Motivations for socio-collaborative learning practices: examining how community and interactions support learning among registered users on OpenLearn

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Abstract. Open Educational Resources (OER) are being produced globally by various educational institutions. Depending on an organisation's mission, purposes and intent for providing vary, determining what features are made available. In establishing OER the focus has often been on this provider perspective, however how OER will be used also depends on user motivations. This paper presents findings from a study conducted on OpenLearn which focused on motivations for socio-collaborative learning among its registered users. Evidence gathered through interviews with six learners and examinations of fifty-seven user profiles and online output suggests users have intrinsic motivations to interact but are also influenced by various online and offline factors that keep changing, highlighting the dynamic, multidimensional nature of motivation in expertise- and support-linked interactions. Results suggest the value of interactions in self-directed learning and the importance of creating OER that support both content provision and interaction between users, catering for diverse learning needs.

Keywords: OER, motivations, social learning, OpenLearn.

1   Introduction, focus and questions

Since UNESCO's Second Global Forum on International Quality Assurance, Accreditation and the Recognition of Qualifications in Higher Education in 2004, which focused not only on the quality of resources but also on supporting learner communities, a trend towards more socially-focused OER rather than content-centred initiatives has been observed. This reflects a growing interest in how interactions support 'deeper learning' [1] aimed at being able to both direct one's independent learning and think critically, as well as effectively communicate, solve problems and work collaboratively. This paper aims to present and discuss results from a pilot study conducted over twelve weeks as part of on-going doctoral research building on the OpenLearn Research Report 2006-2008 [2] results, in which one of the main areas studied were users learning on OpenLearn LearningSpace [3]. OpenLearn runs on open source learning environment Moodle as an OER, i.e. 'a hybrid of a repository,

structured assets, a community, course-based tools, and personal learning tools' [2] of The Open University, UK (OU, UK). The OU, UK was founded 'to provide opportunities to those unable to attend other higher education institutions and to reform the higher education system itself' [4], specifically for Open and Distance Learning (ODL), and has strategic goals to widen access and champion progress. In assessed ODL, however, learners face various challenges such as managing one's learning, for which learning support is crucial [5]. It is therefore worthwhile to look at motivational issues and factors that influence learning with OER where no tutor support is available, and specifically investigate why OER users interact with others as 'there exists little experience in how to effectively support communities of practice, which is of critical importance if OER initiatives want to grow based on user contributions' [6]. The decision to examine more social rather than independent learning was also motivated by results of the study on the Womenintechnology (WIT) group conducted earlier by one of the authors, which suggested that belonging to a network of like-minded individuals can significantly enhance its members' lifelong learning, both in the areas of professional development and personal growth [7].

The focus of this study was on investigating motivations for interacting with other registered individuals and communities while learning on OpenLearn in social as well as collaborative ways because of the aforementioned trend towards social learning, understanding social learners as those who 'want to explore tools, connect with other people and construct their own interpretations' [2] but also aiming at examining if and how users collaborate while learning, e.g. through co-writing essays or preparing group projects. The notion of motivation is a complex one. As previously established in the Womenintechnology [7] study, the approach is to consider motivation as a dynamic system of intrinsic as well as external online and offline factors related to one's lifestyle, resources available, and goals that drive learning and determine its intensity. According to some [4] assessment is one of the strongest motivators in learning, hence it is interesting to examine motivational aspects in a non-assessed learning context of OpenLearn and to consider in particular how the social element can impact on motivation in such an environment.

The main question asked in this study was 'What motivates registered users to engage in socio-collaborative learning practices on Open Learn?' followed by four sub-questions: 1) What are the main purposes of user involvement in learning clubs and discussion forums?; 2) How do users reflect on their motivations for learning in their learning journals?; 3) Is there a relationship between users' main topic interest areas or learning unit design and socio-collaborative engagement?; 4) What modes of collaboration can be identified among registered users of OpenLearn?. The study's objectives were to combine empirical evidence gathered with insights from literature reviewed in order to understand why users seek interaction while learning on OpenLearn, identifying purposes and reasons (and ultimately how motivation for general learning on OpenLearn emerges and is sustained or not from arriving on the site throughout); identify online and offline factors that influence (enhance or impede) users' participation and learning; gain insight into how community and interactions support learning among diverse users hence what their role is in inclusive and more socially just learning; and establish how better support on OpenLearn could be provided in terms of content, activities, and tools to accommodate different learning needs and interests.

