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Value creation: What matters most in Communities of Learning Practice in higher education

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ABSTRACT

This study examines the phenomenon of value creation enabled by peers' voluntary participation in Communities of Learning Practice (CoLPs) in higher education, with the aim to extract which experiences of learning community participation are considered valuable by learning community members. The participants were 27 international master students at a German university. Data were collected from participants' written narratives-so called value creation stories. A systematic qualitative research approach was employed. Initially, we conducted a theory-driven content analysis to classify members' attributed values. Subsequently, we performed an emergent data-driven thematic analysis to extrapolate the specifics of attributed values by participants. This study underscores the role of learning community members' agency in value creation, by having community members, instead of external members, define value creation for themselves, as an individual and collective process and "outcome" enabled by participation in CoLPs.

1. Introduction

Learning community researchers in higher education have examined the impact of learning communities on several outcome measures, such as (a) students' success (Weiss, Visher, Weissman, & Wathington, 2015), (b) students' persistence (Engstrom & Tinto, 2008), (c) students' motivation (Stefanou & Salisbury-Glennon, 2002), (d) students' engagement (Rocconi, 2011; Zhao & Kuh, 2004), and (e) students' academic and social attitudes (Bonilla, Buch, & Johnson, 2013). These measures reflect external expectations, standards, and criteria of outcomes defined by teachers, researchers and/or stakeholders, deprioritizing or even overlooking self-defined (i.e., by members) outcomes of learning community participation—potentially due to the assumption that self-defined outcomes apply most to informal learning situations (see Hanley, Baker, & Pavlidis, 2018; Peeters et al., 2014).

A framework that seems to have the potential to capture self-defined outcomes of participation in learning communities is the *value creation framework* (Wenger, Trayner, & de Laat, 2011). Predominantly in relation to Communities of Practice (as well as networks), Wenger et al. (2011) conceptualize value creation as "(…) the value of learning enabled by community involvement and networking" (p. 7) with communities or networks serving as social settings for social learning activities (e.g., sharing ideas, co-constructing knowledge, exchanging experiences). The "value to whom" question prioritizes community members, individually or collectively, as value recipients over the organization(s) and/or other external entities. The value that community participation creates for members themselves is the driving force for community existence and sustainability. Whether the community additionally creates value for third parties can be considered when relevant (Wenger et al., 2011).

To date, empirical investigations of the value creation framework can be indicatively traced in studies of professional learning communities of educators in professional development research (e.g., Booth & Kellogg, 2015; De Laat & Schreurs, 2013), higher education professional learning networks in educational evaluation research (McCormack, Ambler, Martin, Waite, & Wilson, 2016), a community museum volunteer project with high school students in leisure research (Hanley et al., 2018), and a hybrid online graduate education program in distance education research (Cowan & Menchaca, 2014). Although the value creation framework is highly relevant to professional contexts, it is not restricted to these contexts, yielding the potential application to learning communities of students, with values being process and outcome "measures" of what matters to community members themselves. The learning communities of interest that frame this study are the so-called Communities of Learning Practice (CoLPs). CoLPs

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represent a recombinant learning community notion that is based upon constituent elements of both the self-emergent Communities of Practice (CoPs) (see Lave & Wenger, 1991; Wenger, 1998) and the instructionally designed Communities of Learners (CoLs) (see Brown & Campione, 1990). CoLPs are extra-curricular social learning systems that emerge within institutionalized educational systems (e.g., higher education) and operate in parallel with—but not integrated into—the curriculum employed in the surrounding educational system. Student-peers voluntarily gather to form a social learning system, with the support of a participatory (non-peer) facilitator, due to their expected value in collectively addressing common, individual or mixed needs, concerns or problems either associated with curricular and/or extra-curricular aspects. Therefore, CoLPs are neither implemented as an instructional approach (e.g., CoLs) by stakeholders, educators, or researchers to foster exo-institutional, institutional, curricular, and/or instructionally pre-defined objectives nor purely independent, self-emergent and self-organized learning communities (e.g., CoPs). Describing the learning communities in this study as pure CoPs or pure CoLs would have distorted and misrepresented both the original CoP and CoL notions as well as the learning communities we investigated (see Dingyloudi & Strijbos, in press). By shifting the focus from traditional measures (e.g., students' success, persistence, motivation) to value creation in CoLPs, the role of learners in defining their own learning enabled by participation in learning communities is emphasized. Moreover, this shift implies a transition from a teaching paradigm to a learning paradigm (Barr & Tagg, 1995), from a teaching curriculum to a learning curriculum (Lave & Wenger, 1991), and from external agency to self-agency in defining values of learning as experience(s) and/or outcomes.

To our knowledge, no study has thus far explored the phenomenon of value creation enabled by participation in learning communities of students in higher education. The aim is to examine expected and experienced values of participation in learning communities in higher education with a systematic qualitative research approach. To address this gap two research questions are explored. It should be highlighted that RQ2 emerged from the results of RQ1.

RQ1: What are the values attributed by members to their community participation?

RQ2: What are the values attributed by members to the community as a social learning context?

Prior to addressing these questions, the following sections set the theoretical scenery. First, we outline how the value concept is approached in this study and, subsequently, we provide an analysis of the value creation framework.

1.1. The concept of value

Informed by philosophical and axiological principles, the concept of value in this study refers to the process of a subject attributing value to an action, interaction, activity, process, object, person, or any experience based on self-defined criteria and standards. In particular, by values we refer to any experiences that are perceived by participants to be of relevance to personal-, social-, skill-, study-, and context-related benefits that are associated and/or enabled by participation in a learning community. Within this framework, values are treated in relational, attributive, and agent-based terms, that is, values are not treated "objectively" or based on a set of "objective" standards of what is valuable or not by external agents. Any attribution of value is relevant and/or meaningful to the participant-agent himself/herself. Tools, practices, social behavior, perceptions, processes, interactions are not perceived as "good" in themselves, but only in the cases in which the participant-agent attributes value or positive meaning to them based on relative criteria that are set by the participant-agent either consciously or unconsciously. No alignment with any external set of criteria or expectations is implied, which constitutes values significantly different from any outcome measures that are defined by external criteria and standards. Within this value framework, no absolute values are taken into consideration (i.e., values independent of the individual).

1.2. Value creation in learning contexts: A value creation framework

Wenger et al. (2011) outlined a spectrum of value creation that consists of five cycles of values: (a) *Immediate Value*: activities and interactions, (b) *Potential Value*: knowledge capital, (c) *Applied Value*: changes in practice, (d) *Realized Value*: performance improvement, and (e) *Reframing Value*: redefining success.

Immediate Value refers to the activities and interactions that can create value in and of themselves (e.g., helping a member with a problem, providing advice). Some typical measurement indicators for this cycle together with some examples of potential data sources include: the level of participation (e.g., meeting attendance), level of activity (e.g., frequency of queries), level of engagement (e.g., intensity of discussions), quality of interactions (e.g., bringing practice-based experiences into the learning space), value of participation (e.g., people coming back to the community), networking (e.g., new connections), value of connections (e.g., frequency of interactions), and collaboration (e.g., joint projects).

Potential Value refers to the knowledge capital (human, social, tangible, reputational, or learning capital) that activities and interactions can create for the community members (e.g., a useful skill, a social connection, access to resources, status, transfer of experience to other contexts) and may or may not be put into use. Some typical measurement indicators for this cycle together with some examples of potential data sources include: skills acquired (e.g., self-reports), information received (e.g., self-reports), change in perspective (e.g., self-reports), inspiration (e.g., self-reports), confidence (e.g., self-reports), types and intensity of social relationships (e.g., social network analysis), and quality of output (e.g., evaluation of products).

Applied Value refers to the adaptation and application of knowledge capital in other contexts. Some typical measurement indicators for this cycle together with some examples of potential data sources include: implementation of advice/insight (e.g., self-reports), innovation in practice (e.g., new approaches), use of tools and documents to inform practice (e.g., self-reports), reuse of products (e.g., self-report of reuse), use of social connections (e.g., collaborative arrangements), innovation in systems (e.g., new processes), and transfer in learning practices (e.g., using communities, networks, or other peer-to-peer processes and tools for learning in other contexts).

Realized Value refers to the reflection on the effects of the application of the knowledge capital on one's performance. Typical measurement indicators for this cycle together with some examples of potential data sources include: personal performance (e.g., speed and accuracy), organizational performance (e.g., project assessments), organizational reputation (e.g., ability to attract domain-related projects), and knowledge product as performance (e.g., interest in knowledge itself).

Reframing Value refers to the reconsideration of the learning objectives and success criteria which in turn can lead to community restructuring or even transformation. Typical measurement indicators together with some examples of potential data sources include: community aspirations (e.g., new learning agenda), assessment (e.g., new assessment processes), relationships with stakeholders (e.g., new expectations), institutional changes (e.g., new strategic directions reflecting new understandings), and new frameworks (e.g., new social systems).

