Qualitative differences in students' perceptions of others in a networked learning environment

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In networked learning practice the emphasis on human relations for learning beyond engagement with learning materials using information and communication technologies is a significant shift from the prevalent classroom-based lecture which students are used to. In networked learning teachers are assumed to take a less prominent position permitting students to experience learning through active participation in cooperative and collaborative activities with others. This paper proposes a constitutive description for considering human players for learning in the formal networked learning environment hence departing from previous depictions of contrasting views reported in the research literature. Different ways teachers and students are perceived to contribute to networked learning experiencing are understood in distinction and in relation to each other. This portrayal is the research outcome of a phenomenographic investigation which led to a configuration comprised of three qualitatively different ways how students account for the teacher and other students contributing to their learning in a formal networked learning environment. The hierarchically inclusive categories describing this variation have the student perceiving other students as separately persevering with their own studies and the teacher as director of all learning; to the perception of other students as direct contributors through their visible activity and interactivity and the teacher as organiser and guide for students' learning; to the perception of other students as co-creators for learning and the teacher as convenor coming close to being co-actor. The structural threads drawing these categories together into a single coherent whole are the academic role or active responsibility for learning teachers and other students are perceived to assume which across the structuring continuum are in a relationship of pairwise alignment.
These findings project different perceptions as all legitimate and suggest that in deepening awareness teachers and learners gravitate towards becoming teachers and learners for each other. Moreover in this writing is emphasised the constitutive and open nature of phenomenographic description projecting fluidity for thinking about students' perceptions of human others as contributors to NL experiencing. All this emphasises that networked learning provision needs to incorporate a directed effort to accommodate diversity in how students perceive and hence relate to human others for learning when in the formal networked learning setting, building in support to encourage students embracing different perceptions to experiment different learning and teaching roles as networked learning participants.

Keywords

Introduction

As a pedagogical approach networked learning (NL) suggests a shift from teacher-oriented strategies implying change in how teachers go about teaching and learners go about learning. Roles are not as easily distinguishable as in traditional classroom learning environments (Trehan & Reynolds, 2002). At times it might be a student or a group of students who are teaching (Palloff & Pratt, 2008). Learning is proposed as mediated by information and communication technologies (ICT) and an individual cognitive process but more than this it is emphasised as a social process involving the development of human relations for learning (Goodyear et al., 2010).
This paper presents findings of a phenomenographic study investigating variation in students' perceptions of teachers and other students as contributors for their learning in the NL environment. It advances this constitutive viewpoint as a useful way for thinking about the perceptions of teachers and students for learning in the NL setting. Different perceptions are configured as all legitimate and structurally related. Perceptions are set out as approaching theoretical conceptualisations of human agency in the NL context. Simultaneously, findings emphasise differences in actual practice both in between students' perceptions and in consideration of theoretical reflection. Qualitative differences in students' perceptions mapped out as emergent in expanding awareness suggest fluidity for thinking about human others as players for learning.
The paper is made up of three sections. The first section briefly sets out the challenges of the NL approach in foregrounding the social aspect of learning alongside the cognitive perspective. This section underlines variation

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in human response to the challenge of being an agent for learning and for teaching thus elucidating the research gap the reported findings address. The second section presents the phenomenographic description answering the question of qualitative differences in students' accounts of teachers and other students as contributors to their NL experiences. This section incorporates in it a brief description of the framing research methods to facilitate contextualisation of findings. The third section extends the discussion of the original report. Students' perceptions are emphasised as emergent in alignment and in misalignment to theoretical assumptions on a continuum denoting discernment of responsibility for learning.