2 Theoretical Framework

The framework for analysing data includes theories relevant to self-driven learning around interactions, some of which have been used in the authors' previous research as developed through studies in which the participants, objectives or context were similar to the ones used in this project, so focusing on adults motivated by various factors and learning voluntarily. The core of the framework consists of established theories developed in offline context, i.e. the Socio-Cultural Activity Theory (SCAT) based on Vygotsky's [8] work which formed the basis for social constructivism, in which the environment, its participants, and learners' backgrounds influence learning, and where interaction, especially dialogue, with more capable individuals is crucial for learning and progressing through the Zone of Proximal Development (ZPD); and lifelong and adult learning (Andragogy), which happens around situations among learners driven by a wish or need of change, power, knowledge, freedom, and creativity [9], and is self-directed, driven by interest and enjoyment, and influenced by lifestyle, attitudes, values, abilities and critical life periods, hence the importance of good learning environments in adult life [10].

The study also applied models of online participation and learning in technological context, in which digital literacy is essential. In particular: The Reader-to-Leader (RTL) Framework [11], developed based on a review of Human-Computer Interaction (HCI) literature, which established that in their online social participation users evolve from readers, to contributors, then collaborators, to end as leaders, all of which is influenced and motivated by sociability factors, i.e. encouragement by people we like or respect, visibility, privacy, or trust; and usability, e.g. content, layout, clarity of navigation, or universality i.e. suitability for novices and experts, users of various languages, and those with disabilities; The Kreijns, Kirschner and Jochems [12] paper on social interactions in computer-supported collaborative learning which, although it was written before the emergence of user-generated Web, recognises the importance of online communication outside of task-related contexts, claiming that learning in communities is influenced by both cognitive and affective factors, e.g. forming impressions or affiliations [12]; The Four Modes of participation online identified by Makriyannis and DeLiddo: '1: to browse, gather and share content; 2: to give/ receive feedback and expertise; 3: to collaborate and jointly decide about actions; 4: to share control over the content and the community' [13], where the progress in modes is driven by positive feedback from the community and influenced by hidden layers of multidimensional user interactions; and Ala-Mutka's [14] claims on observation and reflection in online environments where users network, create profiles and read about the activities of others, creating impressions of close links.

3 Methodology: a two-phase approach

The pilot character of the study and the intention to get a 'feel' for the main themes and types of learners who interact dictated its qualitative research strategy, following recommendations according to which qualitative methods 'can provide a 'deeper' understanding of social phenomena than would be obtained from purely quantitative data' [15]. The context of OpenLearn where human users learn in interaction with

networked technology and other humans determined the choice of social and HCI research methods of gathering data, which were applied in two phases: collection of virtual output, hoping that the material, rather than observing users' immediate interactions on OpenLearn, would reveal the what, the when, and the why of their actions, following Preece et al. [17] recommendations; and semi-structured interviews because they had been used by the researchers before and proved a highly satisfactory method with participants who are adults expected to be self-driven learners. Interviews are regarded as sources of potentially rich research data in social sciences [16] and HCI [17], with the semi-structured format granting flexibility. The real-time conversation mode was conducive to asking participants to explain or elaborate on things, allowing more space for empathy in line with interpretivist epistemology [16]. Users were not aware of their output collected for research purposes, which from the methodological perspective appears advantageous because it is non-intrusive but might seem ethically questionable [17]. It could, however, be argued that by registering on OpenLearn users had accepted the site's privacy policy, hence agreed that their data might be used to improve the service. A similar data collection approach was taken by Makriyannis & DeLiddo to minimize intrusion in observing online communities [13].