These value cycles imply complex and dynamic interrelations and by no means a hierarchical or linear sequential pattern. Within a community setting, members might be involved in the sharing of expertise, learning from each other's experiences, and helping each other with challenges. These activities might be related to the values members attribute to a community or derive from it (Wenger et al., 2011).

The value of learning in a community derives from members' ability to develop a shared intention to enhance learning in a common domain. The shared domain of interest, shared practice (developed through a joint history of learning) and the shared repertoire (consisting of shared perspectives, strategies, and stories), all constitute learning resources for community members (Wenger et al., 2011).

Notwithstanding the conceptual advancement by Wenger et al.'s (2011) value creation framework as "a means to appreciate value created in communities and networks" (De Laat, Schreurs, & Nijland, 2015, p. 254), empirical examination of the phenomenon of value creation in learning communities did not concurrently emerge. This study aims to empirically support the potential of value creation for learning community members themselves. To address the research questions that aim to unravel the phenomenon of value creation in learning communities, the following methodological approach was employed.

2. Method

2.1. Research context

This study employed a systematic qualitative research approach to examine value creation in extra-curricular learning communities in higher education; so called Communities of Learning Practice (CoLPs). By referring to CoLPs as extra-curricular, there is no intention to eliminate any relationship with the surrounding curricular and institutional settings. On the contrary, these surrounding settings are vital to the existence and sustainability of CoLPs. Potential CoLP members are invited to gather to form a CoLP (if relevant to them) in the first place due to these surrounding settings, which constitute common frames of reference for all members (e.g., shared difficulties in the study program, need to better know their classmates)—regardless of what the community personally serves them for.

The central sharing mechanism within CoLPs is peer feedback, implemented as an authentic learning practice to share knowledge, experiences, or advice. Peer feedback in CoLPs includes, but moves beyond, task-specific feedback, to further include global feedback on learning practices, learning styles or even attitudes to learning—deriving from and associated with the surrounding socio-educational context(s) and interpersonal interactions therein (Dingyloudi & Strijbos, 2018). Overall, CoLP success is not based on objectification of knowledge and/or its outcomes, but on participants' experiences of success as self-defined and self-perceived. The goal of CoLPs as social learning contexts is to make participation matter to their members.

Three CoLPs operated in three consecutive academic years in parallel with a two-year master's program in Psychology at a German university. For consistency purposes in this study, only the first community cycle (i.e., first series of meetings) of CoLP1 and CoLP3 are examined. CoLP2 has been excluded due to its structural difference; i.e., whereas CoLP1 and CoLP3 had a participatory (non-peer) facilitator, CoLP2 was facilitated mainly by senior peers, likely affecting community dynamics and value creation for community members.

Each CoLP involved several face-to-face meetings with community members and a participatory facilitator lasting approximately 2.5 h each (1st cycle of CoLP1: 6 meetings; 1st cycle of CoLP3: 7 meetings). Hereafter, these meetings will be referred to as Community Events (CEs). All CEs took place in a classroom on the university campus. The classroom layout was adapted in various formats to foster community members' mutual visibility, possibility for interaction, and comfort. To create an informal and pleasant atmosphere in the CEs, snacks and refreshments were available to the community members. Students could withdraw their participation at any time. No ECTS credits were awarded to students for CoLP participation.

CoLP members indicated their preferred thematic foci of the CEs after negotiation with the participatory facilitator. Both CoLPs shared similar thematic foci in their CEs, which were relevant to the study program and the surrounding socio-educational context(s) (see Table 1). In addition to the foci selected by the community members, two CE-foci were proposed by the participatory facilitator in negotiation with the community members (i.e., introductory and closing event).

Table 1
Thematic overview of community events per CoLP.

CoLP	CEs	Thematic focus
CoLP1	CE1.1	Introductory session: Peer feedback training
	CE1.2	The power of language
	CE1.3	Design of power point presentations
	CE1.4	Poster design and presentation: Part 1
	CE1.5	Poster design and presentation: Part 2
	CE1.6	Closing feedback session
CoLP3	CE3.1	Introductory session: Peer feedback training
	CE3.2	The power of language
	CE3.3	Literature review
	CE3.4	Aspects of an article to consider in your presentations: What and how?
	CE3.5	Preparing your cover letters
	CE3.6	Actual performance only
	CE3.7	Closing feedback session

Note. CoLP = Community of Learning Practice. CE1 = community event of CoLP1. CE3 = community event of CoLP3.

2.2. Participants

Participants were 27 international students (26 female, 1 male) of a two-year master's program in Psychology at a German university. Out of the entire cohort of students, only those students who voluntarily participated in the CoLP for at least two CEs were considered community members. This resulted in 13 CoLP1 members and 22 CoLP3 members. However, 4 out of 13 CoLP1 members and 4 out of 22 CoLP3 members were excluded due to missing data. Consequently, only 9 CoLP1 members and 18 CoLP3 members were included in the analyses. All students participating in CoLP1 and CoLP3 were informed about the research project and actively signed an informed consent provided by the research team prior to their community participation. Table 2 provides an overview of the participants.

Participants shared a similar study background (i.e., social sciences, humanities), but were heterogeneous in terms of nationality, given the international nature of their study program. The overall frequency of members' participation in the CEs of CoLP1 and CoLP3 was on average 4 CEs with a minimum of 2 CEs and a maximum of 6 CEs. A nonlinear participation pattern was observed, particularly in CoLP3, which cannot be empirically justified, yet associated with students' irregular attendance due to external obligations.

2.3. Data collection: value creation stories

We invited the participants to write their own so-called Value Creation Stories (VCSs) after their participation in the community events (i.e., at the end of the community cycle) (see Wenger et al., 2011), as we consider participants' stories to be appropriate devices for capturing the rich, in-depth, non-observable participants' experiences of value creation in a CoLP.

Stories can be treated as narratives when written or told with a particular purpose in mind (e.g., an account of personal experience), when drawing a link between the past and the present to reveal any developments or changes over time, or when including feelings and experiences emerging from social activities and interactions (Descombe, 2010; Riessman, 2005). Stories can be analyzed in terms of how individuals construct their personal or surrounding world, and educational researchers have used stories as data sources for capturing lived experiences in higher education (e.g., Jehangir, 2010; McCormack

Table 2
Overview of participants per CoLP.

CoLP	*N*	M_{age}	Age_{range}	*SD*	Gender	Nationality	Total CoLP members	Total cohort students
CoLP1	9	26.33	24-31	2.65	F: 9 M: 0	German (4) International (5)	13	26
CoLP3	18	24.89	22-30	2.37	F: 17 M: 1	German (6) International (12)	22	29

et al., 2016).

In line with Descombe (2010) and Riessman (2005), Wenger, McDermott, and Snyder (2002) state that the realization of values cannot derive from mere identifiable static measurements, but from stories that depict the complex relations between activities, resources and outcomes, while revealing the contextual aspects that frame those relations. The stories themselves—apart from providing evidence of community members' co-construction, exchange and application of gained knowledge—foster a sharing culture through the visibility of one's practice within their context. According to Wenger et al. (2002), three main components should be incorporated in one's story to foster systematicity in describing how community resources actually emerged and were applied into practice, creating value: (1) the initial activity, (2) the knowledge resource generated by this activity, and (3) the way the resource was applied to create value.

We adopted Wenger et al.'s (2011) scaffolding template as a systematic approach to collect VCSs. The format of the VCSs intends to reveal aspects of each value creation cycle (i.e., Immediate, Potential, Applied, Realized, Reframing) (Wenger et al., 2011). In addition to Wenger et al.'s (2011) five value creation cycles, we added the pre-formation cycle of "Expected Value". The rationale for this extension is based on the view that needs can act as prerequisites for the development of values (Pauls, 1990). Besides this rationale, the integration of "Expected Value" is also in alignment with the first stage of community development (see Wenger et al., 2002), during which a network of people identifies common interests and needs towards possible community formation. Fig. 1 illustrates the six value creation cycles as adopted in this study.

The template by Wenger et al. (2011) was adapted to the setting of a CoLP (see Fig. 2 and Fig. 3). It includes several reflective prompts to scaffold participants in reporting Expected, Immediate, Potential, Applied, Realized, and Reframing values. The template consists of two scaffolds that support participants in (a) depicting their overall experience of participation and the overall value (see Fig. 2), and (b) depicting how a specific story led to value creation (see Fig. 3).

The first scaffold (see Fig. 2) aims to capture the overall experience of participation and suggests various ways of expressing it. It includes several stages of the experienced participation (rows) and several aspects of the participant's experienced values (columns). A variety of value cycles can be extracted from the overall personal value creation story, including *Expected Values*. The second scaffold guides the telling of specific stories of how participation created value (see Fig. 3).

