Enhancing Student Learning Experience through Group Supervision Using a Digital Learning Platform

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Abstract

This article describes the use of a digital learning platform to facilitate group supervision of students completing their capstone projects for a Masters in Leadership program. To address the problem of social and academic isolation experienced by students in traditional one-on-one supervision, the authors sought ways to use the digital learning platform Moodle to provide a supportive and collaborative learning environment, similar to what students experienced earlier in the program. Following a pilot demonstration period of two years, 35 students and 5 supervisors were surveyed and engaged in focus group discussion to obtain their assessment and feedback on the
benefits and challenges apparent in the use of the digital learning platform to provide group supervision to these students. Students noted many positive benefits in support of a collaborative learning environment using the digital platform, while some supervisors were more mixed in their assessment of this supervision approach. Some faculty were adamant that the group supervision digital platform saved them time and helped them be more consistent and focused with students. Other faculty were concerned about the difficulties inherent in using the technology effectively. Results are discussed in light of relevant literature1.

1. The authors wish to acknowledge the support of Royal Roads University’s Teaching with Technology Grant for this research.
Introduction

In this chapter, we describe the use of a digital learning platform to facilitate group supervision of students completing their graduate capstone project. The capstone project is an 8-month long major organizational change project that students do at the end of their 2-year academic program. We report on data gathered from students and supervisors who used this digital learning platform and from supervisors who did not. This study is relevant to any academic program in which distance learning students are engaged in an individualized and long-term project.

Students in the MA Leadership program at Royal Roads University, in Victoria, Canada, are required to complete a leadership change project within a sponsoring organization for the purpose of integrating leadership theory into practice and providing “real time” benefit to the organization. Using an action research methodology, students are required to engage key stakeholders in the organization in dialogue and to explore an issue as well as possible solutions (Rowe, Graf, Piggot-Irvine, Agger-Gupta, & Harris, 2013). Students work in a mutually supportive cohort-based learning community throughout the entire first year of their graduate program. Yet, during the capstone project (beginning in month 14 of the program), students transition from this enriched learning environment to working one-on-one with an academic supervisor to complete an individual service project over nine months in a sponsoring organization. Academic supervisors provide 30-50 hours of individualized support to students in all phases of the project from planning and proposal writing, gaining ethics approval, conducting the research, developing recommendations, and writing up the project.

Although there are standardized requirements and quality guidelines, templates, and suggestions for the supervisory relationship, most students and supervisors work in a dyadic relationship. During the capstone project, there is no formal contact or collaboration between and among students, nor between the supervisors themselves—in sharp contrast to the learning environment that nurtured the students in the first year of their graduate studies. Most capstone supervisors communicate with their students via e-mail, telephone, Skype© and, occasionally, face-to-face meetings, where possible.

Student and alumni surveys, supervisor evaluations, and casual conversations with students have revealed a consistent theme: students feel isolated during the traditional one-on-one supervision process. Students spoke of feeling “adrift” and “unsupported”. Many pointed out the sharp contrast between the supportive, social learning environment in the program before the start of their capstone and their isolated journey during the capstone. Moreover, we have observed that the one-on-one supervision process often results in wide variation in how students are supervised, in terms of guidance, resources, progress achieved, and quality of the submitted project reports.
To address these challenges and to enhance students’ learning experiences during the capstone project, the authors sought ways to use the digital learning platform Moodle to provide a supportive and collaborative learning environment similar to the one students experienced earlier in the program. As this platform was used to deliver online courses in the first year of their program, the students were already familiar with it. The learning platform provides mechanisms for group discussion forums, as well as a structure for presenting learning resources and organizing student submissions, which we felt could be harnessed for our purposes. We turned to the literature to better understand how a digital learning platform could be used to bring students together in a group process that would support work on individualized projects. We reviewed literature across five domains: (a) the pedagogical value of distance education, (b) the relative efficacy of different learning technologies, (c) group interaction factors, (d) faculty experiences teaching in an online environment, and (e) extant empirical evidence demonstrating positive outcomes for digital learning platform supervision and learning sites.

Literature

The Emergence of the Digital Learning Platform

Distance education has long been an alternative to classroom education. In the early years, distance education consisted of correspondence-type courses that depended on the postal service or e-mail to transmit course information, instructions, and feedback to students in geographically dispersed locations. As distance learning began to establish itself as an alternative to classroom instruction, courses on digital learning platforms became more sophisticated, including mechanisms to enable students to interact with their instructors through synchronous and/or asynchronous discussion. Research on design, technologies, and faculty pedagogy identified factors such as student discussion forums and instructor facilitation that created a successful learning environment (Miller & King, 2002; Rena & Paloff, 2001; Moore & Kearsley, 1996).

Nonetheless, while digital learning platform sites were developing more pedagogical features, there were still issues of low completion/high drop out in distance courses (Palloff & Pratt, 2001; Moore & Kearsly, 1996). Students cited lack of timely feedback, feelings of isolation, and frustrations with the technology as their reasons for dropping out of a course (Hara & Kling, 2000). In an investigation of barriers to successful performance of students in distance based courses, Owen, Hardcastle, and Richardson (2009) noted additional factors such as lack of orientation on how to study in a distance education context, confusion over how to submit assignments, feelings of isolation, lack of one to one contact with staff, and lack of confidence with the technology associated with distance learning. These issues led to further
research on characteristics of students that were predictive of engagement to support further development of instructional techniques to engage students.

