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Keywords

blended, teams, learning, virtual

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VIRTUAL TEAMS AND BLENDED LEARNING

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Abstract

Research on how to develop effective virtual teams addresses many of the same issues as lecturers working with students in a blended or online environment. Virtual teams may meet occasionally face to face but mostly work in different physical locations. Similarly, blended learning students meet periodically for face to face classes but otherwise use technology to connect to the university and their fellow students, rather than sitting together in the same physical environment. It is useful therefore to consider what lessons can be learned from the literature on virtual teams which can be used with blended learning students.

This paper first discusses research on virtual teams and how this may relate to blended learning. Key factors identified were the importance of trust and communication, as well as support and technology.

The paper next discusses the application of these factors to a postgraduate program in an Australian business school. The implementation of an authentic on-line assessment task is also explored. Student reactions to various aspects of the program are reported, based on surveys during the program and post-program completion.

Keywords: virtual teams, blended learning, authentic assessment, adult learning, coaching.

1 INTRODUCTION

The convergence of information and communications technology leading to increased global connectivity has led to two separate streams of research, one exploring virtual teams and the other exploring blended learning. Virtual teams are 'teams working towards a shared purpose that rarely if ever meet face to face and hence use some form of technology to interact' [1]. This is similar to blended learning students who meet periodically for face to face workshops but otherwise work at a distance, rather than sitting together in the same physical environment in regular daily or weekly classes. Given the similarity in what the students and the virtual team members actually do, the lessons from one environment may be useful in the other.

This paper first discusses key themes in the virtual team literature and then looks at how they may be applied in blended learning. A practical example of a postgraduate course in an Australian business school is then discussed before drawing conclusions and making recommendations.

2 LITERATURE REVIEW

2.1 Virtual Teams

As Bergiel et al. [2] point out, many of the elements of successful face to face teams are also relevant for virtual teams, e.g. trust and communication. However as Zigurs [3] emphasise, people cannot simply transfer what they do in a face to face team environment to a virtual team environment and hope to be successful. Key issues in the virtual team literature are trust, communication and conflict, support and technology.

2.1.1 Trust

Jarvenpaa, Knoll et al. [4] argue that trust is critically important in virtual teams, as it increases people's willingness to share information and prevents geographical distance becoming psychological distance. Trust explains much of the variance in team commitment [5] and hence impacts on performance, employee satisfaction and employee retention. According to Stahl and Sitkin [6], trust also has a positive impact on communication, commitment, problem-solving, and reduces the need for monitoring and control. Where trust exists, people are more tolerant of delays or mistakes, than

where trust is absent [7]. The wide ranging impact of trust makes this a crucial factor to address in virtual teams.

2.1.2 Communication and conflict

Communication is also one a very important factor in virtual team effectiveness, according to Horwitz, Bravington et al. [8] and Kayworth and Leidner [9]. It is how people develop relationships and how they work together. Good communication develops trust and trust in turn is the foundation of good communication. However, online communication has been found to less friendly and more impersonal than face to face, although it can also be more task-focused [10]. Furthermore, asynchronous forms of communication such as email can escalate conflict, because of the lack of visual and audio clues to help interpret the words used. People in a virtual team may feel less of a sense of identity with their team or organisation and hence be more critical of fellow team members [11] [12]. The reduced sense of team identity, sometimes combined with anonymity in some online environments, may lead people to voice their dissent more strongly than they would in a face to face situation [13]. This may be a positive if managed well, as it discourages groupthink and may result in stronger solutions. However, too much conflict may lead to poor information processing, lost of trust and poor team performance [14]. In multinationals, additional complications are introduced by different time zones, Internet availability, different languages and cultural norms.