The challenge of human agency for learning and for teaching

In NL practice, the process of teaching and learning is declared to be created by students' active participation in cooperative and collaborative activities for learning (McConnell, 2000). The students are reckoned to interact with the learning materials and moreover with human others for learning. The teacher is construed as taking a less prominent position (McConnell et al., 2012) permitting students to experience learning in a 'community of inquiry' (Garrison & Anderson, 2004) wherein students are envisaged in connectedness actively supporting each other's learning (Siemens, 2004) and mutually fostering a learning network (Goodyear & Calvalho, 2014). In emphasising the changed attitude to teaching and learning away from classroom didactic lecturing practices, NL specialists seek to explicate the role of the teacher and emphasise the expected activeness of the students as significant elements of the learning network (McConnell et al., 2012; Goodyear et al., 2010). From a first person standpoint, directly and indirectly NL researchers and practitioners give their own descriptions about who the teacher is and the expectation of being a student in the NL setting.

The teacher is found variously described as "e-moderator" (Salmon, 2004), "tutor" (Open University H80x postgraduate course guidebooks), "facilitator" (Jones & Steeples, 2002) and "convenor" (Lancaster University e-Research & Technology Enhanced Learning doctoral programme handbooks). Identified terms generally signal a teaching attitude which is shifted from that of the teacher as disseminator of knowledge, underlining the changed role of the teacher as highlighted time and again in NL literature. Recently, Jones (2015) called attention to the restructuring of the teacher's role when the lecturer moves to the NL environment, and McConnell et al. (2012) borrowed the terminology "resource person and co-learner" to characterise the teacher's role in the NL setting. In each of their portrayal of variation Shah (2014) and Lameras et al. (2011) suggest that the use of networked technologies for teaching is a challenge not uniformly embraced by all teachers. And in a thought provoking stance Jones (2015) questions whether there is the explicit need of the teacher figure in a NL environment involving mature adult students.

On the other hand, students are observed variously described as "participants" (Salmon, 2004), "peers" McConnell, 2000) and "co-learners" (Open University H80x postgraduate course guidebooks). Student related terminology seems to be more set upon the student's positioning vis-à-vis other students and/or the teacher within the NL setting. This drift is caught in the NL literature by studies addressing students' identity in NL spaces. From an insider's standpoint, Mann (2010) draws attention to what has long been recognised in other inter-human communication contexts as the need to know who the others are for attuning one's behaviour accordingly. Explicitly or not, other researchers also reference this relativity (Jones, Ferreday & Hodgson, 2006; Koole, 2012; Davis, 2014). There is advanced an acknowledgement of the perception of others as impacting one's identity and self-positioning in the NL environment therefore tying to the relational bearing of NL. Implicitly they underscore the importance of gaining an understanding of perceptions of others as players for learning when learning in groups such as in NL. The research findings described in the next section reflect a research attempt to shed some light in this direction.

In its ideal the practice of NL is described as democratic and inclusive wherein equity reigns, inspiring relational dialogue and critical thinking (Ryberg et al, 2012) sought by all. That is to say that the active responsibility of learning and teaching is shared among participants. But in actual practice the situation emerges from empirical research (Goodyear et al, 2005; Nicolajsen, 2012; Rolè, 2014; and so on) somewhat amiss of this idealism. For the student the experience of relating to human others for learning using networked technologies is frequently reported as problematic: in a review of the literature Cutajar (2014) elaborates on the persistent picture of contrasting views and contradictions when considering the students' views of learning using networked technologies. Inter-human relations for learning which form the basis of the NL approach are reported to be celebrated by some students simultaneously signalled as a source of difficulty and tension by others. Meanwhile, holistic investigations of teachers' teaching using networked technologies generated arrays of perceptions as aforementioned. In practice NL is less of the ideal it is theoretically envisioned. It is a call to perfection in its teaching and learning ambition incorporating the use of networked technologies. In a less than perfect world, the research findings described in the next section attest to discrepancies between theory and practice but are also an

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attempt to understand them as all legitimate potentially helping to trace out paths perhaps leading to better attempts putting theory into practice.