Some storytelling aspects are included as reflective prompts in the first column of the second scaffold (e.g., describe a meaningful activity you participated in and your experience of it). The five rows in the second scaffold aim to capture a specific value cycle each (i.e., *Immediate Values, Potential Values, Applied Values*, *Realized Values,* and *Reframing Values* respectively). Although both scaffolds implied a different level of specificity, both aimed at supporting each participant in producing a VCS of their CoLP experiences. Both scaffolds were distributed to all CoLP members after their participation in the first CoLP cycle.

Table 3 and Table 4 provide some examples of the original participants' entries in the overall VCS template to contribute to a better understanding of how the participants narrated their VCSs. To afford as many different voices as possible, Table 3 includes remarks by all CoLP1 participants and Table 4 includes remarks by most CoLP3 participants.

2.4. Data analysis

A content analysis of VCSs was conducted to code members' attributed values using a pre-defined typology of values—extending prior theoretical developments of value creation. This content analysis was deductive/top-down and theory-driven. However, considering the potential limitations of data filtering (see Dingyloudi & Strijbos, 2015) when only applying a pre-defined coding scheme to analyze VCSs and the likelihood of missing context (Vaismoradi, Turunen, & Bondas,

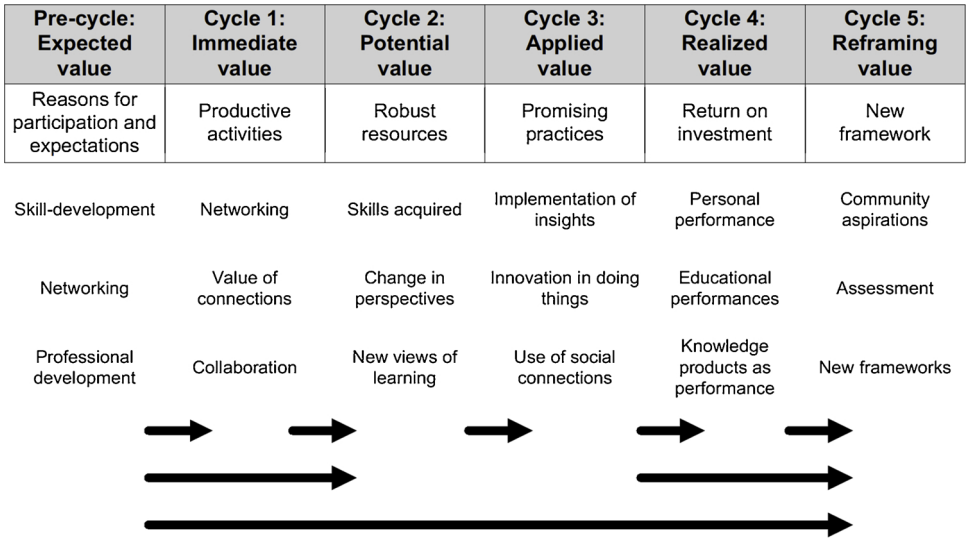

Fig. 1. Six cycles of value creation in the current study.
Note. Adapted from Wenger et al. (2011, p. 34). The pre-formation cycle of *Expected values* has been added.

Personal value narrative	How participation is changing **me**	How participation is affecting **my social connections**	How participation is helping **my practice**	How participation is changing **my ability to influence** my studies
Reasons for participation				
Activities, outputs, events, networking				
Value to me				

Fig. 2. Scaffold for overall value creation story.
Note. Adapted from Wenger et al. (2011, p. 45).

2013), a supplementary thematic analysis was conducted on a sub-set of the coded data. In sum, the thematic analysis was chosen (a) to allow for the emergence of themes of meaningful and/or valuable experiences reported in the VCSs that were not captured by the pre-defined coding scheme, and (b) to foster a closer to the participant-narrator approach to data analysis.

2.4.1. Content analysis

We proceeded with content analysis (see Krippendorff, 2013) using a theory-driven, yet contextually situated, coding scheme; so called Situated Multilevel Typology of Values (SMTV) (see supplementary material for the full coding scheme). The premises of a *situated perspective on values* are (a) Frondizi's (1971) value contextualism theory (i.e., existence and meaning of values is situationally defined and situationally dependent), and (b) Lave and Wenger's (1991) situated approach to learning (i.e., learning is a socially situated practice).

Besides the incorporation of the *Expected Value* cycle in the SMTV, Wenger et al.'s (2011) framework is further extended with the inclusion of five types of values within each cycle: (a) *Personal Values*, (b) *Social Values*, (c) *Skill-related Values*, (d) *Study-related Values*, and (e) *Context-related Values* (see Fig. 4). Personal Values refer to any values that draw a direct link to one's development as a person, self, or identity. Social values refer to any values associated with one's network, social

Typical cycles	**Your story:**
1. **Activity:** Describe a meaningful activity you participated in and your experience of it.	
2. **Output:** Describe a specific resource this activity produced for you and why you thought it might be useful.	
3. **Application:** Say how you used this resource in your practice and what it enabled that would not have happened otherwise.	
4. **Outcome:** a. **Personal:** Explain how it affected your success. b. **Educational:** Has your participation contributed to the success of your seminars?	
5. **New definition of success:** Sometimes, such a story changes your understanding of what success is. If this is the case include it here.	

Fig. 3. Scaffold for specific value creation story.
Note. Adapted from Wenger et al. (2011, p. 46).

Table 3
CoLP1: Examples of participants' voices as individual entries in the scaffolded overall value creation template.

Personal value narrative	How participation is changing **me as a presenter**	How participation is affecting **my social connections**	How participation is helping **my presentation practice**	How participation is changing **my ability to influence** my studies
Reasons for participation	**C1.7:** *"Reasons for participation were to improve my skills, to learn methods to improve my presentations, and to practice it in a 'safe environment' to become more secure, and this was the case."*	**C1.2:** *"I think I had good connection with other community members. I joined the community to get enriched with the experience of others. In the community I got to know my fellow students better and from a different side, got emotionally involved."*	**C1.4:** *"In my perspective presenting and standing in front of a group is a special skill that students should have, as we as students don't really get enough feedback in class about our presentation skills I thought I might get feedback in the community events that helps me to improve."*	**C1.9** *"My expectation about the community was to try to contribute and to see how much my ideas, knowledge, experiences could be useful for the group and for me to see and to evaluate myself."*
Activities, outputs, events, networking	**C1.3:** *"It was great to have an opportunity to present and to receive feedback. It was very positive and valuable. I like also having the opportunity to discuss my presentations and to see the presentation of others. The activity with giving feedback on papers must have been great, but I missed it."*	**C1.5:** *"It affected my social connections positively since I have become aware of the influence of my actions and I could consider the feedback from others and implement it for their and my own benefit."*	**C1.2:** *"I've become more organised in my presentations thanks to the tips and suggestions by the facilitator and by the peers."*	**C1.8:** *"I prepared and presented my first research poster, which was a hard work but, in the end, satisfying process and I learned almost every skill I needed during the community events."*
Value to me	**C1.1:** *"I was able to know which kind of parameters to take into account when making a presentation, regarding all the aspects."*	**C1.8:** *"My social connections were affected by the discussions and the feedback session in a positive, more open context."*	**C1.6:** *"I tried to relax more and not to push myself too hard by the end of the semester."*	**C1.9:** *"I could learn that I have a voice in this group and I could transfer these also to my class with more self-confidence. The different ideas and voices gave me the opportunity to learn more how to respect the different voices and ideas in the group. I feel that I can structure more my argumentation and to "fight" for my point of view."*

Note. C1.1–C1.9: members of CoLP1. Minor spelling mistakes, typos or any details of possible identification of participants in the original data have been corrected/removed. Some participants' voices are repeated in different boxes due to the limited number of participants ($N = 9$).

Table 4
CoLP3: Examples of participants' voices as individual entries in the scaffolded overall value creation template.

Personal value narrative	How participation is changing **me as a presenter**	How participation is affecting **my social connections**	How participation is helping **my presentation practice**	How participation is changing **my ability to influence** my studies
Reasons for participation	**C3.6:** *"Feeling more and more comfortable when doing presentations."*	**C3.3:** *"Getting to know the others better, have experiences together in group."*	**C3.9:** *"Get information about how specific aspects of presentations are viewed from others."*	**C3.8:** *"I thought the community events to be a wonderful offer for the students. Therefore, I wanted to contribute if possible so the community events can improve the studies for the students."*
Activities, outputs, events, networking	**C3.1:** *"Each activity and discussion helped me become a bit more confident."*	**C3.14:** *"Now I definitely know better as to whom I can approach for what. My initial perceptions about certain people have altered in a positive manner."*	**C3.13:** *"I saw a lot of presentations and found out what is good / not so good and implemented those ideas in my own presentation, that really helped a lot."*	**C3.7:** *"During the community events I managed to gain information about presentation skills (e.g., Structure and quality) that helped me to be more productive at class."*
Value to me	**C3.5:** *"Improving my presentation abilities and handling hard situations."*	**C3.15:** *"I valued these experiences quite highly as I got a better understanding of many of my fellow students' thoughts."*	**C3.12:** *"More critical thinker, better presenter, better in "selling myself"."*	**C3.10:** *"It definitely helped me to improve my presentations I made for the lectures."*

Note. C3.1–C3.15: members of CoLP3. Minor spelling mistakes, typos or any details of possible identification of participants in the original data have been corrected/removed.