Data gathered on OpenLearn LearningSpace [3] included fifty-seven publicly visible profiles of users with 'learner' roles with ten visible learning journals, forum discussions from eight learning clubs (LC/ LCs) (Creative Writers, Learning is fun, Italian Please, Winning the Losing Battle, HumanComputerinterfaces, Science Learning, Merchant Navy, Sea Cadet Instructors), and one forum from among the twelve subject areas (IT and Computer forum), with the longest discussion thread of over thirty posts. Clubs were chosen as belonging to one implied willingness to be part of a group and the specific LCs were selected based on the variety of topics and visible forums with understandable discussions. Interviewees were recruited in a purposeful, non-probabilistic way, from among registered users of various backgrounds and interests, but with the common characteristic of connecting with others through posting on forums, belonging to a club or making their profiles visible; and also agreeing to be contacted for research. In total six participants were interviewed out of thirty-nine invited, most of whom posted on OpenLearn within a few weeks from the time of recruiting. Methods were triangulated to increase validity and because learners are influenced by factors from both online and offline environments [17]. After 'eyeballing' [17] virtual output data - a technique recommended as the first step in the analysis process to spot patterns [17] - the material was reviewed in detail to identify main themes and produce a summary of what emerged supported by examples, so data was processed qualitatively, descriptively, as recommended by Preece et al. [17]. Interviews were analysed using the Miles and Huberman [18] framework for thematic analysis of qualitative data mainly because it aligned with the main objective of the second phase of study which was to identify key themes in participants' accounts and arrive at explanations based on the meaning and links that could be so identified. The method consists of stages of data display (which in this study materialized via transcribing), reduction and condensation, proceeding from drawing inferences at first level to finalising the analysis at the stage of making conclusions, while continuously coding and writing memos, i.e. notes of ideas and conceptual links [18].

4 Findings: via sub-questions to answering the main question

4.1 Sub-question 1: What are the main purposes of user involvement in learning clubs and discussion forums?

Purposes of involvement in LC and discussion forums can either be subject-specific or general. Participants of LC and topic forums interact around specific field- or course-related matters on a more cognitive level, to use Kreijns et al. [12] differentiation of cognitive and affective factors in interactions, i.e. to recommend and seek specific resources, e.g. specialist forums, titles, authors; seek and give feedback on one's work, e.g. essay; discuss exam results, which implies that some forums and clubs are used by those pursuing formal OU courses, or solve technical problems, e.g. about navigating the Website when stuck. More specific purposes of involvement are linked to the focus of a given LC or topic forum, and are to gain more subject knowledge or specific skills, e.g. practice creative writing, and share or ask for expertise, e.g. about language learning techniques in language LC or computer programmes in the IT forum.

Purposes of involvement and interactions around general matters relate to learning support on a more affective, social or emotional level, i.e. to share achievements, experiences, goals, plans, fears and worries, reasons for joining OpenLearn or clubs; seek and give support, e.g. share problems experienced while learning or encourage others to persevere despite previous failures: 'learning what you don't know is probably one of the most valuable lessons you can learn'; connect with others sharing similar aspirations by saying 'it would be lovely to chat to others who, like myself…' or simply posting one's e-mail address. General purposes are linked to developing generic skills, e.g. interpersonal communication. Emoticons and capitals were used more frequently in such posts, as if to compensate for the limitations of the written text communication channel. The analysis of an active discussion thread in one club showed participants' attempts to create an affective structure within the group, of which Kreijns et al. [12] talk, potentially as a preparation for task-related interactions. The name of the thread - 'introduce yourself' – signalled its function, which manifested in users, indeed, introducing themselves, wishing others luck, or saying: 'I am looking forward to working and socialising with you all'.

4.2 Sub-questions 4 and 2: What modes of collaboration can be identified among registered users of OpenLearn? How do users reflect on their motivations for learning in their learning journals?