Differences in students' perceptions of others for learning

The phenomenographic results described in this section form part of a larger research project exploring differences in students' lived experiences of NL as an encompassing phenomenon. The objective of this part of the study was to obtain an understanding of qualitative distinctions in students' perceptions of human others within this larger picture of lived NL experiencing. Distinctions were sought both in separation and in relation to each other. The aim was to obtain a description from the students and moreover, in acknowledgement of variation, a description of different perceptions as legitimate forming a coherent whole transcending persistent reports of contrasting viewpoints when probing the students' perspective (Cutajar, 2014).

Study context and research methods

This configuration of differences in students' perception of others as contributors to their NL experiences was generated through phenomenographic analysis of the verbatim transcripts of thirty-two students' accounts after a ten-week NL experience which was incorporated as an integral part of the programme of studies they were reading at a large further education college forming part of a university complex. The participants were 16-18 year old Maltese students studying computing as a non-major subject in their aspiration for entry into university courses. Signed consent was sought from the participants, their guardians and the college principal. The participating students were asked to describe how they went about learning online, why they went about doing things the way they described, how they viewed the teacher and other students of the course, and what they saw themselves getting out of the online course experience. Analysis of verbatim transcripts of interview recordings was taken up when finished with all the interviews.

The iterative process of doing phenomenographic analysis was spread across 8 months. Whereas initially perceptions of teachers and the perceptions of students were configured as two separate hierarchies progressively these were merged first into a two-pronged structure and finally stabilized as a single linear hierarchy wherein perceptions of teachers and students are represented as tightly coupled in pairwise alignment. That is, although in their account participants were found to generally consider other students and teachers in separation, considerations emerged as tied and complementary, acknowledging teaching and learning as two sides of the same process.

Principally, the analysis was taken up by a single researcher therefore demanding alternative ways to build in reliability and validity other than what may be attained through team work. Reliability was built into this research work through the development of a detailed record of the iterative process of phenomenographic analysis and a commitment to stay as close to the raw data as possible all through this process by frequently referring back to it. In doing phenomenography reliability is not sought in the sense of replicability of results but pursued in the sense of consistency and predictability of findings (Åkerlind, 2005). In acknowledgement of the inevitable constrained context of this study it is also noted that in doing phenomenography the research boundaries are not gatekeepers of the reach and transferability of results as would be the case when assuming a positivistic research perspective, but a question of the degree of partiality of results (Åkerlind, 2005). Pragmatic validity as "the extent to which research outcomes are seen as useful and … meaningful to their intended audience" (Åkerlind, 2005, p.330) was sought through the involvement of an experienced 'critical friend' teaching within the same institutional context of the research. Apart from technical support and serving as a sounding board through the course of the research venture, this research 'participant' was presented with the preliminary findings leading to a discussion meeting a few days later. Communicative validity as the extent to which "research methods and final interpretation are regarded as appropriate by the relevant research community" (Åkerlind, 2005, p.330) was also sought through the presentation of the work to professional educational researchers and online learning practitioners, and continues to be realised in its presentation to the wider research and educational community.

Variation in students' perceptions of others as players for learning in a NL environment

The phenomenographic description of variation in students' accounts of their perceptions of others as contributors to learning in the NL environment was configured by three qualitatively distinct, simultaneously related, ways of perceiving others in the formal NL setting. Figure 1 is an adaptation of the original graphical representation of the outcome space. The revision is intended to better communicate the fuzziness linking the different categories of description and the beyond. This logical structure forms a whole picture albeit not losing sight of the constituent categories of which it is made up. In this depiction the categories of description are

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emphasised as hierarchically inclusive and in deepening discernment. Although considered as complete, in phenomenographic research terms the picture is necessarily open (Marton & Booth, 1997).

Referentially the perception of others as contributors to learning in formal NL experiencing is set out as going from other students contributing in an indirect way as other unconnected learners on the same study course, and the teacher as providing for all there is to learn; to other students contributing to personal learning through the visibility of their online learning activity and interactivity, and the teacher organising and guiding the students' learning monitoring exchanges and explaining issues when students do not manage to sort them out between them; to other students contributing by mutually supporting each other's learning through dialogue and collaboration, and the teacher organising, facilitating and convening activities for learning.