2.1.3 Leadership support

In a virtual team, there is a strong need for each person to be clear on the goals, processes, deliverables, expectations and deadlines [11]. Setting these parameters is typically the role of the team leader or manager. The leader sets the tone for relationships between team members, both in virtual team meetings and in individual discussions with team members. Alternative forms of team building may be needed to develop interpersonal contacts and replicate some of the social interactions of face to face meetings. The leader has to address poor performance promptly and to recognise good performance. This can be difficult initially for new virtual team leaders as they do not see remote workers on a day by day basis and have to rely on the quality and on-time delivery of agreed outputs and engagement in online discussions or other form of virtual interaction. Furthermore recognition and reward may be difficult in a multinational team as the team members may be in different legal entities and there may be restrictions on the leader's ability to recognise through monetary or other means [1].

2.1.4 Technology

Research has found that different forms of technology may be useful for virtual teams at different stages. For example, email and bulletin boards were found to be less useful than face to face or telephone in the early stages of a project [15]. These media were useful for sharing information but not for negotiating definitions or processes. Nor were they useful for giving bad news or addressing poor performance. Teams and team leaders may need training in the strengths and weaknesses of different media and how to choose appropriately [16]. Training in team processes, decision-making, communication and netiquette have also been found useful [17, 18]. Furthermore, consideration of work-life balance is important so that participants are not expected by the team leader or their fellow team members to be available 24 hours a day 7 days a week.

2.2 Application to Blended Learning

The issues faced by virtual teams are numerous:

- It takes time to develop trust;
- Communication can be more difficult and conflict can quickly escalate ;
- Managers need to find new ways to support and recognise virtual workers
- Technology can be an issue.

Blended learners face many of the same issues. As noted above, managers should not simply seek to replicate their face to face interactions online [3]. However Kirkwood [19] found that eLearning in Higher Education has tended to replicate or supplement existing practices.

2.2.1 Developing trust

Trust is the foundation for good teamwork and correlates with good team performance by postgraduate students [20]. du Boulay et al. [21] note that it is the human factor rather than the technology which makes eLearning effective. The social side of eLearning is recognised by Moisy and Hughes [22] who suggest that online interactions promote 'a sense of belonging and mutual support'. Song [23] also notes that a sense of community is important for online learning to succeed. The learners may or may not have worked with the same students before and hence need to develop trust. Anderson [24] argues that

"The first task for the e-learning teacher is to develop a sense of trust and safety within the electronic community. In the absence of this trust, learners will feel uncomfortable and constrained in posting their thoughts and comments." (p.280)

Completing small tasks on time is known to foster the development of trust in virtual teams [2] [25]. Low value assessment task can achieve the same purpose in a learning environment.

2.2.2 Communication and conflict

Articulating expected response times and other tacit expectations, using appropriate language, and ensuring people are aware of the difference of not being able to interpret cues from body language, all help in improving online communication, whether in the corporate or learning environment. While a small amount of conflict can be healthy, too much conflict impedes performance [14]. While learners may be very familiar with social media, they may be less familiar with how to communicate effectively with remote team members or how to resolve conflict should it arise. Groupwork issues in academic assignments are well documented, such as some member not pulling their weight, so called 'freeloading'. However Fearon et al. [26] argue that blended learning can help with such problems, e.g. by using wikis for collaborative work and providing group logs which identify the contributions of each team member.

Clear communication of roles, responsibilities, goals and requirements is required [20, 23]. Lecturers need to ensure that all instructions and marking criteria are clearly articulated, and the lecturer also needs to be available to clarify where needed [23]. The lecturer sets the overall framework just as the manager does in the virtual workplace. Students need to agree for themselves on how they are going to achieve specific tasks, using well-tried resources for teamwork such as team charters, contact lists and project plans. Tseng and Ku [20] also recommend that team members should produce regular progress reports, documenting each member's contribution. Heinze and Procter [27] suggest that online media can be used for simple questions in a blended learning context, but more complicated or sensitive issues are better handled in face to face sessions. Blended learning hence offers some advantages over pure online learning, allowing both lecturer and learner to vary the form of interaction according to the purpose of communication.