Students who stay engaged attribute their persistence to other students in the course, as well as personal support from staff and/or instructors. Miller and King (2003) summarized research on these factors, concluding that social factors, more than technology factors, are the “main determinants of success or failure in a computer-mediated course” (p. 287). Miller and King argue that “technology is the cornerstone of distance education, but successful distance education requires a paradigm shift in the learners, the instructors, the pedagogy, and the organization” (p. 287).

Often administrators adopted online courses with an expectation of achieving cost–efficiencies (Rumble, 2001). Moreover, Rumble (2001) noted that administrators often sought to reduce instructional costs by increasing class size or employing part time, contract, or adjunct faculty (as opposed to tenured faculty) to achieve a lower labour cost in teaching of courses. Rumble (2001) was of the opinion that time to deliver quality teaching in the online environment was greater than for face-to-face teaching, thus putting faculty in the untenable position of teaching more hours for less compensation or modifying their teaching practice to reduce interaction time spent with students. In a review of literature on faculty teaching, Van de Vord and Pogue (2012) observed that while most faculty believe online teaching is more time-consuming, the evidence is mixed as to whether the time investment of faculty is greater in the online environment. Time spent often depended on the type of activity. Certainly these authors noted that the faculty have flexibility and control over how much time they engage with students in the online environment. When faced with fixed compensation levels for an online course, it is possible the online instructor will unconsciously adjust their teaching or facilitation practices so as to reduce time engaging with students in online discussion forums, providing feedback and other supports. This has its consequences; research has demonstrated that student engagement in a course suffers when interaction between instructors and students is minimized and instructor feedback is not timely or specific to the learning needs of the students (Moore & Kearsley, 1996; Palloff & Pratt, 2001). The dominant perception is that higher levels of student engagement, which is related to student performance, requires more instructor time in the online environment (Palloff & Pratt, 2001, Rumble, 2001). Our research needed to address these perceptions if faculty were to adopt online group supervision.

**Groups and Group Interaction Factors in the Online Environment**

To understand the value of the digital learning environment, one needs to examine how students interact as a group, whether on a discussion board or working in small groups as part of a learning assignment. While the conclusion of many researchers is that group work in a face-to-face environment is more successful than online groups, other researchers have found evidence that online group work was equally as successful and in
some cases, could be said to be superior (Koh & Hill, 2008). Johnson et al. (2002) determined that online teams could be successful if they took steps to break the team’s work into tasks or steps, spent extra time in the beginning to clarify expectations and develop group protocols, had an instructor who provides leadership, directions, and instructions, and develops timelines that matched the goals of the team work as well as the capability of its members.

Koi and Hill (2009) found that while group work in the online environment could be challenging and take longer because of team development needs, high levels of interaction and a sense of community among group members can lead to successful outcomes and satisfaction. Garrison and Vaughan (2008) referred to sense of community as “social presence,” defined as the feeling of communication or connection among groups of learners. They identified three factors as important: open communication, cohesive responses, and affective connections. Researchers investigating social presence or sense of community found it key to collaborative learning (Gunawardena, 1995; Garrison & Vaughan, 2008). Online learning is just as effective as face-to-face learning if social presence is achieved (see summary in Huevelman-Hutchinson, 2012). Additionally, group work is optimized when steps are taken to assist learners in forming a sense of community through strategies such as frequent interaction in small groups, activities designed for the online context that build increased familiarity, providing learners with techniques and tips on time management, and teaching students about stages and strategies of group formation (Koh & Hill, 2009).

Paloff and Pratt (2005) found that group work in an online learning environment can be transformative since learners in asynchronous discussion forums have more opportunity to read messages, reflect, and write carefully and deeply in response. London and Sessa (2007) describe group learning as occurring when individual group members create, acquire, and share knowledge and information. Group members change as a result of their interactions as a system, moving from individualistic behaviors to synergistic interactions that foster continuous learning (Kasl, Marsick, & Dechant, 1997). London and Sessa further argue that group continuous learning results in:

- deepening and broadening of the group’s capabilities...[according to] three interaction patterns of forms of learning: adaptive, generative and transformative. In adaptive learning, the group automatically reacts to changes in the environment so that the group is able to adapt. Generative group learning refers to situations where the group purposefully is proactive and generates and uses new knowledge, skills and behaviors. However the purpose and form of the group remains the same. Transformative group learning refers to the transformation of the group into a new entity. (p. 652)

London and Sessa (2007) emphasize that the group facilitator or leader is key to collaborative group learning through channeling of the learning stimuli, improving group and individual readiness to learn, and mobilizing the support resources (e.g., information, technologies, time lines, standards, etc.)
for group learning. This may be done in the form of forceful pressures, demands, and challenges as well as opportunities which disturb the status quo and stimulate learning. However, groups must be ready to learn before members will accept disturbing events (Hackman & Wageman, 2005). For Palloff and Pratt (2005), successful group work and the creation of a collaborative and transformative learning environment begins with the instructor. The instructor should act as motivator and “facilitator or guide, allowing students to create their own learning process as they move through the phases of collaborative activities” (p. 19). Palloff and Pratt (1999) speak to the importance of social interaction through dialogue, regular presence on the learning site, and group activities that require cooperation, negotiation, and team collaboration.

In a collaborative learning environment, both instructors and students need to be socially present. In addition, the instructor must give up some control, and the student must take on more responsibility in interaction with other students so as to “establish and nurture a collaborative community of learners” (Miller & King, 2003, p. 291). The type of dialogue is also important; it is not just a matter of being socially engaged online. The dialogue needs to be channeled or facilitated to expose student learning strengths and their gaps, thus creating the potential to go deeper in critical thinking and analysis of the issues at hand (Weigel, 2002). We aimed to leverage a collaborative learning environment to better support students completing their capstone projects.