Structurally students' perceptions expand from: a foregrounding of other students as in separation from personal learning, and the teacher as the source for obtaining learning material and direction for students' learning; to a foregrounding of other students as a knowledge resource, and the teacher as an organiser and guide to students' learning; to a foregrounding of other students as significant co-actors − co-producers and co-creators of knowledge, and the teacher as a leading member of the learning group.
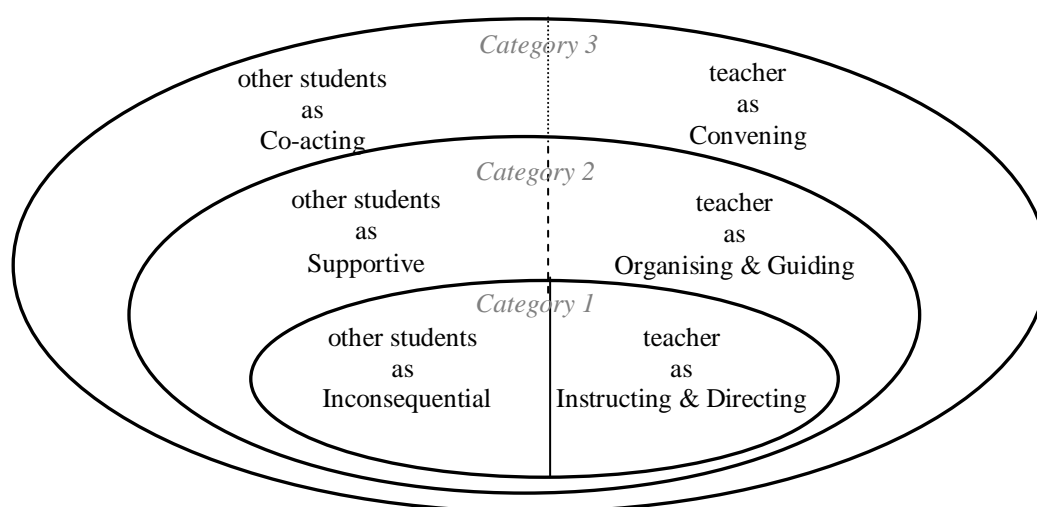

Figure 1: Students' perceptions of others for learning adapted with permission from Cutajar (2014)

Category 1

For a student aligning to this category the focus is on the student-resources relation, wherein the resources are expert provision. The teacher is the source of all there is to learn, the provider of learning materials particularly course-notes and worksheets, and the point of contact for answering any difficulties. In aligning to this category of description the student talks about engaging in reading the teacher's notes in isolation possibly out of sync from others, and all learning activity revolves around what is provided by the teacher. Learning is the individual student's "business" as set out by the teacher and away from other students. In private conversation, the student may be found consulting with trusted close others to answer that occasional question that arises while doing what is deemed to be instructed by the teacher, but in general other students are not perceived to have anything to do with each other's learning. The student does not see support coming from other students contributing to his/her learning and the organising and guiding act of the teacher as does the student of the next category:

> "First I used to read the notes, print them out at home, highlight the important items and bring everything together ... Then we used to have the homework. Where I got stuck I used to check the notes, or check it out with my classmates. At the time there was Peter. Or, I ask you [teacher] during class time." (T16:1)
>
> "Because if beforehand you [teacher] used to give us the HW in class, and correct it in class, and did everything in class. Now we don't have so, all that time, because now everything is available through the vle". (T3:6/7)
>
> "if [the student] comes across some difficulty you [the teacher] first let us struggle on our own and then if we [students] still have a problem we look you up." (T9:6)
>
> "Because I feel that I only have to log in, do my work and that's it. Others can do the same. They can do whatever they like. It goes like that, you know." (T26:5)
>
> "Normally I don't work with others ... I do all my work alone and don't really ask to the others about it. We all done it" (T23:4)

