

Student perceptions of the impact of online discussion forum participation on learning outcomes

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Abstract

Choosing the “right” type of technology, either synchronous or asynchronous, to facilitate learning outcomes is a new challenge as the pace of emerging technologies increases and diversifies. Teachers are encouraged to design courses that require collaboration in online learning communities to facilitate the development of higher order thinking skills for life long learning. It is therefore important to gather evidence of the kinds of opportunities afforded to students and whether the students themselves endorse collaborative online tools as a legitimate method of assisting in their learning. This paper outlines the way in which one secondary school has used an online discussion forum to support students in the International Baccalaureate (IB) Diploma Program in enhancing research skills and skills for lifelong learning. The paper considers whether online collaborative tools are perceived by students as a positive way to improve learning outcomes.

Keywords

collaborative online tools, extended essay, international baccalaureate, learning communities, online discussion forums

Introduction

The Extended Essay is a compulsory 4000 word independent project within the International Baccalaureate Diploma Program. Skills to complete the essay are embedded in all syllabuses and are considered an integral part of the teaching program. A problem facing coordinators and teacher supervisors of the essay is to find ways in which to support students and scaffold the research journey while complying with the mandatory guidelines which stipulate the maximum degree and extent of teacher involvement in what is essentially a student driven and managed learning experience. Additionally, the essay sits outside the traditional subject structure of the six International Baccalaureate Subject groups and is therefore not timetabled in curriculum offerings. Consequently, arranging student meetings with Supervisors may be problematic.

Using Information and Communication Technologies (ICT) was seen as an effective way to address this issue. A discussion forum was created by the author of this study within the Blackboard Learning Management System (LMS) at the topic refining stage of the Extended Essay process. Students were located throughout the school and in external environments with their Extended Essay Teacher -Supervisor to assist in technical aspects of entering the online forum. The forum was structured into the Extended Essay subject and general helpline areas. Open – ended questions regarding the essay topic and possible information sources were included as discussion starters. Students were able to visit any of the forums with 24/7 access and they remained open for two weeks.

In an examination of the skills needed in the new “media culture” in which we live, Jenkins (2007) explained that “the new literacies almost all involve social skills developed through collaboration and networking. These skills build on the foundation of traditional literacy, research skills, technical skills, and critical analysis skills taught in the classroom.” (p. 21). In this new environment, students expect to be connected and to share online in their learning environment and so it is important that teachers actively reflect on the ways in which they support students in developing new literacies. It is not enough to organise discussion forums, wiki and blogging opportunities in our new online spaces without evaluation of the extent to which deep learning occurs.

Method

This study is a small-scale qualitative investigation into student use of an online discussion forum to facilitate topic choice for the Extended Essay research project. Theoretical sampling (Creswell, 2005) was conducted by the author in a grounded theory design to capture the experiences of the students involved in the discussion forums in their own words. Triangulation to validate the process occurred through checking interview data against the digital discourse of student forum posts. The author is the Coordinator of the Extended Essay Program at the school and monitors the progress of the students throughout the writing process as well as conducting training sessions in research skills for staff and students.

Subjects

A theoretical sampling procedure was used in which the students to be interviewed were selected from each of seven subject specific Extended Essay forums. The forums reflected the IB subject groups which students had chosen for the essay: English, Business and Organisation Studies, Visual Arts, Design Technology, Film Studies and Theatre. Thirty-three Year Twelve students participated in the discussion forums and seven students (four females and three males) were interviewed about the process in which they engaged and the way they interacted in the forums.

The ratio of boys to girls interviewed reflects the enrolment at the school. Students attend a one-to-one laptop school, which allows equitable access to the online environment. Students were selected across the range of forums and some were identified because they visited a number of the forums in the two-week open access period. Permission to undertake the study was granted by the School Principal and the Education Authority. Students were assured of confidentiality and all parents were notified and gave consent for student responses to be used in the study and for voice recordings to be published in an online symposium as part of the author’s University Master’s course requirements. The following pseudonyms have been used to protect student identities: Sylvia, Kate, Chris, Andrew, Emma, Tony and Sara.