Most interviewees described themselves as 'browsers' although based on their forum posts they were often leading discussions. Some would perceive their contributions negatively, as time-wasting or ego-driven. Generally modes of interaction among the users studied appeared more social, based around written asynchronous conversations, rather than collaborative or resulting in co-creating projects. It could be observed that in some cases users revealed more details about themselves gradually as they posted

more or related to the output produced by others with similar backgrounds, e.g. responded to or quoted from their posts, which implies a progress in roles as in the RTL framework [11], motivated perhaps by trust, belonging or reciprocity, or by positive feedback from other participants, in relation to the work of Makriyannis & DeLiddo [13]. Sometimes more subject-specific discussions entailed a more advanced mode of user involvement.

None of the interviewees acknowledged using learning journals as they did not find it useful, said it was 'not their personality' or had to do it in the past and struggled. Based on the output from ten visible journals examined, however, reflections on learning motivations could be grouped into more specific, task-driven ones, or more general and personal. The first ones related to tasks within units where users were prompted to describe their learning-unit related activities or post some of their work e.g. essays. The more personal ones contained reflections on learning on OpenLearn or with the OU, describing problems faced and proposed solutions, e.g. 'I need to get more organised', experiences with using tools, motivating themselves, e.g. 'I know that I can achieve anything I set my mind to' or giving accounts of their likes or goals, e.g. writing memoirs. The use of emoticons was observed in a few journals beside text.

Profiles, too, appeared to be either more formal, subject-related, used to share information about learners' interests, activities, and factual information such as location, profession, age, and education; or more personal, mentioning family, hobbies, reasons for joining OpenLearn, hopes, and reflections, e.g. 'I have a strong sense of values...I would like to have a deeper understanding of the world'. More personal profiles contained pictures, emoticons, affective statements e.g. 'I love to learn', or links to learner Websites or e-mail addresses, welcoming others and encouraging to be contacted, e.g. 'any suggestions gratefully accepted'. The function that the profile fulfils, then, depends on the user's intentions.

4.3 Sub-question 3: Is there a relationship between users' main topic interest areas or learning unit design and socio-collaborative engagement?

There seem to be two types of links between users' main topic interest areas and socio-collaborative engagement. Participants either interact because they are interested in a topic and know it well, or because they are pursuing something completely new to them, so try to connect with others to gain more confidence, receive advice and support. Those who interact show interest, whereas some users share their expertise and lend support, and others seek them.

In relation to learning unit design and features available in learning clubs and forums, there appears to be a link between interactions and usability and sociability factors discussed in the RTL framework [11], i.e. if features are visible, navigation paths clear, tools easy to use and support available in FAQ links or guides, users might feel more confident and encouraged to use them. One user found the search facilities on the forums quite basic which made it harder for him to find discussions related to things that interest him. Forums proved to be the most popular places for interaction of the interviewees while videoconferencing had not been used by any of them, the reason being simply 'not having looked them'. The site's usability is perceived differently by users depending on their skills and preferences: one

described its organisation as 'good in terms of supporting people' and another as quite hard to navigate even despite his technological background. Some tools are not used on OpenLearn by users who have to use them within their formal OU courses. FAQ and glossary were mentioned by a participant: 'I have occasionally found what I wanted but obviously asking a question others have asked before'. The level of difficulty is a factor influencing the use of some tools, e.g. an interviewee mentioned not using knowledge mapping because of the ease of the assignments, and that he might use the tools if the tasks get more complex or longer.

Other users also influence interactions, e.g. not getting a reply on a forum acts as discouragement. One interviewee mentioned the 'response rate' to his forum posts was 2 out of 20. Moderators deleting links appeared 'authoritarian' to one interviewee who mentioned that a link to a book he published was deleted as it might have been perceived as advertising. The ease of interacting on forums is an encouraging factor, as one user said: 'you don't have to know the person, you can just ask the question and get an answer'. The use of OpenLearn in general was linked to users enrolling in an OU course, with some learners describing themselves as 'encouraged' or 'prompted' to explore OpenLearn by the OU. Generally the study's participants wished for more visible profiles, more forum activity and contributions from other learners, e.g. one interviewee mentioned only about one quarter of all profiles he tried to access were visible.