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Category 2

This category of description has the student focusing on both the student-teacher relation and the student-student relation. The teacher is not only perceived as the provider of learning material but also as organiser of learning activities, supervising students' activities, acting the 'guide at the side'. The teacher is seen as intentionally providing space for students to actively manage and control their learning though still an overruling authority monitoring students' work. This perception of the teacher encompasses the former perception in that the teacher is still acknowledged to be the provider of learning material and missing from the stage centre but the student aligning to this category of description now also discerns the teacher in the shadow contributing to students' learning by organising and guiding students' learning activities, only occasionally joining the students at the centre of the stage to explain issues which students cannot somehow sort out between them and to appraise their exchanges. Other students are recognised as contributors to learning by way of their visibility engaged in online learning activity and interactivity. They are now recognised as contributing to personal learning: they are a source for accumulating information and/or obtaining pointers to sources of information; they are a reference point for asking questions when encountering difficulties in study such as a problem the student cannot solve or some detail in the course-notes which the student cannot understand; and a way for obtaining other perspectives of the subject content. The student of this category stresses other students' commitment towards his/her personal learning but in contrast to a student aligning to the next category shows no sign of concern with fellow students' learning. Rather than any notion of collaboration is projected a co-operative attitude for learning together. Tied to this category surfaces a 'trading' attitude when thinking about how other students contribute to personal learning in a NL environment. In distinction from the previous category the student is now aware of others as contributors to his/her learning but s/he is not so much conscious, comfortable and willing to likewise be a facilitator to others' learning:

> "the notes are online. Then at the same time you get to see the questions of others. The information they uploaded. Like this you have it all." (T9:4)
>
> "We are doing the same things and we are working on the same things as well. I mean you see what others learnt, what you learnt, you put it all together and then the teacher checks that it is correct. On one occasion I had a problem as well and I talked to people whom I didn't know and I never met in my whole life." (T24:5)
>
> "I mean you obtain the opinion of your classmates as well. If there is something which you don't know and he knows it, he's going to help me. And if at the end of the day he doesn't know something – something you're going to find him for sure – and you know it, you're going to help him out. You have the perspectives of all other students as well." (T15:5)
>
> "for example, I ask my classmates a question and they give me this answer, this answer, this answer, many possibilities of the answer ... the teacher can join in the conversation and say that "here you made a mistake" and possibly corrects many students all together, not one student but simultaneously four or five students who are involved in that conversation … you need to be certain of what you're doing. Obviously the teacher is not going to tell you rubbish." (T15:7)

Category 3

From the participants' accounts this category of description has the student focusing on the student-teacher relation and the student-student relation but different than the previous category the two-way communication is emphasised thus going beyond strict personal learning interest in relating to others for learning. There is now observed a concern for others' learning as well as for personal learning. This aspect of relating to others qualitatively differentiates this perception of others in learning from that set out by the previous category. Students are perceived to be contributing to each other's learning beyond co-operation to co-produce and collaborate in problem-solving and facilitating each other to understand issues at hand. There is now advanced a sense of trust in the reciprocity of others to facilitate learning beyond personal gain within the learning group. Correspondingly, the teacher is also trusted as convening learning in ways which accommodate and favour students. This perception of the teacher goes beyond the perception tied to the previous category wherein the teacher needs to keep track of students' activities to ensure reliability of exchanges. In aligning to this category the student sees all human players (including other students, the teacher and himself/herself) as facilitating learning in a positive manner even if the teacher continues to be deemed as that superior other:

> "Because, what I did not find on the Internet perhaps somebody else has this website which is better than mine, and he unearths more. Then we put everything together. Then obviously we pep it up to make it as presentable as possible and present it (to others). You upload it to show it to other students who did not work on the same task. They get to know more, even they get to learn

more ... even the fact that you have that freedom, you are going to give your opinion to others, they are going to listen to you, if they disagree with you they are going to tell you. Where you can improve they're always going to help you. And ... the fact that there are other people who accept your opinion helps as well. You are going to engage in research and with your help in doing research you are going to help others. And that really helped me." (T35:4/5)