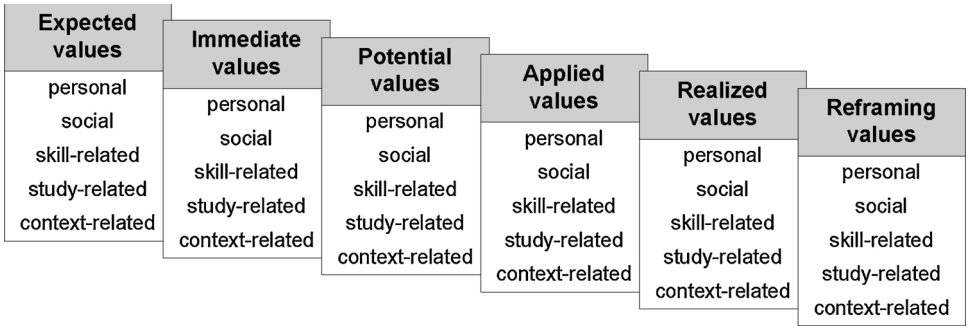

Fig. 4. Situated Multilevel Typology of Values (SMTV).

relationships, and membership development. Skill-related Values refer to any values associated with one's development of academic (and other) skills. Study-related Values refer to any values associated with one's understanding of—or contribution to—his/her studies (in parallel to the study program alongside which the CoLP operated). Context-related Values refer to the usefulness and/or importance of the CoLP atmosphere and setting, the facilitation, and any activities, tasks and/or tools therein.

These five types of value have been included in the SMTV due to their relevance to the CoLPs being examined (Dingyloudi & Strijbos, 2015), which in turn adds to the situated nature of this typology. Although the SMTV has been developed to study value creation from a situated perspective in the specific context of CoLPs, it also contributes to the theoretical and analytical development of Wenger et al.'s (2011) value creation framework for communities and networks in general—as they often serve members' needs to develop a certain skill in relation to a practice, organization, or study program. However, even if the SMTV can be re-applied in structure, the situatedness of participants' expression of their experienced value necessitates that the typology is re-calibrated (in terms of codes and examples) to the observed setting.

We developed a coding scheme with 30 codes representing five typological combinations for each value cycle (i.e., Expected, Immediate, Potential, Applied, Realized, Reframing) (see supplementary material for the full coding scheme). Content analysis of the VCSs took place in two stages. The first stage was the segmentation of the VCSs into meaningful statements and the second stage the coding of each segment based on the SMTV. Segmentation and coding were performed separately to increase precision (Strijbos, Martens, Prins, & Jochems, 2006). Both the segmentation and coding were performed by the first author (first coder) and a student-assistant who was a non-member of the target community (second coder). Prior to coding, inter-rater agreement on the identifiable segments was determined. Segmentation principles were set in advance to specify the criteria of segmentation.

The segmentation procedure was in line with Strijbos et al. (2006). The unit of analysis was a unit of meaning/thematic meaning. The extracted meaning did not have to be linked or reflected in any of the SMTV codes for it to be a segment. Any statement conveying a comprehensible meaning of whatever kind was considered a segment. Comprehensible segments that were not related to SMTV codes or any sort of values in general were considered non-codable segments. Table 5 provides an overview of the inter-rater reliability of the segmentation (proportion agreement; see Strijbos et al., 2006) and coding (Cohen's kappa) for CoLP1 and CoLP3.

Table 5
Overview of the inter-rater reliability of segmentation and coding.

Content analysis	CoLP1	CoLP3
Segmentation		
Trial 1 % agreement	47.6% (unsatisfactory)	70.3% (satisfactory)
Trial 2 % agreement	60% (unsatisfactory)	–
Trial 3 % agreement	69% (satisfactory)	–
Total number of segments	455	602
Coding		
Segments coded	47	61
Inter-rater reliability (Cohen's Kappa)	.78	.72

2.4.2. Thematic analysis

The results of the content analysis prompted an emergent thematic analysis of a subset of coded statements to capture in more detail contextual elements of value (see Braun & Clarke, 2006). A theme represents an implicit topic that organizes a group of reoccurring ideas or patterned responses within a data set (Braun & Clarke, 2006; Vaismoradi, Jones, Turunen, & Snelgrove, 2016). Although, the "significance" of a theme does not necessarily rely on quantifiable measures as long as it captures something important in relation to the research question, we support researchers' arguments for accompanying thematic analysis with frequencies of thematic occurrences on a rhetoric or analytical level (Braun & Clarke, 2006; Guest, MacQueen, & Namey, 2012).

The thematic analysis we applied constitutes an inductive/bottom up and data-driven approach, with qualitative orientation (Patton, 1990). Nevertheless, a systematic approach to thematic analysis was adopted to support the reliability of the analytical process and subsequent results. The first coder (i.e., first author), who had also been involved in the content analysis, conducted the thematic analysis of Immediate Context-related value-statements and extracted data-driven themes. In line with Guest et al. (2012), frequencies of thematic occurrences on an analytical level were computed. A second coder (i.e., different to the one involved in the content analysis, but also a non-member of the target community) independently assigned themes to the same subset of statements. Two trials were conducted and inter-rater reliability (Cohen's kappa) was determined. Table 6 provides an overview of the thematic analysis procedure.

The themes that were extracted by the first coder and used in the inter-rater reliability Trial 1 are provided in Table 7—along with minor modifications resulting from coders' negotiations. The modified themes were used in Trial 2, as well as for the analysis of the remaining segments.

Table 6
Overview of thematic analysis procedure.

Thematic analysis Inter-rater reliability (Cohen's Kappa)	CoLP1	CoLP3
Nr. of themes	7	7
Nr. of segments	94	107
Trial 1	.65 (unsatisfactory)	.74 (moderate)
Nr. of revised themes/same segments	8	8
Trial 2	.90 (high)	.87 (high)

Table 7
Identified themes and modifications across trials.

Trial 1 Theme	Description	Trial 2 Theme	Description	Modification from trial 1 to trial 2
Input by facilitator	Value assigned to input by facilitator.	**Input by facilitator**	Value assigned to input by facilitator.	NA
Peer feedback	Value assigned to any peer-feedback interaction and/or exchange within the CoLP.	**Peer feedback**	Value assigned to any peer-feedback interaction and/or exchange within the CoLP.	NA
Practice	Value assigned to opportunities for practice and/or self- or others' exposure enabled within the CoLP.	**Practice**	Value assigned to opportunities for practice and/or self- or others' exposure enabled within the CoLP.	NA
Setting	Value to the atmosphere within/of the CoLP.	**Atmosphere**	Value assigned to the atmosphere created or offered within/by the CoLP.	The theme *setting* was split to *atmosphere* and *structural elements* due to coder's 2 confusion. The theme *structural elements* was observed only in CoLP3.
		Structural elements	Value assigned to any contextual elements that come together with the context per se on which the participants and their in-between interactions have no immediate effect.	
Sharing of ideas	Value assigned to sharing ideas, discussions, opinions among peers within the CoLP.	**Sharing of ideas**	Value assigned to sharing ideas, discussions, opinions among peers within the CoLP.	NA
Social bonding	Value assigned to the social bonding offered by/within the CoLP.	**Peer familiarization**	Value assigned to the familiarization with the peers offered by/enabled within the CoLP.	The theme *social bonding* was modified to *peer familiarization* due to second coder's argument that it had strong social connotations.
Unspecified contextual value	Value assigned to the context of the CEs, the CoLP and/or participation therein without any specification.	**Unspecified contextual value**	Value assigned to the context of the CEs, the CoLP and/or participation therein without any specification.	NA

Note. NA = non-applicable.

Table 8
Glossary of abbreviated terms.