Data collection and analysis

Interviews were conducted face to face at the school and were recorded either on audiotape or directly onto a computer using podcasting software. The interviews were approximately 20 minutes in length, were transcribed verbatim and students were able to read the transcriptions as a member checking process. Additional verification was provided by triangulation through use of data sources from interviews and forum posts.

Students viewed their archived forum posts before answering interview questions to stimulate recall interactions and to assist in reflection. Respondents were initially asked an open-ended question about the way ICT impacted on learning in general. Subsequent questions related to describing the way they participated in the forums, the value of the forum in refining the essay topic, and the way in which students supported each other. The students also had the opportunity to reflect on the concept of learning communities and to give suggestions for subsequent forums.

The range and depth of responses provided a rich discourse from which to consider student observations. Interview transcripts were reviewed initially using open coding to identify emerging themes or categories. Axial coding (Creswell, 2005) was used as a second level coding procedure to make connections between the categories.

Findings and discussion

Four major themes emerged in the open coding process: (1) interactivity; (2) group construction of knowledge; (3) ability to revisit recorded thinking [asynchronous affordance], and, (4) awareness of online identity. Gathering student reflections regarding forum participation provides the story of the processes and decisions in which they engaged. The most interesting aspect of analysing the emergent themes was the identification by the students themselves of learning and interaction in emotional, social and intellectual dimensions.

Social interaction and emotional awareness were recognised as much a part of the learning process as engagement in academic analysis of the Extended Essay topic. Figure 1 represents the relationship among the categories and the emergence of dimensions which categorised student engagement in the forums.

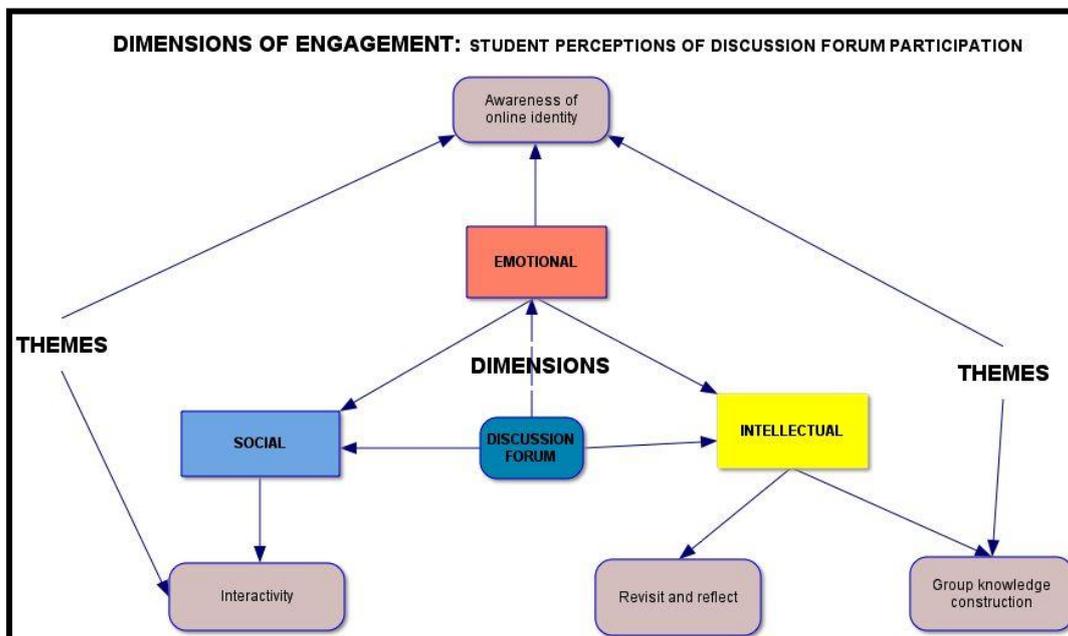


Figure 1: Axial Coding: Model of emotional, social and intellectual dimensions of engagement facilitated through engagement in discussion forums