Digital Learning Platform Supports in the MOST Project

In the MOST project (Laffey et al., 1998), students were required to work as a team over several months to a year, using a variety of computer mediated technology tools to solve real problems in the field of computational science. Instructors provided help as coaches and as facilitators. Coaching within the MOST project learning environment involved modeling, giving feedback, challenging the student, providing suggestions, samples, and hints, and diagnosing problems—both a priori or after performance—either immediately or delayed (Laffey et al., 1998). In this digital learning platform environment, students could post their ideas electronically and get immediate comments from the instructor on the electronic document, thus facilitating immediate learning and adjustments. Other supports in this environment included tools that helped the student to specify goals and objectives or to establish activities and tasks within specific time lines.

Students engaged in threaded, asynchronous discussion forums that enabled discourse and information sharing. This resource, in combination with e-mail and real time chat rooms, created opportunities for students to support each other’s learning, get help when needed, provide social support and in general create a “community of learning” among the student group. Reflection was also part of the digital learning platform learning environment — in the context of feedback and critiques from both the
instructors and peers. Students could compare their work to others as well as to standards and internal cognitive representations—a process that generated new learning and insight.

Finally, students in the MOST project were supported in the creation of a document (knowledge) representation of their work. This involved writing a journal article with sections for an abstract, the goals and objectives, resources utilized, the application, conclusions, and recommendations. Revisions were tracked and became additional sources of learning; different formats for representing the document were also possible in the digital learning environment.

The context of learning required by students in the MOST project is similar to the experience of students working on the MA Leadership capstone projects. The students are engaged in an inquiry project to address a need or problem identified by a sponsoring organization. They are required to undertake research, facilitate processes of engagement with stakeholders, implement data collection, and carry out technical tasks of data analysis and interpretation. Like the MOST project students, the MA Leadership students are in geographically separated locations. Computer-mediated technologies for the MOST students, in a group context, provided opportunity for the students to engage in deeper levels of analysis, problem solving, and learning.

The Leadership Program Digital Learning Platform Supervision Site

Based on the literature as well as our experiences as instructors in the digital learning environment, we identified trust, collaboration, support, privacy, and confidentiality as guiding principles for the design of a digital capstone supervision site for the MA Leadership students. These guiding principles informed the design and development of each segment (e.g., bulletins, forums, site settings) of the Moodle Learning Management System. Teams were set up in the Moodle supervision site to model the distance environment that students had become accustomed to during the first year of the program. Establishing supervision teams (for each supervisor and the students) was intended to model an environment that would promote collaboration, coaching, reflection, and learning.

When students approached a faculty member to explore potential supervision, the faculty member explained his or her supervision approach and methods. At this time, the faculty member would explain that he or she was assembling a group of students to work together using the online supervision site. Equipped with this information, students made the choice of working with the supervisor in a team environment or of selecting a different supervisor for traditional one-on-one supervision. Sometimes students suggested others to join the group; other times, the supervisor would put together a group of students that had approached him or her. Typically, the supervisor’s goal was to establish a supervision team with two
or more students from the same cohort and use the supervision site to instruct and coach students throughout the project.

Once formed, the site administrator would set up the supervision team in the online supervision site. Only those within the team had access to their supervision team site. The site was designed to ensure privacy and confidentiality of the interactions (e.g., discussions, shared documents) were protected, resulting in a natural platform for students and their supervisor to create and nurture trust and support. One supervisor observed that students quickly began interacting with each other in the ‘team discussion forum’ (bulletin board) and turned immediately to the task at hand (personal communication, 2013).

Forums corresponding to the phases of the project implementation were displayed in a consecutive (logical) manner in the site and provided students a view of each stage of the capstone project (Figure 1). The online site also contained a ‘latest news’ bulletin that supervisors used to post updates about the capstone project (e.g., revisions to the Capstone Project Handbook), and offer guidance and instructions for completing the OLP.
Supervisors requested that students update their capstone project schedule and post this schedule in the OLP Schedule Forum (Figure 2) at the beginning of each month. This monthly activity positioned students to assess the planned schedule against their progress and, if required, adjust timelines. The visual representation of their progress provided opportunities for students to engage in dialogue about their progress, celebrate achievements, and discuss potential challenges. Students shared strategies to support their progress through the various project stages within the required timeframes.
The activity also provided a venue for the supervisor to coach and provide feedback to students on their progress and upcoming deadlines.

**OLP Schedule**

**Students:**
At the beginning of each month post your updated OLP milestones schedule. Discuss any periods of time that you will be away or unable to work on your project. Please remember to incorporate regular check-ins with your sponsor throughout your project.

Make sure to allocate adequate time to perform a thorough review of your literature topics and take into consideration time to complete (write) your second chapter. Finally, it is important to schedule adequate time to compose Chapter 4 and Chapter 5. These chapters tend to take more time to write as they report on data findings and offer recommendations to the sponsor organization.

**Academic Supervisors:**
Make use of this site to follow a student's progress. Ensure schedules are updated and potential scheduling conflicts are addressed.