Abbreviated term	Term in full
CoLP1	Community of Learning Practice (cohort 1)
CoLP3	Community of Learning Practice (cohort 3)
C1.1-C1.13	Members of CoLP1
C3.1-C3.18	Members of CoLP3
VCSs	Value Creation Stories
SMTV	Situated Multilevel Typology of Values
EV	Expected Value
IV	Immediate Value
PV	Potential Value
AV	Applied Value
RV	Realized Value
RfV	Reframing Value
PE	Personal Value
SO	Social Value
SK	Skill-related Value
ST	Study-related Value
CO	Context-related Value

3. Results

First, we will describe the results of the content analysis of the VCSs of both CoLPs to address RQ1, followed by the results of the thematic analysis to address RQ2. The results for each RQ are presented on two levels: (a) the CoLP level and (b) the participant level. The CoLP level aims to capture each CoLP's microcosm as a whole. The participant level aims to unravel each participant's value creation pattern and any patterns across participants that can further inform the process of value creation in/across CoLPs. To facilitate readers' understandability of the reported results a brief glossary of abbreviated terms is presented in Table 8.

3.1. RQ1: what are the values attributed by members to their community participation?

The VCSs (CoLP1: n = 9, CoLP3: n = 18) were segmented (CoLP1 segments: 455, min = 16, max = 96, mean = 50.56, SD = 25.33; CoLP3 segments: 602, min = 14, max = 73, mean = 33.34, SD = 19.17) and showed a relatively wide variation in the number of segments per participant in both CoLPs, with CoLP1 having a higher SD. This variation is relevant for interpreting the results on the CoLP level, since the dominance of some CoLP members in the number of statements may potentially affect the occurrence and the dominance of values on the CoLP level. The segments were coded using the SMTV which revealed the following pattern of value creation on the CoLP level in terms of value cycles (see Table 9) and value types (see Table 10).

In terms of value cycles, there was a high dominance of Realized Values (CoLP1: .28, CoLP3: .30) and Immediate Values (CoLP1: .23, CoLP3: .19). In CoLP1, Applied Values, Expected Values, and Potential Values were also frequently reported, whereas Reframing Values sporadically occurred. In CoLP3, Expected Values and Potential Values were also highly frequent, whereas Applied Values and Reframing Values sporadically occurred. The proportion of non-codable segments was relatively low in both CoLPs.

In terms of value types, there is a high dominance of Skill-related Values (CoLP1: .43, CoLP3: .40) and Context-related Values (CoLP1: .29, CoLP3: .25). With respect to the remaining value types, Social Values had a slightly higher proportion than Personal Values and Study-related Values.

Apart from the six value cycles and five value types within each CoLP, the combinations of cycles and types (i.e., the 30 SMTV codes) are of particular importance and illustrated for CoLP1 in Fig. 5 and CoLP3 in Fig. 6.

Fig. 5 shows that 23 of 30 possible SMTV codes occurred in CoLP1. The Immediate Context-related Values (IV-CO) were most frequent (94

Table 9
Proportion and frequencies of segments per value cycle per CoLP.

CoLP	EV		IV		PV		AV		RV		RfV		NC		Sum	
	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*
CoLP1	.13	60	**.23**	**103**	.13	61	.14	63	**.28**	**127**	.03	13	.06	28	.100	455
CoLP3	.17	102	**.19**	**117**	.18	106	.05	28	**.30**	**183**	.05	30	.06	36	.100	602

Note. EV = Expected Values. IV = Immediate Values. PV = Potential Values. AV = Applied Values. RV = Realized Values. RfV = Reframing Values. NC = non-codable segments. The proportions are based on the sum of identified segments per CoLP (CoLP1: 455; CoLP3: 602).

segments), followed by Realized Skill-related Values (RV-SK) with 60 segments and Applied Skill-related Values (AV-SK) with 57 segments. These rank-order positions of the cycle-type combinations seem to be highly affected by participant dominance, with C1.8 and C1.12 being highly dominant in IV-CO and AV-SK, and C1.9 in RV-SK. The least frequent codes were Applied Study-related Values (AV-ST) with 1 segment, Reframing Context-related Values (RfV-CO) and Applied Social Values (AV-SO) with 2 segments each and Applied Personal Values (AV-PE) with 3 segments.

Fig. 6 shows that 24 of 30 possible SMTV codes occurred in CoLP3. The Immediate Context-related Values (IV-CO) were most frequent (107 segments), followed by Realized Skill-related Values (RV-SK) with 89 segments and Potential Skill-related Values (PV-SK) with 77 segments. The rank-order positions of IV-CO and RV-SK seem to be highly affected by participant dominance, too, with C3.6 and C3.17 being highly dominant in IV-CO and C3.14 in RV-SK. Participant dominance in PV-SK seems to be more distributed among CoLP members. The least frequent codes were Reframing Study-related Values (RfV-ST) with 2 segments, Potential Study-related Values (PV-ST) and Applied Study-related Values (AV-ST) with 3 segments each.

Across CoLP1 and CoLP3, 20 out of 30 possible codes were observed in common, with Reframing Context-related (RfV-CO), Applied Social Values (AV-SO) and Applied Personal Values (AV-PE) appearing only in CoLP1, and with Reframing Study-related Values (RfV-ST), Reframing Social Values (RfV-SO), Reframing Personal Values (RfV-PE) and Immediate Personal Values (IV-PE) appearing only in CoLP3. Table 11 provides a comparison of both CoLPs in terms of rank-order positions of cycle-type combinations to illustrate their similarities and differences. In both CoLPs the IV-CO, RV-SK and EV-SK were among the four most frequent codes and also had the same rank-order positions. The remaining codes had different rank-order positions in CoLP1 and CoLP3.

Analysis on the participant level in CoLP1 revealed that each participant expressed a diverse value constellation (see Appendix A.1). Nevertheless, Context-related Values (CO) (6 out of 9 participants) and Skill-related Values (SK) (5 out of 9 participants) were the most dominant values. The CO values were mostly reported in the Immediate (IV) value cycle (5 out of 6 CO in the IV-cycle), whereas the SK values were distributed in the EV, AV, and RV cycles. It should be noted that—irrespective of value cycles—C1.7 and C1.13 reported the highest proportions for CO and SK values.

Analysis on the participant level in CoLP3 revealed that each participant expressed a diverse constellation of values, too (see Appendix A.2). Nevertheless, Skill-related Values (SK) (11 out of 18 participants) and Context-related Values (CO) (8 out of 18 participants) were the most dominant values. The SK value types were mainly observed in the Potential (PV) and Realized (RV) value cycles, whereas the CO value type was mostly observed in the IV value cycle. It should be highlighted that—irrespective of value cycle—C3.8, C3.15 and C3.16 reported the highest proportions for SK and CO value types. Expected Social Values were dominant only within participant C3.11 and Realized Study-related Values only within participant C3.13.

Although each participant in each CoLP reported a unique value constellation representing their value creation process, Context-related Values and Skill-related Values were dominant across CoLPs. Especially the dominance of Context-related Values across CoLPs prompted a closer analysis of CoLPs as social learning contexts, leading to the emergence of RQ2.

3.2. RQ2: what are the values attributed by members to the community as a social learning context?

Considering the dominance of Immediate Context-related Values (IV-CO) in 5 out of 9 CoLP1 members and 8 out of 18 CoLP3 members, a qualitative thematic analysis was conducted on the sub-set of data coded as IV-CO to identify specific themes related to values attributed by participants to the CoLP as a context.

The thematic analysis of IV-CO coded segments resulted into eight themes of which seven were common across CoLPs and one was only observed in CoLP3. The seven common themes were: (1) *input by facilitator*, (2) *peer feedback*, (3) *practice*, (4) *atmosphere*, (5) *sharing of ideas*, (6) *peer familiarization*, and (7) *unspecified contextual value*. The theme of (8) *structural elements* was only found in CoLP3. The most marked finding was that a similar pattern of thematic dominance can be observed in both CoLPs, i.e. *peer feedback*, *practice* and *sharing of ideas* were most frequently reported. However, participant dominance may have influenced these frequencies, too, for example, C1.8 in CoLP1 for the theme *practice*. Table 12 shows the reported themes per participant.

4. Discussion

We set out to systematically investigate value creation in Communities of Learning Practice (CoLPs) in higher education with (an extension of) Wenger et al.'s (2011) theoretically grounded value creation framework. Most studies of learning communities in higher education focus on a pre-defined set of outcomes and benefits, whereas this study specifically addressed the added value *for* community members as defined *by* community members.

Value creation in CoLPs was examined through participants' Value

Table 10
Proportion and frequencies of segments per value type per CoLP.

CoLP	PE		SO		SK		ST		CO		NC		Sum	
	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*
CoLP1	.06	26	.09	43	**.43**	**198**	.07	30	**.29**	**130**	.06	28	.100	455
CoLP3	.09	52	.15	90	**.40**	**238**	.06	35	**.25**	**151**	.06	36	.100	602

Note. PE = Personal Values. SO = Social Values. SK = Skill-related Values. ST = Study-related Values. CO = Context-related Values. NC = non-codable segments. The proportions are based on the sum of the identified segments per CoLP.