Interactivity

In interview, students most frequently cited the importance of interactivity as the most beneficial aspect of ICT in their learning generally and in forum interaction specifically. For example:

Interactivity is really important for creative students. The way that the discussion forums have really helped is that they've helped branch out this form of communication you have with other students. It is the most important aspect of ICT in the classroom. (Steven)

Interactivity was described as the opportunity to access other opinions and information not residing within the classroom or the teacher. This concept that knowledge lies within the world – in line with theories of distributed cognition (Hutchins, 1980, 1995) - is critical in the process of

becoming an interdependent and independent learner. According to Geer (2005), “collaboration is identified as a desirable type of interaction in online learning communities. Collaboration encourages learners to move to the higher levels of cognition made possible by the intensity of the exchanges in arriving at a consensus” (p. 232). That students appeared to recognise this relationship is evident in the following interview statement:

It was through that interaction between the students and a couple of teachers that I found by looking at what they had written I was able to deduce my own question. (Andrew)

Students found it important that teachers were involved as well, not as instructors but as participants in the interaction. Students became aware that advice could come from unexpected sources and that teachers could be part of the learning community. For example:

Maths and Biology teachers gave advice which I wouldn't have thought to ask them because I was in a Design Technology forum. (Sara)

The dual aspect of being able to connect with others and at the same time interact with information sources which are accessed while on the forum was considered beneficial. The students were able to submit posts and on another window were concurrently following advice leads online while processing and engaging in the online activity. Jenkins (2007) defined the notion of participatory culture, outlining forms of expression within a culture and points to specific benefits and opportunities afforded by being involved in the participation. According to Jenkins (2007), “participatory culture shifts the focus of literacy from one of individual expression to community involvement” (p. 9). The Extended Essay is traditionally a dialogue between the student, the Supervisor and the External Marker. The discussion forum opens up this dialogue and through interactivity affords students experience in the new literacies referred to by Jenkins (2007).

Interactivity was also described in terms of the type of interaction which occurred and as a social activity. Giving feedback, asking questions and helping others was identified. Some students consciously and deliberately took on the role of peer mentor. For example:

Mostly on the forum I was helping other people. I didn't pose questions myself. Instead I attempted to help those that had already asked. Sometimes I've noticed with students they prefer to go to each other rather than to teachers. (Kate)

Kate referred to a number of interactions with others in the Film Studies and English forums, such as posing questions, reminding others of the Extended Essay structure and procedures, prompting, paraphrasing, seeking clarity and probing for greater depth of information. Kate visited a number of forums, affirming and positively encouraging others on each occasion. This type of interaction is inferred by Geer (2005) who concluded that “collaboration attempts to draw learners who may be at different stages in their understanding up to the same level for a particular task.”(p. 232). Kate's observations show a metacognitive awareness of her ability and role in enhancing the understanding of other students as well as the subtleties of peer-to-peer interaction. Social activity was seen to balance intellectual engagement. The seven students were unanimous in agreeing that interaction was a crucial factor in making the decision about subject choice or topic refinement. Andrew observed the range and scope of interactivity, that is, both social and intellectual, necessary for successful engagement.

A lot of interaction going on in the forum was social as well as work and this was important to ensure that students were engaged. Yeah, you have to have that balance. You need that interest plus you need that substance. (Andrew)

In their study of tertiary learners, Lombardi and McCahill (2004) identified the satisfaction which the social dimension afforded in the discussion forum learning episode. They argued that “existing online learning experiences lack the social dimension that characterises learning in the real world” (p. 1). They also explained the difference between behaviourist and constructivist models in

designing for interactivity in online learning. In contrast to the behaviorist model, the constructivist model involves students in “ongoing conversation” in a ‘community of practice’ in which “the learner feels the supportive presences of participating peers, mentors and experts” (Lombardi & McCahill, 2004, p. 1). In this study, Steven and Chris perceived that their social network was expanded beyond those people who they would normally interact with and that real world interactions were reflected in the online world.