*Figure 2. OLP Schedule Forum.*

Students progressed through their capstone project, making use of the discussion forum relevant to the particular stage in which they were engaged. Descriptors in each forum offered students an understanding of the components of the particular stage of the capstone project (see Figure 3). Each forum provided a space for students to engage in a threaded discussion with peers and their supervisor. The site design enabled the supervisor to focus their instruction on each stage of the capstone project, breaking down each stage and building a bridge to the next stage. Students submitted various pieces of their project (e.g., tools and method development) and received feedback from peers and their supervisor. This student interaction promoted an environment for reflection and learning.

**Tool and Methods Development**

**Students:**
Provide an initial posting that describes the tools and methods that you intend to use. Describe the reason why they were chosen; how they may have shifted or changed from your original proposal.

This is a good place to get feedback on your data collection tools and methods. Ask your student team members to read the proposed questions on your survey or in your focus group, and comment on whether they are clear and relevant to the objectives of the study.

Remember the OAR model. Your data collection tools should not just yield data but create opportunity for key stakeholders in your organization to learn and build new relationships as foundational to organizational change.

You should not proceed to using any data collection tool without the approval of your academic supervisor.

**Academic Supervisors:**
Be sure to review and approve all data collection tools being used by your student. Provide feedback on tool choice, question construction and process of administration. Well-designed data collection tools are critical to the success of the student's project, yielding them the data that will allow them to address their research questions as well as build the stakeholder relationships that are foundational to organizational change.
Table 1 provides an example of a discussion between a supervisor and a group of students in the digital platform Moodle supervision site. In this posting, one student presented an issue. A peer responded and asked some additional questions. The supervisor responded to the initial issue and the additional questions.

**Initial post from student:** I am having challenges with crafting my questions for the World Café. I am struggling, as I would like participants to look at their own fears and beliefs while using an appreciative stance. Any suggestions?

**Peer response:** I've looked over your Chapter One again and wonder if you could use the subquestions. Your subquestions essentially ask what the positives are for the organization is and how collaboration can appropriately be achieved.

**Supervisor response:** I am going to chime in and agree with [peer's] suggestion. The subquestions are tight, hold an appreciative stance lens, and have the potential to elicit great discussion and insight. Please make sure you pilot test your questions ... always a valuable exercise as you strive to compose the perfect question. Looking forward to seeing the next/final version of your questions. I hope you find my comments helpful.

**Student reply:** Thank you! Asking the subquestions is a terrific idea. I have a pilot test planned for next week with two of my inquiry team members. Once we have completed the pilot, I will post my final draft questions here for everyone to view and offer comment. I can just imagine the discussions these questions will generate at the tables! Thanks again.

In addition, students posted drafts of their proposal, ethics review, and chapters of their final report for feedback from peers before submitting them to the supervisor. This collaboration became a key component to accelerate learning across the group. When a student posted a question, peers were able to share their knowledge and the supervisor could address the issue (typically a common one) to all, instead of separately via emails to individual supervisees. At the completion of their capstone project, students posted their draft OLP Final Report (see Figure 4) for review and feedback from their peers.
Within the Moodle supervision site, a 'shadow' role was designed to train and familiarize supervisors who were new to capstone project supervision or just new to the Moodle team supervision approach. This role allowed an academic supervisor to follow a supervision team to learn how to facilitate a capstone project using the digital learning platform Moodle supervision site. The supervisor leading the supervision team would first obtain consent from the students to allow the shadow to join the team, explicitly describing the purpose of the shadow role. A shadow could view the supervision team site (e.g., view bulletins, forum discussions) with no ability to engage in forum discussions.

The Research Approach and Methods

Following a trial period of two years, in which 35 students and 5 supervisors used the Moodle supervision site, we implemented an evaluation of process and outcomes. Data was gathered from student participants as well as supervisors.

The evaluation questions were as follows:

- How effective is group supervision using an online technology site

2. The opportunity to use the online capstone supervision site was voluntary for both students and faculty; consequently, only small numbers joined from each of the four cohorts in any year. After two years, we deemed there was a sufficient level of participation that research and evaluation was possible
(Moodle) compared to traditional one-on-one supervision in terms of student’s experience, their learning, and project outcomes?

- What is the experience of faculty supervisors engaged in this process?
- What design features would improve the site from both a student and supervisor perspective?
- What best practices have we learned for managing group supervision using an online technology site (Moodle)?

Using a post-case summative design, the study involved collection of qualitative and quantitative data addressing: (a) quality of relationship between supervisor and student, (b) project adherence to requirements, (c) completion of the project on time, (d) quality of the project report and reflective paper, (e) workload impact for supervisor and student, and (f) extent to which a sense of community and engagement were enhanced.

**Student Survey**

Students were invited to provide survey feedback on their experiences with the Moodle supervision site following the conclusion of their capstone project and completion of their graduate program. Ethics approval was obtained from all participants. Table 2 provides a list of the topics explored in the survey.