"We ended up switching on – doing a Skype call together to work there, and to explain it to each other bit by bit. … Even the fact that another person helped me and I could help another person with that help … there were also some who understood better how the program worked. And then with all the information we generated between us we could join up to help others." (T35:6)

"More like a student who is more knowledgeable. You [the teachers] are more like a student's friend rather than a teacher because you want to choose things which (students) enjoy and are interactive not something like you have to do the homework. And there are positive connotations not negative ones." (T25:7)

"wherever you go you are going to respect her as a teacher but even in e-learning the teacher is going down to your level, she is going to help you understand things your own way. You can consider them as your friends who are trying to help you understand the subject more, and how to get things working. This is how I consider the teacher in e-learning mostly." (T35:7)

Discussion of findings

The students' perceptions of others as contributors to their NL experiences evolve from a focus on the resources and behind them the teacher as the means for what there is for learning and others as an indirect learning support means; to a focus on the teacher and other students as a means for personal learning – albeit the teacher's support is presumed superior and reliable in contrast to other students' contributions which are suspiciously considered as possibly ill-informed and careless; to a focus on the teacher and other students as a means for all students' learning by their online cooperation and collaboration. The perceived contributions for learning of teachers and of students are configured by this phenomenographic study as emerging through two critical themes of expanding awareness which are the role of the teacher and the role of the student that is active responsibility for learning.
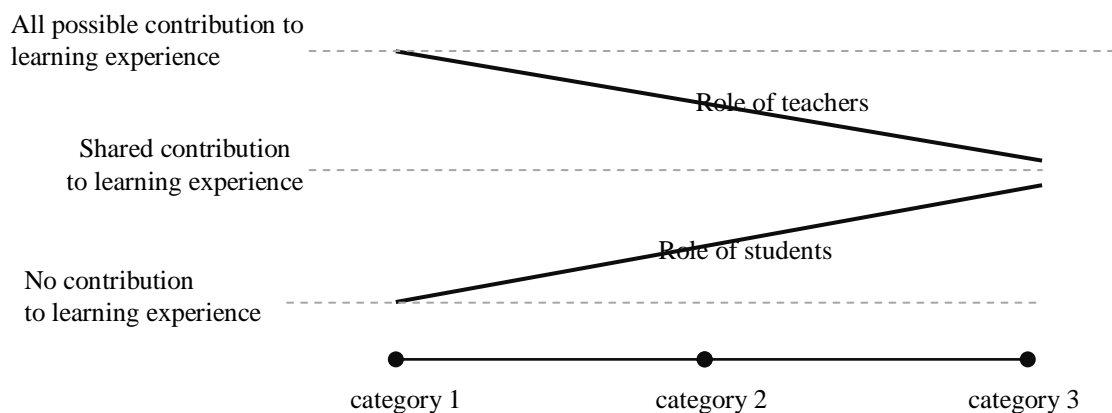

Figure 2: Expanding perception of others copied with permission from Cutajar (2014)

Figure 2 is an attempt to capture the expanding perception of teachers and other students as contributors to learning in the NL setting in terms of these two themes. With expanding awareness these themes or "dimensions of expanding awareness" (Åkerlind, 2005) gravitate towards convergence but do not realise it. Not shown in this representation is the self-perception of the student as player for learning which from participants' accounts appears to be at par with the perception of other students.