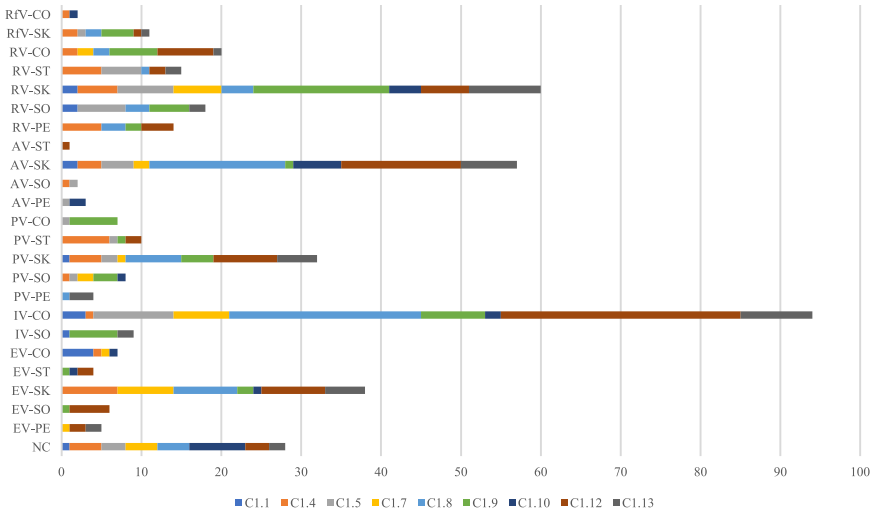

Fig. 5. Pattern of SMTV-codes and occurrence per participant in CoLP1.
Note. EV = Expected value. IV = Immediate value. PV = Potential value. AV = Applied value. RV = Realized value. RfV = Reframing value. SK = Skill-related. PE = Personal. SO = Social. ST = Study-related. CO = Context-related. NC = non-codable. C1 = member of CoLP1.

Creation Stories (VCSs), which were analyzed with (a) a content analysis on the complete data set with a Situated Multilevel Typology of Values (SMTV) and (b) a follow-up thematic analysis on a relevant subset of the coded data, to address RQ1 and RQ2, respectively. It should be highlighted that RQ2 emerged out of the findings of RQ1. The interpretation will be first presented per RQ and consequently brought together at a meta-inference level.

4.1. RQ1: what are the values attributed by members to their community participation?

CoLPs created value for their members in distinct ways, implying that participation in CoLPs enabled different values for different members. This finding supports the relational nature of values attributed to objects, activities, interactions, and experiences by subjects/individuals/agents as defined by their own set of criteria and standards (Frondizi, 1971). Nevertheless, common value creation patterns were also observed among participants and across CoLPs.

As evident, value creation is not a linear process (Wenger et al., 2011), which is highly supported in the present study. Although all value cycles were observed, Realized Values (RV) and Immediate Values (IV) were most dominant and Reframing Values (RfV) were rarely reported. On the one hand, the dominance of Realized Values (RV) and Immediate Values (IV) in both CoLPs highlights the importance of value cycles that are within activities, interactions, exchanges and resources themselves (see Wenger et al., 2011) and the identified members' development and/or improvement deriving from these valued participation experiences. On the other hand, the minimal representation of the Reframing Values (RfV) implies that there were only a few narrating statements that dealt with redefining success, reframing and/or reflecting on individual or collective strategies, goals, or values. Given the high level of reflection on potentially abstract notions and phenomena (e.g., success, values) and complexity in expression that the articulation of Reframing Values would necessitate, it is reasonable that their frequency is limited.

Akin to the value cycles, all value types were observed but they differed in dominance. The dominance of Skill-related Values (SK) and Context-related Values (CO) supports the theoretical notion of CoLP in that both CoLPs served as social learning contexts that supported contextualized (i.e., curricular) and intercontextualized (i.e., curricular and beyond) development of academic and social skills. The dominance of SK values as intercontextualized benefits implies that these have their own place in CoLPs, constituting CoLPs as potential value generators for contexts that move beyond the CoLP boundaries (i.e., subgroup of cohort students within a study program) and in which such SK values may be further applied and realized.

In terms of cycle-type value combinations (e.g., Immediate Value Context-related (IV-CO)), the dominance of Immediate Value Context-Related (IV-CO) and Realized Value Skill-related (RV-SK) seems to reflect an expected finding, with CoLP members predominantly experiencing and reflecting on the immediate value of the context as well as experiencing and reflecting on the realization of skill-related values *in*

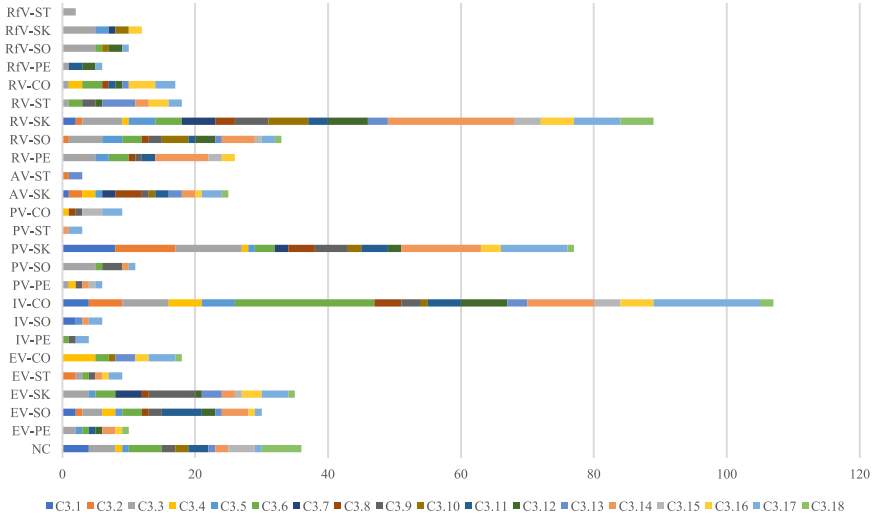

Fig. 6. Patterns of SMTV-codes and occurrence per participant in CoLP3.
Note. EV = Expected value. IV = Immediate value. PV = Potential value. AV = Applied value. RV = Realized value. RfV = Reframing value. SK = Skill-related. PE = Personal. SO = Social. ST = Study-related. CO = Context-related. NC = non-codable. C3 = member of CoLP3.

Table 11
Comparison of CoLP1 and CoLP3 in terms of rank-order positions of cycle-type combinations.

Rank-order position	Code	CoLP1 segments	Code	CoLP3 segments
1	IV-CO	94	IV-CO	107
2	RV-SK	60	RV-SK	89
3	AV-SK	57	PV-SK	77
4	EV-SK	38	EV-SK	35
5	PV-SK	32	RV-SO	33
6	RV-CO	20	EV-SO	30
7	RV-SO	18	RV-PE	26
8	RV-ST	15	AV-SK	25
9	RV-PE	14	EV-CO	18
10	RfV-SK	11	RV-ST	18
11	PV-ST	10	RV-CO	17
12	IV-SO	9	RfV-SK	12
13	PV-SO	8	PV-SO	11
14	EV-CO	7	EV-PE	10
15	PV-CO	7	*RfV-SO*	10
16	EV-SO	6	EV-ST	9
17	EV-PE	5	PV-CO	9
18	EV-ST	4	IV-SO	6
19	PV-PE	4	PV-PE	6
20	*AV-PE*	3	*RfV-PE*	6
21	*AV-SO*	2	*IV-PE*	4
22	*RfV-CO*	2	AV-ST	3
23	AV-ST	1	PV-ST	3
24			*RfV-ST*	2

Note. Codes in italics were only observed in one of the CoLPs. EV = Expected Value. IV = Immediate Value. PV = Potential Value. AV = Applied Value. RV = Realized Value. RfV = Reframing Value. PE = Personal. SO = Social. SK = Skill-related. ST = Study-related. CO = Context-related.

situ and/or in the surrounding settings. From a story-telling/narrative point of view, this may also indicate that some cycles and/or types of values are potentially more easily expressed in a story/narrative format than others.

On the participant level, we observe that there is remarkable variability in the "amount" of the reported values by individual CoLP members. Although the "quantification" of the reported values is not a priority in this study, it provides an indication that individual CoLP members experience and report their value creation in a considerable varied way, not only in terms of value cycles and types, but also in terms of frequencies. Some CoLP members extensively reflected on their value creation experiences, whereas some others only touched upon these experiences with limited statements. This variation may also be indicative of the level of reflection in which individual CoLP members engaged as well as their linguistic comfort to express in a narrative format any reflective stories associated with their value creation experiences.

The results of RQ1 illustrate that CoLPs can move beyond traditional outcome measures and instead (also) include personalized within-CoLP and intercontextualized valuable experiences and/or benefits that are considered as such not merely by external agents but by community members themselves. The dominance of Context-related Values emphasized that context is an important factor in the value creation process, which now leads us to discussing our findings in relation to the CoLPs as social learning contexts.