<table>
<thead>
<tr>
<th>Background Data:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Demographics, Personality Factors, and Expectations</td>
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<tr>
<td>- Past experience and comfort using technology</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Assessment of Experience Using the Site:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Frequency of site visits</td>
</tr>
<tr>
<td>- How useful they found the site (resources, support)</td>
</tr>
<tr>
<td>- Comfort with site</td>
</tr>
<tr>
<td>- Challenges with site</td>
</tr>
<tr>
<td>- Degree of engagement with supervisor/students on the site</td>
</tr>
<tr>
<td>- Satisfaction with process of OLP</td>
</tr>
<tr>
<td>- Comments and what was liked/shared with others</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcomes Related to Using the Site:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Quality of relationships</td>
</tr>
<tr>
<td>- Quality of support at each phase of the supervision</td>
</tr>
<tr>
<td>- Students’ areas of learning</td>
</tr>
<tr>
<td>- Completion of OLP project</td>
</tr>
</tbody>
</table>

*Table 2. Student Survey Topics.*

All students who had used the digital learning platform Moodle site from July 2010 to July 2012 were contacted by a neutral third party research assistant. In this way the perceived risk of speaking honestly about their experiences was reduced. Students were asked about how they had used the site and
their experience with each other and their supervisors. Twenty-one students responded to the survey and 81% were female. These students were from seven cohorts (with an average size of three students per group). Forty-five percent of respondents were in the 51-60 age group, 40% in the 41-50 age group, 10% in the 31-40 age group, and 5% in the 61-and-over age group.

Focus Group with Instructors

Faculty who had supervised or considered supervising students through the online site were invited to participate in a focus group to address questions related to their experiences. A research assistant sent out invitations, arranged for informed consent forms to be signed and returned, and made all arrangements for the focus group session. The focus group was facilitated by a neutral third party not involved in any part of the study. A total of four individuals participated in the focus group, two of whom had supervised at least one group on the Moodle site and two others who had gone through training but had not yet supervised students through the site. Questions for the online supervisors focused on their experiences with using the site and the supports they had needed. Questions for supervisors who had not used the online supervision site had to do with their perceptions of group supervision and obstacles to using it (see Table 3).

Table 3. Focus Group Questions.

Instructors Who Did Not Use the Supervisor Site:
1) When you think about using the Moodle site to supervise your students, what comes to mind?
2) How do you perceive it to be different from one-on-one supervision?
3) What do you see as the advantages and benefits of using the site?
4) What do you consider may be obstacles and/or challenges using the site?
5) What supports would you need that would enhance your ability to make use of the site?
6) Is there any other comment you have to offer regarding making use of the Moodle supervision site?

Instructors Using the Supervision Site:
1) When you think about your experience supervising via the Moodle site, what comes to mind?
2) How was this experience different from one-on-one supervision? In what way did it differ in terms of workload? In what way did it differ in terms of how you related to your students?
3) What have you learned as a result of supervising this way?
4) What supports do you think supervisors need to use the site effectively?
5) What is working well? What could be improved?
6) Is there anything else you’d like to share?

Study Findings – The Students

Student Reported OLP Supervision Needs

Students were asked to identify their supervision needs as they had perceived them prior to becoming engaged in the use of the online supervision site.
Table 4 shows that most students wanted help from their supervisor on various aspects of carrying out their projects. Interestingly, 85% identified encouragement and support as a need.

<table>
<thead>
<tr>
<th>Greatly Needed</th>
<th>Somewhat Needed</th>
<th>Total # (%) Greatly or Somewhat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor to be familiar with the content area of my OLP</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Feedback from the supervisor on each OLP milestones</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Information on the OLP requirements</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Easy access to forms and supporting documents</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Peer feedback and help</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Help with designing research tools</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>APA editing and formatting help</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Regular progress check ins</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Help with analyzing data</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Encouragement and support</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Help with writing the report</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Clear description of the OLP process and milestones</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 4. Student Reported Supervision Needs or Desires (21 respondents).

Engagement with the Online Supervision Site

Eighty-five percent of students expressed initial interest in being supervised through the group supervision site (53% were “very interested” and 32% were “somewhat interested”). Table 5 lists the students’ reasons for using the online site. The most prominent reasons were accessing information on the capstone project requirements and getting feedback from the supervisor. The peer support potential of the site (i.e., feedback from team members) was identified by less than half (42%). Additionally, only half the students (57%) felt they needed to use the site to keep themselves on track or to stay motivated. Most of the students (67%) were assigned to a student team in which they knew the other team members. Twenty-four percent were assigned to a team where they did not previously know their fellow team members. About half of the students joined their digital learning platform Moodle supervision site when they were working on their capstone project proposal while the other half started later in the process—as they were working on their research ethics application.
Table 5. Reasons for Engaging the Moodle Site (21 respondents).

<table>
<thead>
<tr>
<th>Reason</th>
<th>Often Needed</th>
<th>Frequently Needed</th>
<th>Total # (%) Often or Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>To access information on the OLP requirements</td>
<td>9</td>
<td>7</td>
<td>16 (76.2%)</td>
</tr>
<tr>
<td>To get feedback from my supervisor on my proposal, ethic applications and draft report</td>
<td>6</td>
<td>10</td>
<td>16 (76.2%)</td>
</tr>
<tr>
<td>To get instruction from supervisor on design of data collection tools</td>
<td>8</td>
<td>7</td>
<td>15 (71.4%)</td>
</tr>
<tr>
<td>To get instructions from supervisor on data analysis</td>
<td>7</td>
<td>8</td>
<td>15 (71.4%)</td>
</tr>
<tr>
<td>To see what others were doing</td>
<td>9</td>
<td>5</td>
<td>14 (66.7%)</td>
</tr>
<tr>
<td>To post my progress on my OLP project</td>
<td>8</td>
<td>4</td>
<td>12 (57.1%)</td>
</tr>
<tr>
<td>To help me stay motivated</td>
<td>5</td>
<td>7</td>
<td>12 (57.1%)</td>
</tr>
<tr>
<td>To keep myself on track with making good progress</td>
<td>7</td>
<td>4</td>
<td>11 (52.4%)</td>
</tr>
<tr>
<td>To get feedback from my team members on my various documents</td>
<td>7</td>
<td>4</td>
<td>9 (42.8%)</td>
</tr>
</tbody>
</table>

Despite varied reasons for using the site, frequency of access was high. Most students (71.4%) said they had engaged with the supervision site every two or three days or at least twice a week. A quarter of them (24%) said they were on the site daily.