These findings are a logical representation of qualitative differences in students' perceptions of human others as contributors in NL experiencing arising from students' accounts. They attest to the theoretical deduction of teaching going from 'Teaching as Telling' to 'Teaching as Facilitation' and correspondingly learning shifting from 'Learning as Listening' to 'Learning as Doing' (Goodyear & Ellis, 2010). They propose a constitutive outlook therefore a shift in our thinking about perceptions of human others and therefore human relations for learning in terms of alternatives. Perception of human contribution for learning in the NL environment is

configured as fluid accommodating such different descriptive terms you come across in educational technology literature and in the practice of teaching and learning using networked technologies as referenced earlier. These findings suggest an emergent progression in expanding awareness simultaneously in acceptance of perceptions of others as temporally and situationally located. That is, they project a forward deepening development of human perception yet again agree to the possibility of a shift to a more or less empowering positioning on the continuum of critical themes depending on what is discerned in the specific situation. This portrayal permits the co-existence of different interpretations of teachers and learners when the teaching and learning process incorporates the use of networked technologies not as in contrast to each other but in coherence to each other. This description of variation in the students' perceptions of others as contributors to their NL experiences is deemed to help explain contrasting views of student's identity projections and self-positioning in the NL environment. Students' perceptions of others and evidently their self-positioning is dependent on the discernment, and perhaps acceptance, of responsibility for learning on the continuum of the teacher role and student role going from divergence towards convergence as represented in Figure 2; towards shared contribution to learning and equity of learning contribution in the ideal. In convergence of roles NL participants are projected as teachers and learners for each other. It is with reference to such an idyllic state of empowerment that Jones's (2015) questioning of the need of a teacher figure in the NL environment is seen to make sense. Perhaps it is in expectation that mature learners have a greater disposition to deep discernment that Jones explicitly poses this question specifically for "when dealing with adult learners" (p.71).

This phenomenographic outcome also denotes an open range of different ways how students may go about perceiving others as contributors to their NL experiences. Therefore this portrayal does not deny the limitlessness of human perception. This goes beyond the elucidation of the existence of difference between conceptual thought and actual practice when considering human agency for learning using networked technologies. It emphasises the unboundedness of the expectation that in practice students don't necessarily take up NL as planned (Goodyear & Carvalho, 2014)); and from the likes of unearthed literature not even teachers when invited to it. Students who are used to classroom-based traditional lectures cannot be expected to switch to active learning and non-prescriptive teaching methods using networked technologies overnight although the possibility is not excluded. All this signals the need for NL design and implementation to accommodate different possible interpretations of human relations for learning therefore transcending contemplation of contrasting views in students' lived NL experiences. Therefore is also signalled the need for research investigating how provision may in practice be more open, in the sense of positively supporting students with different viewpoints of human agency in learning permitting them to all thrive possibly become more empowered through deepening discernment of shared responsibility for learning in the formal NL environment which is progressively becoming more popular and in demand matching the needs of technologically-connected diverse learners of all ages.

Concluding Remarks

The aim of this paper was to report on the phenomenographic outcome of an investigation exploring variation in students' perceptions of teachers and other students as contributors to their NL experiences, and extend somewhat the discussion of these findings. Differences are captured in terms of three distinct and hierarchically inclusive categories structured by the emergent broadening awareness of all human constituents as significant sources of learning through the responsibility they are discerned as sharing. From this interpretative description it appears that although teachers and other students are referenced separately, their positioning (as players for learning in NL experiencing) is complementary – with growing awareness of the potential of other students and therefore of self as well. In the initial report was highlighted the closing in of the critical themes giving reason for contemplation of NL participants as teachers and learners for each other. In this writing is emphasised the open constitutive nature of the description projecting fluidity in thinking about students' perceptions of human others as contributors to their NL experiences. Different human agents are positioned in different contribution capacities temporally and situationally.

Perhaps, in actual formal NL practice teachers will always be considered as holding the greater share of responsibility as contributors for learning. But, it still remains important to work for greater awareness of the potential and consequent benefit for all players contributing to learning. That is, even if in the formal NL environment the ambition for seamlessness between teachers and learners is somewhat utopic, it is still a useful aspiration that may be approached by finding ways encouraging deeper discernment of shared contribution for learning and the ensuing learning benefit entailed.

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