4.2. RQ2: what are the values attributed by members to the community as a social learning context?

The CoLPs successfully realized their functional and structural elements, by supporting the aspects of practice, peer feedback, and sharing of ideas enabled through participation in the CoLPs. In our study, both participation and practice and what the one enables for the other seem to be key to CoLPs. *Participation*, as described by Lave (2008) within the framework of situated learning and CoPs, has a twofold interpretation as (a) a "person participating" and (b) a "practice participated in" (p. 286). Participation is enabled by and enables the development of relationships and shared identities which in turn enable the attribution of meaning to any activities pursued by the community members (Lave, 2008). *Practice* is also key to CoLPs, in a twofold manner: (a) learning how to practice and (b) practicing how to learn. The dominance of values attributed to practice as a contextual element, underlines that CoLPs enabled opportunities for practice. The finding that community members perceived peer feedback as another valuable contextual element, supports the role of peer feedback as the main sharing mechanism within CoLPs (see Dingyloudi & Strijbos, 2018). Sharing of ideas within a safe atmosphere was highly valued as a contextual element, relating to the enablement of feelings of membership due to emotional safety (see McMillan & Chavis, 1986). The relatively limited value attributed to the input by the participatory (non-peer) facilitator signifies that this contextual aspect was not central in the value creation process and that other peer-related aspects (e.g., peer feedback, practice, and sharing of ideas) were prioritized. This observation indicates the secondary and peripheral role of the participatory (non-peer) facilitator in the value creation and signals that most valuable experiences for learning were generated by and for members themselves.

The thematic analysis of the VCSs was crucial, not only in revealing any common patterns of context-related values, but also in revealing the plurality of contextual aspects of value to CoLP members. This remarkable plurality further highlights that value creation is a process enabled on the collective level but experienced and realized with remarkable variation on the individual level. Therefore, giving space and listening to the individuals' voices is central if we are to argue that the "context", as individually defined and experienced, matters to them within a unique storyline that sometimes coincides with other members' storylines and sometimes not.

As a whole, CoLPs seem to serve as social learning contexts that offer opportunities for practice, peer feedback, and sharing of ideas within a safe atmosphere and consequently generate relevant values for their participants. These results underline how powerful CoLPs can be in creating values that move beyond curricular or externally defined outcomes.

4.3. Meta-inferences

Combined the results of RQ1 and RQ2 further our knowledge about value creation enabled in and by CoLPs and possibly in and by similar social learning contexts. Concerning outcomes of participation, the results draw the focus away from externally-defined outcome measures (e.g., performance, success, achievement, motivation) typical in more formal learning communities, towards value creation as a process and outcome measure. However, this is not to argue that value creation should not be considered in formal learning communities; even formal learning communities highlight the role of learners in defining their own learning, which implies the value of their own learning for themselves.

Combined the content analysis and thematic analysis provide a more inclusive and complete picture of value creation in CoLPs in contrast to what either analysis could have achieved separately. Although the thematic analysis sequentially followed the content analysis, conceptually it precedes it in the following way. The results of the thematic analysis support that CoLPs were perceived by the members as social learning contexts that immediately created value by enabling participation in meaningful interactions, exchanges, and practices (i.e., IV-CO) generated by and for the members. The most dominant themes attributed to the immediate value of context were related to social processes, such as practice (with and in front of others), peer feedback, and sharing of ideas, whereas no remarkable frequencies were observed related to the input by the participatory facilitator. This further underpins that the CoLPs supported the learning principles underlying socio-cultural and situated learning perspectives.

Table 12
Thematic analysis of IV – CO coded segments in CoLP1 and CoLP3.

Theme	Description	Segments CoLP1	Segments CoLP3	Examples	CoLP1	CoLP3
Input by facilitator	Value assigned to input by facilitator.	8	3	Information Guidelines How-to suggestions	C1.8 (2x) C1.9 (2x) **C1.12 (4x)**	C3.5 (1x) C3.9 (1x) C3.13 (1x)
Peer feedback	Value assigned to any peer-feedback interaction and/or exchange within the CoLP.	22	30	PF provision PF reception Feedback session (last CE)	C1.1 (1x) **C1.5 (7x)** **C1.8 (8x)** C1.9 (2x) C1.10 (1x) C1.12 (1x) C1.13 (2x)	C3.1 (3x) C3.2 (1x) **C3.6 (6x)** C3.8 (1x) C3.9 (2x) C3.10 (1x) C3.11 (2x) **C3.12 (5x)** C3.13 (1x) C3.14 (2x) C3.16 (1x) **C3.17 (5x)**
Practice	Value assigned to opportunities for practice and/or self- or others' exposure enabled within the CoLP.	18	34	Opportunity for exposure Creating a poster Presenting	C1.4 (1x) C1.5 (2x) C1.7 (3x) **C1.8 (7x)** C1.9 (1x) C1.10 (1x) C1.12 (3x)	C3.1 (1x) **C3.2 (4x)** **C3.3 (4x)** C3.4 (2x) **C3.5 (4x)** **C3.6 (4x)** C3.11 (1x) **C3.14 (6x)** C3.16 (3x) C3.17 (3x) C3.18 (2x)
Atmosphere	Value assigned to the atmosphere created or offered within/by the CoLP.	15	3	Trustful Safe Receptive	C1.1 (1x) **C1.8 (5x)** **C1.12 (7x)** C1.13 (2x)	C3.3 (1x) C3.11 (1x) C3.17 (1x)
Sharing of ideas	Value assigned to sharing ideas, discussions, opinions among peers within the CoLP.	15	26	Discussions Negotiations Different perspectives	C1.5 (1x) C1.8 (2x) C1.9 (2x) **C1.12 (6x)** **C1.13 (4x)**	C3.4 (3x) **C3.6 (5x)** C3.8 (3x) C3.12 (2x) C3.13 (1x) C3.14 (2x) C3.15 (3x) **C3.17 (7x)**
Peer familiarization	Value assigned to the familiarization with the peers offered by/ enabled within the CoLP.	9	2	Know each other better Come closer Spend time together	**C1.7 (4x)** **C1.12 (4x)** C1.13 (1x)	C3.6 (2x)
Unspecified contextual value	Value assigned to the context of the CEs, the CoLP and/or participation therein without any specification.	7	4	Process Participation	C1.1 (1x) C1.9 (1x) **C1.12 (5x)**	**C3.6 (3x)** **C3.15 (1x)**
Structural elements	Value assigned to any contextual elements that come together with the context per se on which the participants and their in-between interactions have no immediate effect.	NA	5	Observational learning Problem-based learning	NA	C3.3 (2x) C3.6 (1x) C3.11 (1x) C3.16 (1x)

Note. Participants in bold show indicative participant dominance in reported frequencies of themes; NA = non-applicable for CoLP1.

In sum, the CoLPs' social learning context specifically enabled Realized Values that were Skill-related (i.e., RV-SK). Moreover, Applied Values (CoLP1) and Potential Values (CoLP3) that were also Skill-related became realized (CoLP1) and/or Applied (CoLP3) out of participation in "valuable-within" practices in that specific learning context. This meta-inference underlines the role of the "situated" context as a social structure for value creation that has the potential to cross boundaries moving from "situated value within a social context" to "situated value across surrounding social learning contexts".

5. Methodological limitations

First of all, our sample consisted mainly of female international psychology students and, consequently, it is not and it cannot be representative of a gender-balanced homogeneous group. Therefore, any findings and conclusions reported in our study should be treated with caution as they can neither be interpreted beyond the study itself nor generalized to other populations. Since the group composition in social learning situations matters, the composition of the CoLPs in this study could have affected the process and experiences of value creation, the frequencies of the reported cycles and types of values, and the way these have been expressed. Second, dominance was observed for some participants' in the number of segments and reported values in both CoLPs. This dominance may have hindered the representativeness of the results on the CoLP level. Nevertheless, even with the use of other instruments, such as interviews or video observation, participants still report their experiences to a different extent. Third, post-participation self-reported measurements are susceptible for participants' selective

memory. However, the post-participation self-reported narrative was considered to be a rich research tool as it allows participants to re-view their lived experiences and connect them to any realized or reframing values. Future research could add an in-participation value creation measurement to improve reliable identification of the Immediate, Potential, and Applied value cycles (e.g., Meijs, Prinsen, & de Laat, 2016). Additionally, the integration of video recordings of CEs could further inform the value of the CoLPs as a social learning context.