Level of comfort with the site was very good (81%). Nobody was uncomfortable with using the site. Ninety percent of the survey respondents said the pace of work on the supervision site was just right. They were able to keep up with their postings.

Activities and Quality of Supervision

When asked what activities occurred while working on their capstone projects on the Moodle supervision sites, over 80% of the survey respondents responded:

- sharing of experiences in implementing the OLP,
- problems or challenges in implementing the OLP,
- new information or resource materials,
- feedback from peers on your work, and
- motivational messages.

Quality of supervision support was rated as very high by nearly all the survey respondents (Table 6), whether for regular motivational support of for support, coaching, and feedback on various aspects of completing the capstone project. This data suggests that it is the supervisor’s engagement in the online environment that is critical.
### Table 6. Student Report on Quality of Supervisor Support (21 respondents).

<table>
<thead>
<tr>
<th>Support Type</th>
<th>Rated as Good</th>
<th>Rated as Exceptional</th>
<th>Total # (%) Good or Exceptional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular motivational support</td>
<td>8</td>
<td>12</td>
<td>20 (95.2%)</td>
</tr>
<tr>
<td>Support/coaching/feedback on my proposal</td>
<td>3</td>
<td>17</td>
<td>20 (95.2%)</td>
</tr>
<tr>
<td>Support/coaching/feedback on developing data collection tools and administering them</td>
<td>5</td>
<td>15</td>
<td>20 (95.2%)</td>
</tr>
<tr>
<td>Support/coaching/feedback on resolving implementation barriers or challenges</td>
<td>3</td>
<td>17</td>
<td>20 (95.2%)</td>
</tr>
<tr>
<td>Support/coaching/feedback on analyzing my data</td>
<td>6</td>
<td>14</td>
<td>20 (95.2%)</td>
</tr>
<tr>
<td>Support/coaching/feedback on writing the final report</td>
<td>4</td>
<td>15</td>
<td>19 (90.5%)</td>
</tr>
<tr>
<td>Support/coaching/feedback on writing my ethics application</td>
<td>4</td>
<td>14</td>
<td>118 (85.7%)</td>
</tr>
<tr>
<td>Support/coaching/feedback on working better with my sponsor</td>
<td>8</td>
<td>8</td>
<td>16 (95.2%)</td>
</tr>
</tbody>
</table>

**Positive Outcomes Reported by Students Using the Site**

Students rated the group supervision site as very valuable (71.4%) or valuable (19%). Only 10% (2 individuals) said the site “added no value” to their work on their capstone. One of these individuals noted they joined the group after it had been formed, and the other individual joined a group from a different cohort. The top three things that students liked about the site were: (1) access to OLP resources (OLP samples and requirements and process documents), (2) access to their supervisor in terms of timely feedback and consistent direction, and (3) the collaborative team environment that facilitated their teamwork, providing ongoing support and motivation. The site also created significant momentum as students saw their peers completing milestones and celebrating their achievements. This notion of the value of a team environment was supported by students reporting a “good” to “strong” sense of community (76.1%) with only 14% (3 individuals) reporting that there was “somewhat” of a sense of community and 9% (2 individuals) a “poor” sense of community. This finding shows that 2 of the 21 students had a poor experience. However, most students (71.4%) said they would definitely recommend an online supervision site to others, 10% said “perhaps,” and 19% students said “it depends.”

A qualitative analysis of student comments revealed three overarching themes, all of them consistent with the quantitative survey findings. Students saw the community and the relational benefits of the site as facilitating collaboration and a shared experience, enhancing motivation, and providing better access to supervisor support. It also helped them to balance personal and learning needs. The enriched learning environment provided a common context for learning and helped students to establish common expectations. It created a structure, process, and set of milestones. Students also commented on the specific aspects of the digital learning platform that were
advantageous, such as the group discussion forums and the convenient electronic access to key documents in one location.

Respondents expressed a strong appreciation for the ability to continue the style of learning and mutually supportive community they had become accustomed to in the first year of the program. Generally, they believed that the site significantly enhanced their overall experience and ability to complete the capstone. The group-based supervision site provided a place for them to share ideas, celebrate successes, and, most importantly, to support each other.

Additionally, the online supervision site contributed to enhanced learning. Respondents valued the ability to share with their peers and enable each other’s learning. Learning together resonated throughout the analysis. Respondents appreciated the opportunity to view each other’s work and the comments/support offered by the supervisor. The respondents derived great value interacting with their peers and supervisor to support individual and group learning. This learning environment promoted a constant momentum and focus that resulted in a number of respondents completing their capstone ahead of schedule. One respondent went so far as to state that the digital learning platform Moodle site should become a permanent fixture in the MA Leadership program.

**Challenges or Difficulties Experienced by Students**

While 57% of the students said they had no challenges or difficulties using the site, 16% said they had technical issues with the Moodle site platform and 16% said they experienced some personal time pressures completing the OLP and supporting others on the site. Two students observed that not all students were at the same stage of progress on their OLP and, thus, were overwhelmed by too much feedback. Suggestions for improving the site were to make the resources easier to find or access, provide a better explanation on the intent or purpose of the site, and to make other group collaboration tools available (e.g., Skype®, Blackboard Collaborate etc.). In addition, respondents stressed that students should be at similar places in their process and working at a similar pace to reduce any learning participation and support imbalances.