Because you’ve met in a forum it’s much easier to start conversations about topics after the forum. (Steven)

and,

My personal philosophy is just to be honest. I try to be like me in real life with no exterior formality. It is more natural perhaps because the forum is privatised [sic] with school mates. We feel secure because of the similarities with what others are doing. The forum exactly replicated the atmosphere we have in real life. (Chris)

Group construction of knowledge

Jenkins (2007) identified a set of core skills and competencies that young people need in a participatory culture. Participation in the discussion forum seems to particularly enhance the development of the competency of “collective intelligence”, which is described by Jenkins as “the ability to pool knowledge and compare notes with others toward a common goal” (p. 6). This constant flow of information and the extension of knowledge is a feature of the one-to-one wireless laptop environment at the school in which this study was undertaken. In talking about the impact of ICT on her learning, Emma described the way in which students used the LMS daily, swapped files using Bluetooth and information via email as well as creating digital content for sharing and critiquing. A strong theme repeated in student interviews was of knowledge construction by interacting with others outside the self. Emma identified the importance of this sharing of ideas in a virtual space and the acknowledgement of the “collective intelligence” as a powerful influence on learning. She offered that:

Once I found out that there was information out there and that lots of people were supporting me it gave me the ability to say, yes, that’s ok, that’s what I want to do. It allowed everyone to get their ideas out there. You got an idea of what other people were doing. (Emma)

There was a sense of building group understanding of the requirements of the Extended Essay and an understanding of metacognitive activity. Students realised the way an online forum can provide a vehicle for amplification of thinking. Chris and Kate emphasised the way the experience of others and freedom to interact adds to collaborative learning.

You are free to discuss ideas. You are thinking to yourself out loud, but asking for commentary. In voicing thoughts, I was thinking out loud on the forum. (Chris)

and,

You could add opinion and get feedback which helps in building understanding. You gain a better understanding of everyone’s opinion which is impacted by their experiences and there are different viewpoints. So someone with different experiences will bring different viewpoints to the forum. (Kate)

Students recognised the critical nature of the importance of being open to other’s perspectives. Geer (2005) noted that “where the interaction is dynamic, learners are able to contemplate the differing perspectives and reflect on their own views thus building new meanings” (p. 232). The

sense of security in a learning community was a very strong theme in reflections and is a powerful reason to make use of forum participation. Jenkins notion of “collective intelligence” is clearly a feature of interactions in the social networking sites which are so much a part of our student’s lives. The discussion forum strategy acknowledges and utilises this form of communication and meets students’ expectations for collaborative learning through digital technologies.

Asynchronous affordance

Characteristics of the online learning environment can both afford and constrain the educational process (Swan, Bowman & Holmes, 1999). The interview data collected in this study indicated that the students perceive the unique contribution which asynchronous opportunities can provide them and that the positive aspects outweighed the perceived constraints.

For example, a number of the students referred to the inadequacies of general classroom discussions in terms of lack of time to formulate ideas, contribute and reflect. According to Geer (2005), text-based interactions may have limitations because of the absence of non-verbal cues but have the advantage of reflection time. The students also highlighted this advantage. They referred to the sense of information being lost in the classroom, in contrast to the forum where it is preserved for later investigation. For example, Kate notes the connection between preservation of ideas and thinking time by offering that:

With a forum, people can go back to these things and generally with a forum people have to think these ideas out a little bit more because they’re writing them down and putting them out there like that, as opposed to just speaking. So you can get a clearer understanding of the ideas. (Kate)

The students, adept at interacting in online environments moved easily between face-to-face and online discussion and did not appear to be impeded in the fluency of their interaction by the absence of non-verbal cues. Being able to engage in a student led forum empowered students and they could take up conversations which they had online in the face-to-face world.

Table 1 represents the author’s summary of a range of student perceptions of asynchronous “affordance” collated from the interview transcripts.