4.4   Main question: What motivates registered users to engage in socio-collaborative learning practices on Open Learn?

The main identified purposes of socio-collaborative learning practices on OpenLearn (through forums, clubs, profiles, browsing, communicating, observing) are:

- To share or seek expertise – interactions happen on a more cognitive level, or perhaps intellectual-cognitive, and are usually manifested in actions related to specific units, problems or topics, e.g. recommending specialist resources or tackling technical difficulties with the site. Such interactions are pursued in a more formal way, e.g. without using emoticons. A proportion of expertise-linked interactions aim to get an opinion about specific formal OU courses users are thinking about doing or help them do better in courses they are pursuing.
- To give or seek support – interactions happen on a level that could be described as affective, relating to sociability and emotions, and are manifested in actions linked to more general and at the same time more personal things, e.g. seeking inspiration, getting away from the isolation that is 'inevitable part of distance learning' to quote an interviewee, networking with people interested in similar things and units, or finding out who the learners are who replied to their posts.

Some purposes are harder to assign to one group so could be described as mixed e.g. interacting to maintain mental stimulation by more senior learners, communicating to get used to the system before starting an OU course, or interacting around location, national culture and language, as such interactions can relate both to specific skills, e.g. language, and issues of cultural identity or feelings of immigrants.

In all types of interactions among the registered users studied interest and enjoyment emerged as strong motivators, along with appreciation of and passion for learning in general, and belief in the importance of communication and interaction with other learners, which confirmed the expectations based on adult and lifelong learning [9,10], socio-constructivist theories [8], and the Reader-to-Leader framework where altruism or 'a sense of belonging based on recognition of familiar people and activities' [11] were important sociability factors. A wish to escape isolation also motivated interactions with others showing that users learning around OER are faced with similar issues to ODL learners, e.g. isolation ascertained by Dzakiria [5]. Although participants' learning areas were sometimes closely related to their backgrounds, none of them needed the interactions directly to advance their careers and only one related using OpenLearn in general to raising qualifications.

Building upon the theoretical framework used in this study [8-14] and based on what emerged in the analysis of data gathered, the different motivations for learner interactions ascertained in this study were categorised and summarized in Table 1. entitled Motivations for socio-collaborative learning on OpenLearn.

Table 1. Motivations for socio-collaborative learning on OpenLearn

Types of interactions	Categories of Motivation	What motivates socio-collaborative learning
General, informal, affective	General/ support-related	Belonging, identity, isolation, confidence, self-expression
Specific, formal, cognitive	Specific/ expertise-related	Knowledge, subject competence, intellectual curiosity, ambition, specialist interest, feedback, recognition, desire to gain a specific skill or solve problems, level of difficulty
Mixed	Mixed	Enjoyment of learning, appreciation of interactions in learning, interest, wish of change, challenge, altruism, reciprocity, availability and ease of use of social features, others' visible, relevant and interesting contributions

Other factors established as significantly influencing learning in general as well as interactions are: educational, professional, and domestic background and situation, time, and flexibility and quality of materials linked to the ODL context of the OU. One interviewee, for instance, avoids collaboration online after years of having to

collaborate while working in a 'big company' and values the opportunity to create things on his own, albeit still seeking opportunities to discuss ideas. Participants with some time to spare, e.g. because of retirement or simply leisure, all wanted to use it for learning. Their passion for learning appeared linked to their education to degree level, their children's education, or, conversely, previously having lacked opportunities for education and wanting to 'catch up', pursue an ambition that could not have been realised earlier due to life circumstances. A wish for some sort of change and challenge appears to drive OpenLearn/ OU learners in general, whereas interactions with others seem to help them in dealing with these changes.