**Findings – Supervisor Focus Group**

**Workload**

Supervisors who had received training but had not yet used a group supervision site expressed great concern about the additional work they perceived as necessary to learn a new way of supervising. It was their belief that supervising students using the online group supervision site would require learning to manage the technology of the digital learning platform as well as how to supervise effectively in an online environment, which could be quite different to the individualized methods they were currently
using. It would also create a record of their supervisory practices and communications, which could open their supervision to scrutiny of others. However, supervisors who had used the online site indicated that working with students this way either did not increase workload or actually reduced workload. For example, one supervisor stated that “in terms of workload when you are supervising several students from the same cohort, it reduces your workload significantly.” It is important to note that when the students are in the same cohort, while each student’s progress may vary, they are working toward a common set of deadlines. In contrast, mixing students from different cohorts in one online supervision site does not reduce workload, according to the participants. When students are on the same schedule, another supervisor observed, “it doesn’t take me any more time...because the online group supervision site keeps [supervisees] moving along.”

The online group supervision site enabled students to read each other’s postings and document drafts. Thus, they were able to track and support each other’s progress and achievement of milestones. This mutual peer support made it easier for supervisors to support their students. As one supervisor explained:

And in fact, the large group that I did just recently, they all finished well ahead of time and I’m sure it was just because they were there to support each other and help each other out so much that it actually made the timelines easier and for me much easier to support my learner in that regard... so not much of a workload difference for myself; I don’t think.

Another supervisor supported this idea, stating that it was easier to support students because “there was a lot of sharing of information. [The students] really supported each other and I think they motivated each other, kept each other going.”

It is not just the students providing mutual support and motivating each other to make progress that creates the benefit to group supervision through the online group supervision site; it is also significant that issues and questions come up in the learning interactions that allow for a richer discussion for all. A supervisor observed that:

I had two people in the same cohort before and that really helped them move along together. But this helps me see them working together. I can post the same message for both. It’s just — it’s quite a bit easier, I think.

While there is a learning curve associated with adopting this approach to supervising, the supervisors agreed that workload was reduced or remained the same and that the site contributed to sustained student progress on their OLPs. As well, helping students to meet milestones and share information were key strengths in supervising groups of students in an online group supervision site.

Enriched learning environment for students

A key instructional approach in the MA Leadership program is building and
maintaining a supportive learning community through peer feedback and support as well as team-based activities and assignments. In the past when students began their culminating capstone project, they would transition from a socially rich learning community environment to a more solitary one-to-one relationship with their supervisor. Generally, they would interact with their supervisor through email and with peers only informally in other forums such as Facebook. As teachers and supervisors, over the years we (the researchers) often heard students remark that they felt isolated and missed the peer support and learning community they’d previously experienced.

A common theme among the participants was the benefit of the sense of community apparent in the groups of students coming together in the online supervision site. One participant described how well the learning community came together:

I have to say it was just marvelous. It created a very strong sense of... being in [the on-campus residency] for the team again. The team really worked well together. There was a lot of information sharing. It was very powerful for the students.

Another participant described the importance of continuing to promote a learning community in the capstone part of the program:

I think it helps that transition from [the on-campus residency] out into the wide, wide world of confusion and life with [the capstone project], that you can’t always provide that support to the student the way another student can provide it to another student. So I found the students were cheer-leading one another on and sharing resources and asking questions and putting in a request for information.

Not only did the online group supervision foster a continuity of approach between the programming leading up to the capstone and the capstone experience itself, it provided key support that was often missing in one-on-one supervision.

Supervisors observed that in online group supervision, technology was an enabler to enhance student experience and create a richer learning environment for students. As one participant observed:

One [thing I learned] was that technology can work in our favour and that the students are well attuned to going into that kind of environment... they seem to get energy from the ability to be collectively together.

In addition to gaining energy, students benefitted from peer feedback and gained multiple perspectives. Citing her students, a supervisor stated:

A number of [students] commented on how helpful it was to get perspectives from two different people that had two very different styles as well. So they had the added advantage of. I guess for want of a better word, pulling in more information and gathering more data... than they would have gotten had they just worked with one person.

This quotation demonstrates the best aspect of a learning community; students support the learning of others, rather than pursuing their own
learning though one-on-one supervision. Rather than weakening or interfering with the bond between student and supervisor, the student-supervisor relationship was deepened in an online group supervision setting. For example, a supervisor observed that:

*I think, if anything, it made the working relationship much closer between the learner and myself in that there just was that real sense of community and a very strong bond and connection created because it seemed so much more like the atmosphere of [the on-campus Residency] that they experience. So it was a very positive aspect.*

Supervisors agreed that creating an online community that included two or more students and a supervisor created a stronger bond than they had experienced when they did one-on-one supervision, which is the norm.