6. Theoretical, methodological, and practical implications

A major theoretical implication of this study is its contribution to the value creation framework *per se* in two distinct ways. First, it supports the potential of the value creation framework to serve as lenses for empirically examining value creation in learning communities. Second, the development of the Situated Multilevel Typology of Values (SMTV) extended the original framework with the addition of the Expected Value cycle and the five value types. The SMTV offers more concrete lenses for examining value creation in learning communities and highlights the role of the context in value creation. Future research into value creation and the SMTV is needed to further elucidate value creation patterns across learning communities and inform the applicability of the value creation framework across settings.

The employed research approach to the analysis of value creation stories enabled us to capture value creation on the community and participant level more holistically than a mono-methodological approach. The systematic approach to thematic analysis, by following principles that underlie content analysis (e.g., inter-rater reliability), is untypical for qualitative studies that employ thematic analysis, but can contribute to systematic procedures of thematic analysis and enhance rigor and reliability in light of the often-criticized lack of rigor in thematic analysis (see Guest et al., 2012; Vaismoradi et al., 2016). Considering the implied complexity and multi-dimensionality of the value creation process, additional qualitative approaches such as in-depth interviews and participant observation are needed to capture the depth of the value creation process for each individual participant.

For educators/stakeholders/policy makers, it might be informative and enriching to examine the benefits or "values" that participants attribute to their experiences of participation in learning communities and use them as empowering mechanisms for learning within and across learning settings. For community "designers"/researchers/facilitators, the exploration and understanding of what matters most to community members, can foster and inform the support of activities and practices that are deemed valuable by community members. Learning communities can serve as social structures within which learning values are enabled and have the potential to expand across the broader situated socio-educational learning settings, making them powerful social learning "tools" (Wenger-Trayner & Wenger-Trayner, 2014).

Declarations of interest

None.

Appendix A1 Results of content analysis of VCSs in CoLP1: Values per participant

P	S	%	EV		IV		PV		AV		RV		RfV		NC
C1.1	16	.03	**CO**	**.25**	SO	.06	SK	.06	SK	.13	SO	.13			.06
					CO	.19					SK	.13			
C1.4	48	.11	**SK**	**.15**	CO	.02	SO	.02	SO	.02	PE	.10	SK	.04	.08
							SK	.08			SK	.10			
			CO	.02			ST	.13	SK	.06	ST	.10	CO	.02	
											CO	.04			
C1.5	43	.09			**CO**	**.23**	SO	.02	PE	.02	SO	.14	SK	.02	.07
							SK	.05							
							ST	.02	SO	.02	SK	.16			
							CO	.02	SK	.09	ST	.12			
C1.7	33	.07	PE	.03	**CO**	**.21**	SO	.06	SK	.06	SK	.18			.12
			SK	**.21**			SK	.03			CO	.06			
			CO	.03											
C1.8	76	**.17**	SK	.11	**CO**	**.32**	PE	.01	SK	.22	PE	.04	SK	.03	.05
							SK	.09			SO	.04			
											SK	.05			
											ST	.01			
											CO	.03			
C1.9	67	**.15**	SO	.01	SO	.09	SO	.04	SK	.01	PE	.03	SK	.06	.00
							SK	.06			SO	.07			
			SK	.03	CO	.12	ST	.01			**SK**	**.25**			
			ST	.01			CO	.09			CO	.09			
C1.10	26	.06	SK	.04	CO	.08	SO	.04	PE	.08	SK	.15	CO	.04	.27
			ST	.04					**SK**	**.23**					
			CO	.04											
C1.12	96	**.21**	PE	.02	**CO**	**.31**	SK	.08	SK	.16	PE	.04	SK	.01	.03
			SO	.05			ST	.02	ST	.01	SK	.06			
			SK	.08							ST	.02			
			ST	.02							CO	.07			
C1.13	50	.11	PE	.04	SO	.04	PE	.06	SK	.14	SO	.04	SK	.02	.04
			SK	.10	**CO**	**.18**	SK	.10			**SK**	**.18**			
											ST	.04			
											CO	.02			

Note. P = participant (C1 stands for participant in CoLP1). Ss = segments per participant. % = proportions of segments per participant. EV = Expected Value. IV = Immediate Value. PV = Potential Value. AV = Applied Value. RV = Realized Value. RfV = Reframing Value. NC = non-codable, PE = Personal. SO = Social. SK = Skill-related. ST = Study-related. CO = Context-related. Proportions in bold aim to emphasise the dominance of code per participant.

Appendix A2 Results of content analysis of VCSs in CoLP3: Values per participant

P	S	%	EV		IV		PV		AV		RV		RfV		NC
C3.1	23	.04	SO	.09	SO	.09	**SK**	**.35**	SK	.04	SK	.09			.17
					CO	.17									
C3.2	22	.04	SO	.05	CO	.23	**SK**	**.41**	SK	.09	SO	.05			.00
			ST	.09					ST	.05	SK	.05			
C3.3	68	**.11**	PE	.03	CO	.10	PE	.01			PE	.07	PE	.01	.06
			SO	.04			SO	.07			SO	.07	SO	.07	
			SK	.06			**SK**	**.15**			SK	.09	SK	.07	
			ST	.01							ST	.01	ST	.03	
											CO	.01			
C3.4	21	.03	SO	.10	**CO**	**.24**	PE	.05	SK	.10	SK	.05			.05
			CO	**.24**			SK	.05			CO	.10			
							CO	.05							
C3.5	22	.04	PE	.05	**CO**	**.23**	SK	.05	SK	.05	PE	.09	SK	.09	.05
			SO	.05							SO	.14			
			SK	.05							SK	.18			
C3.6	57	.09	PE	.02	PE	.02	SO	.02			PE	.05	SO	.02	.09
			SO	.05	**CO**	**.37**	SK	.05			SO	.05			
			SK	.05							SK	.07			
			ST	.02							ST	.04			
			CO	.04							CO	.05			
C3.7	14	.02	SK	.29	SK	.14	SK	.14	SK	.14	**SK**	**.36**	SK	.07	.00
C3.8	21	.03	SO	.05	**CO**	**.19**	**SK**	**.19**	**SK**	**.19**	PE	.05			.00
			SK	.05			CO	.05			SO	.05			
											SK	.14			
											CO	.05			
C3.9	37	.06	SO	.05	PE	.03	PE	.03	SK	.03	PE	.03			.05
			SK	**.19**	CO	.08	SO	.08			SO	.05			
			ST	.03			SK	.14			SK	.14			
							CO	.03			ST	.05			
C3.10	20	.03	CO	.05	CO	.05	SK	.10	SK	.05	SO	.20	SO	.05	.10
											SK	**.30**	SK	.10	
C3.11	30	.05	PE	.03	CO	.17	SK	.13	SK	.07	PE	.07	PE	.07	.10
			SO	**.20**							SO	.03			
											SK	.10			
											CO	.03			
C3.12	28	.05	PE	.04	**CO**	**.25**	SK	.07			SO	.11	PE	.07	.00
			SO	.07							SK	.21			
			SK	.04							ST	.04	SO	.07	
											CO	.04			
C3.13	26	.04	SO	.04	SO	.04			SK	.08	SO	.04			.04
			SK	.12	CO	.12			ST	.08	SK	.12			
			CO	.12							**ST**	**.19**			
											CO	.04			
C3.14	73	**.12**	PE	.03	SO	.01	PE	.01	SK	.03	PE	.11			.03
			SO	.05			SO	.01			SO	.07			
			SK	.03	CO	.14	SK	.16			**SK**	**.26**			
			ST	.01			ST	.01			ST	.03			
C3.15	20	.03	SK	.05	**CO**	**.20**	PE	.05			PE	.10			.20
							CO	.15			SO	.05			
											SK	**.20**			
C3.16	33	.05	PE	.03	**CO**	**.15**	SK	.09	SK	.03	PE	.06	SK	.06	.00
			SO	.03							**SK**	**.15**			
			SK	.09							ST	.09			
			ST	.03							CO	.12			
			CO	.06											
C3.17	68	**.11**	SO	.01	PE	.03	PE	.01	SK	.04	SO	.03	PE	.01	.01
			SK	.06	SO	.03	SO	.01			SK	.10	SO	.01	
			ST	.03	**CO**	**.24**	SK	.15			ST	.03			
			CO	.06			ST	.03			CO	.04			
							CO	.04							
C3.18	19	.03	PE	.05	CO	.11	SK	.05	SK	.05	SO	.05			.32
			SK	.05							**SK**	**.26**			
			CO	.05											

Note. P = participant (C3 stands for participant in CoLP3). Ss = segments per participant. % = proportions of segments per participant. EV = Expected Value. IV = Immediate Value. PV = Potential Value. AV = Applied Value. RV = Realized Value. RfV = Reframing Value. NC = non-codable. PE = Personal. SO = Social. SK = Skill-related. ST = Study-related. CO = Context-related. Proportions in bold aim to emphasise the dominance of code per participant.

Appendix B. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.stueduc.2019.05.006.

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