al. (2024), similar to RQ1, shared conceptual ground is limited. The issue of shared conceptual ground, as discussed in recent literature (e.g., Baker & Reimann, 2024b), has not yet received broad community awareness. The consequences for researchers and practitioners alike consist of the challenge of navigating a fragmented conceptual landscape without a clear entry point or guidance in both research and practice of collaborative learning with technology.

The study's limitations lie in the sample's representativeness of the CSCL community, both in terms of participants' research background and cultural diversity, due to the use of convenience sampling. Specifically, the most frequent nationality was French, which has comparatively little representation in international CSCL literature (e.g., Chu et al., 2024).

Our work constitutes an initial *awareness tool* for the community on its path towards conceptual alignment on key concepts that define CSCL research, including what concepts there is divergence on. To raise further awareness of the issue, we plan to conduct workshops and collaborations among all CSCL members similar to the collaboration that has sparked this paper. Similarly, we recommend concerted efforts to build shared conceptual ground through proactive communication within the community and community spaces dedicated to the issue of building shared conceptual ground. We anticipate that this form of cross-cutting collaboration can help progress the field of CSCL through shared research objectives and challenges, alongside methods and paradigms to address these challenges. Similar developments can be observed in adjacent fields, such as learning analytics (Baker, 2019). Progress on these challenges, measured through future surveys or bibliometric analyses could then be a measure of the maturity of our field.

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