Table 1: Asynchronous learning environments: Affordance and constraints

AFFORDANCE	CONSTRAINTS
Access thoughts/ideas of others again at a later date when needed	Compulsory nature is a negative
Time to reflect before adding posts	Forum structure can roadblock ease of access. Needs to be well designed
Checks impulsive responses	Teachers do not always know how to use forums: They are not used enough
Access to ‘seeing’ perspectives of others	Maintenance and moderation is critical
Record of own and others’ contributions	Lack of response to posts can be alienating
Ability to comment, seek advice and debate after reflection	Posts need to be more than superficial
Quick access. Thoughts put on paper can be lost	Pressure to contribute even if not your learning style
Everyone had equal access to contribute even if absent on the day forums opened	If marks are attached it loses attraction
Connection enabled f2f meetings with like minded students	Negative responses or no response can demoralise individual participants

The importance students place on reflection as a key intellectual process afforded by an online forum is very strong and supports the proposal represented in Figure 1 for an ‘Intellectual’

Dimension of Engagement as a benefit of using forums in the Extended Essay process. If teachers are able to minimise the constraints, the dimensions of interactivity will be enhanced and will afford deeper learning and a more satisfying experience for students.

Awareness of online identity

Teachers can often focus on the development of ICT skills for students but in making ICT integral to learning, they must become aware of the contribution ICT can make in the broader educational context. (Fitzallen, as cited in Finger, Russell, Jamison-Proctor & Russell, 2007). Building a positive awareness of self is critical to adolescent growth and development and should be considered as an important factor in developing ICT enhanced learning experiences. Students in this study were very clear that online interactions caused them to consider the relationships with others and the ethical nature of providing public contributions to a body of knowledge. Their awareness of the emotional health of others and the level of consideration of feelings of others was also evident. Negative portrayal in the media and school situations of adolescent online behaviour may cause teachers to believe that students do not have a moral conscience or a belief in the welfare of others. The student interviews suggested that this is not the case. Steven and Emma indicate a strong sense of the impact of their actions on others.

I felt that I had a moral obligation to help others in the best way I could in the knowledge that they would later support me. (Steven)

and,

It was a reflection of me. I didn't want to write in a way that wasn't reflective of my personality. There are some things you can't say. Because we have a close relationship with teachers and students we can talk more casually not properly formal. Informality is possible because of relationships at the school. People have a sense of time and place. (Emma)

Students expressed an awareness of the effect of the absence of non-verbal cues on the construction of their online presence and the need to compensate for that. Kate reflected on the special conditions related to participation in online forums.

I try to be really open and friendly on forums because people can't tell how you're speaking. They can't see you. There were no insults. No one degenerated into making wasteful comments. (Kate)

Students were clear that representing the self online has implications for the way they were perceived by others, representation of character and impact on others' self perception. They were also aware of the ramifications of permanently recorded instances of the self - constructed identity and the consequences of the record being revisited in the future. However, there was also an excitement and pleasure in being able to form a character representation and shape it to mirror their face-to-face presence.

Conclusion

Developing an online discussion forum to support students in engaging in the International Baccalaureate Extended Essay process has demonstrated significant opportunities for improved learning outcomes in student intellectual, social and emotional development. An examination of student perception regarding discussion forum participation confirms that the use of this collaborative online tool is not a superficial activity and that engagement in a range of dimensions is afforded by the online environment.

Data analysis demonstrated that students are clearly aware of the opportunities offered and possible constraints operating in the online environment. One of the most exciting aspects of this study is student perception of improved face-to-face networks as a result of building online networks. They perceive a real value in interacting ethically with others, accessing multiple perspectives and supporting one another in an online learning community. The students confirm that ICT has facilitated the social construction of knowledge and evidence of the complex interplay between the dimensions of engagement which have been observed, further validates the choice of online environments to improve learning outcomes.

Siemens (2008) reports that “a growing disconnect in the tools and methods of classroom activity and those of youth culture and larger society is evident.” (p. 7). As a consequence, teachers must be open to using new technologies to give their students the opportunity afforded by interaction in online communities both to facilitate educational change and respond to the learning preferences and needs of the 21st century learner.

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