5 Discussion and conclusions

Results of the study indicate that, while learners have individual motivations for expertise- and support-linked interactions, they are also influenced by various online and offline factors which can change, causing a shift in modes of interactions that are multidimensional, which strongly relates to the results of studies conducted by Makriyannis and DeLiddo [13], and the findings of the Womenintechnology study [7], in which members' learning was driven by dynamic motivational systems rather than static elements. The cognitive and affective dimensions of interactions, recognised already by Kreijns et al. [12] suggest the need to provide tools and spaces for specialist, formal communication as well as more general, less formal one, which can facilitate not only cognitive engagement but observation, empathy, reflection, and nurture a sense of 'belonging' that some users feel in an OER/ ODL context. This confirms Kreijns et al. [12] claims on the significance of creating spaces for 'light' talk that might support or lead to more substantial 'deeper' discussions.

Interactions motivated by altruism, recognition, and reciprocity, suggest their potential to function as a form of mutual learner support, e.g. obtaining feedback from other users can substitute quantitative assessment, having online contact with other learners can help individuals cope with isolation, and discussing issues encountered in managing their learning on OpenLearn can help users enhance their learning skills. This suggests that providing not only resources but spaces for interaction can help people pursue their lifelong learning and act as so-called networked individuals [14].

Findings from both study phases indicate that OpenLearn serves as an environment in which people seek contact to connect with others from the same culture, to learn about other cultures and languages, to engage in constructive dialogue, and to network after moving to a different country. These all suggest the potential of OER to help people cope with change and diversity in a multicultural society.

Irrespective of subject interest, level of advancement, enthusiasm or confidence, all users studied seem to benefit from having the possibility to interact with others, even if they do not engage on a frequent basis. The mere availability of social interfaces matters because a learner can chose to interact with others sometimes and learn independently at other times, hence support their independent learning with interactions, or perhaps support their socio-collaborative learning with independent work.

Furthermore motivations for socio-collaborative learning are linked to motivations for learning on OpenLearn in general, which, in turn, resemble motivations to study with the OU. OpenLearn helps those who would otherwise not be able to learn due to domestic, health or financial reasons pursue or return to learning, so plays an important role from the social justice perspective. Many of the more engaged OpenLearn users are also OU students, and OU fulfilled a strategic widening access role in the UK prior to OpenLearn. Importantly, however, OpenLearn is, as an OER, available freely all over the world. OpenLearn can serve as an 'introductory' space for some users who are about to start OU courses. For those users OpenLearn provides a partial mirror of the genuine OU student experience but it must also meet the needs of learners who stay on OpenLearn and do not move to formal OU courses.

Even though the results of this study are mainly applicable to OpenLearn registered users, the aim was to sample a diverse group in terms of e.g. interests, location, gender, and level of study. Users whose output and profiles were examined were indeed varied and those who responded to interview invitations, although all male, represented various stages and lifestyles, too, showcasing different motivations not only between themselves but within themselves, depending on their goals and how much time or resources they had. For those who spend significant amounts of time on it, OpenLearn appears to play a key role, helping them find a purpose, fulfil an ambition or simply pursue a lifelong passion, 'nourishing their soul' as one learner put it. A plethora of interests among users indicates that there should continue to be material from various fields, topics, and levels. The same applies to tools, although a wish for simplicity was expressed by almost all participants.

Some might argue that the small scale and non-statistical character of the study does not yield sufficient evidence to make general claims. The qualitative value of evidence is, however, arguably substantial and the fact that indirect observation and direct interview methods had been triangulated also increases the validity of the study. Its contribution consists in empirically testing and confirming many of the Reader-to-Leader Framework [11] claims on sociability and usability factors in influencing online social participation. The findings have also shown that, although the courses and materials remain at the core of OpenLearn learning, interactions can enrich the overall learning experience, hence it is important to provide tools and facilities that sustain user motivations for interacting. This perhaps reflects an important transition from providing content-only initiatives to creating OER where opportunities for social involvement and engagement become more important. OpenLearn offers some of those opportunities, however they may need to be brought more into the foreground. In order to ascertain how this might be done and also to understand the learning of users who do not visibly engage in interactions (as content remains a key motivator [13]), further research has begun, in which not only OpenLearn users but those learning with other OER are studied, looking at how social activities can be layered alongside content, and how designs that focus on such social aspects are starting to play a role, to ultimately understand how best to foster OER potential to support learning among diverse users.

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