**Learning for supervisors**

As well as promoting a positive learning environment for students, online group supervision fostered a learning environment for supervisors. For example, one supervisor noted:

*I think the most powerful learning for me was the reminder of the enormous benefit to community for everyone. It's not just what the actual students are learning and for myself, my learning has been incredible.*

Focus group participants remarked that the online platform had allowed the capstone project coordinator to orient and support them to successfully supervise in that environment, especially in terms of helping them to use the site effectively and to manage their workload. The participants saw this type of support as essential, but they felt they would have benefitted from more supervisor-to-supervisor interaction. For example, a participant lamented that she would have liked to see more participation from supervisors in the private discussion board provided for supervisors:

*How it could have helped my workload was if there was more activity in the supervisor to supervisor area, where I could have some resources from other supervisors that they were using to support their students that then I could take and make my own or that we could share. So that may have helped the workload there.*

Rather than seeing online peer-to-peer interaction as increasing their workload, they saw it as a vital way of better managing the supervision workload. For example, they might post an issue that was common to most students and address it in a common forum, saving the time of multiple individual e-mails. Also supervisors felt it saved them time not having to respond to individual student’s ‘help e-mails’ (e.g. “where is this document?”), as typically students would post their issue online and get help from their peers.

Online group supervision created a learning environment for supervisors. There was strong agreement that providing this environment to support the ongoing learning of all supervisors, whether they were using online
group supervision or the more usual one-on-one approach, was beneficial. A participant spoke to the efficacy of a broader supervisors’ community:

*I think that in order to really have effective supervisors there needs to be a supportive supervisory community where we can share resources and ideas about what we’re doing with our students to make the processes easier for us.*

So, while the discussion forum provided some support for the supervisors who participated in this study, its potential was not fully realized. One individual commented that connecting all supervisors through a supervisor community was essential to creating a sustainable process for orienting new supervisors and providing ongoing peer support:

*It’s so important because then you see that — the whole theme of community is also important to us as supervisors. And through the [online group supervision] site or... however that that orientation takes place, we then can say, oh, here’s all the people supervising within this cohort at this time. So supervisors for [a particular] cohort,... here’s all the supervisors, here’s their contact information. You know, you can ask each other questions so that poor [capstone project coordinator] doesn’t get inundated (laughs) with all of our questions. But that... community for supervisors is built as well. And I think that that would really cut down on the workload and also... you would feel more like you’re part of the community. And I can relate to what the previous participant was saying about kind of feeling out there and on your own.*

Our supervisors’ message was clear. They enjoyed the learning engendered by online group supervision but they craved more peer-to-peer support and the ability to share solutions and resources. In this way, they could build a repertoire of skills and strategies and become better supervisors.

**Conclusions and Recommendations**

The students in this study gave high ratings to the quality of supervision they received during this trial demonstration of the Moodle site. They accessed the online supervision site regularly and frequently, which indicates high levels of student engagement. They spoke of the community and relational benefits of this type of supervision, which contrasts markedly from the consistent feedback we received over the years that students felt isolated in more traditional one-on-one supervision experiences. The “social factors” that facilitate the success of online courses (Miller & King, 2003) were apparent in the online supervision in this study. Students also experienced an enhanced learning environment.

Social presence, or sense of community, is a critical element for fostering collaborative learning among learners (Gunawardena, 1995; Garrison & Vaughan, 2008). In our project, group supervision through the Moodle site fostered a collaborative and supportive learning community consistent with the pedagogical practices in the rest of the program. It fostered knowledge sharing and ongoing dialogue among students, providing for enriched feedback. These findings are consistent with Luppicini’s (2007) analysis of
the literature, which noted that while students brainstormed in discussion forums, they were more task oriented and more likely to engage in problem solving and creative idea formation. Moreover, students working together energized each other and kept one another on track. However, a few students found it overwhelming and difficult to keep up when others were at different stages in their OLP process, which had a detrimental effect on community creation. For that reason, care should be taken to assign students to a supervision group who are at or at about the same stage in their OLP process. This will ensure they can engage in mutual exploration and problem solving.

Online supervision requires a different approach than one-on-one supervision does. In addition to providing instructions, feedback, and directions, the supervisor must facilitate group formation and processes such as clarifying expectations and developing group protocols at the outset, breaking down tasks and developing timelines that help the team and team members to progress together (Johnson et al., 2002). These elements of online team instruction were also apparent in the online supervision environment. While there was an initial learning curve involved in group supervision that made some supervisors hesitate to adopt it in their practice, those who had supervised using the digital learning platform Moodle site observed that faculty workload was reduced or stayed about the same when students were from the same cohort.

Group supervision demonstrated significant benefits for supervisors as well as students. As part of a robust learning community, supervisors’ bonds with their students were deepened. In addition, as our supervisor participants pointed out, the group supervision site allowed the OLP coordinator to mentor new supervisors and those new to group supervision. In this way, it fostered improved professional practice of supervisors, increasing their confidence and supporting their learning. Moreover, it created a learning community for supervisors to provide peer support and share resources. However, as the supervisors suggested, this potential of group mentoring needs to be more fully supported to reach its full potential.

The following recommendations are supported by the findings and conclusions. First, all new supervisors should be required to join an online group supervision site with an experienced mentor supervisor to orient them to supervision. This would require that we develop mentoring guidelines as well as identifying mentor supervisors. Second, because of the overwhelming benefits of group mentoring, it should become the normal practice rather than the exception. To do this successfully will require changing the traditional culture of faculty engaging in one-on-one supervision in isolation. While the MA Leadership has successfully changed the individualistic culture of teaching to a more collaborative teaching approach elsewhere in the program, we will need to support our supervisors to change the way they supervise students working on their capstone projects. This will certainly require sharing these findings with them, and providing training and support.
It may also require a reorganization of how supervision is done. Third, we need to more actively support and encourage a supervisors’ peer support group to share solutions and resources, and to maximize the benefits of a learning community of supervisors to enhance their skills and strategies and support them to become better supervisors.

References