2.2.3 Support

Blended learning can encourage students to take responsibility for their own learning [28], an important feature of adult learning. However Deepwell and Malik [29] stress that students need support in becoming autonomous learners. They also warn that learners have high expectations of the speed and level of detail of feedback. Just as Daft [30] recommends that virtual team leaders give up most of their control and replace it with guidance, encouragement, support and development, so too lecturers need to find ways to do this in the online environment, for example by praising constructive engagement in online discussions. On the other hand, care needs to be taken in interpreting the amount of student participation. Levels of online participation do not necessarily equate to student motivation, according to Chyung [31]. Lecturers have to find ways to be available to learners individually and in groups, and to provide support when needed.

Members of a virtual team in industry may have little choice about being a team member other than leaving the company. Blended or online learners may also choose to leave a particular class or indeed drop out of university completely. Angelino et al. [32] note that attrition rates are 10 – 20% higher for online courses than for classes taught face-to-face. Their strategies to address this include creating an online environment in which students feel comfortable and early engagement by lecturers with the student and between students. However there is also a danger if the lecturer responds too often, rather than leaving ownership with the students. Students may become reliant on the lecturer's view of what is good or bad, rather than developing and gaining confidence in their own judgement. Arend [33] found that students were more likely to develop higher order critical thinking skills when lecturers responded less frequently and more impartially, encouraging their students to think further about the

topic discussed and examine other perspectives. Shivevts [34] reported that student motivation is a critical success factor in an eLearning environment and that motivation can be positively or negatively affected by the enthusiasm of the lecturer online, just as it is in the face to face environment.

2.2.4 Technology

Technology continues to advance rapidly, particularly in mobile computing. Yet many university eLearning environments lag behind the technology students are using in their work and personal lives and individual lecturers may also be less technologically competent than their students. Furthermore, as noted earlier, different forms of communication may be useful at different stages of a project. When students are allowed a choice of medium or platform (in keeping with allowing autonomy where possible for adult learners), they are less likely to complain about problems with technology. Students or staff may require technology support outside of normal office hours – after all, the premise of online learning is that students can access their learning environment 24 hours a day. Universities have to decide what level of technology support they will make available. Staff may need training in how to use the online learning environment efficiently and effectively, including the overall design of the subject and how the face to face and online elements interact, how assessment tasks in both environments relate to the learning outcomes, and how to apply principles of adult learning such as designing tasks which are authentic and relevant in the online environment. An important learning for lecturers is that successful course design and delivery does not relate only to the intellectual content or the technology platform, but rather that relationships and motivation are critically important. Students may also need help in accessing and navigating the eLearning environment, and understanding what is expected of them in terms of interactions and assessments.

Previous research has found that on-line participation from home can be regarded by students as invasive and overwhelming [28]. Students and staff may need coaching in how to ensure they have adequate time for study in the home environment, where they are more accessible to family and friends than when they are physically located at the university [35].

3 APPLICATION IN A BUSINESS SCHOOL

This section will discuss how the factors identified in virtual team research have been taken into account in the design and delivery of a postgraduate course in an Australian business school. The course is a Master of Business Coaching, which is generally taken by experienced coaches or managers using coaching skills, students who choose to combine part-time study with work, family and other commitments. The rationale underpinning the course is outlined in McCarthy [36]. The course requires attendance at 20 days face to face workshops each year for two years. When not meeting face to face, students have access to an extensive eLearning platform, which acts as a repository for relevant materials such as lecture notes and links to resources on other sites, a discussion forum, allows assignments to be submitted electronically, and can also support a variety of online interactions or assessment tasks.

3.1 Trust

Trust takes time to build, yet, as seen in the virtual teams literature outlined above, is absolutely key in determining performance on a wide range of issues. We approach trust-building using a lifecycle approach with students. When students make their first enquiry or attend an information evening, we ensure that they get a quick, relevant and comprehensive response to their questions, thus demonstrating that we are trustworthy. We then connect them with alumni of the program so that they can get views from people knowledgeable about the program (as they have completed it themselves) but not employed by the business school. Their view of the quality of the course enhances the credibility of what we say about the course – and indeed our students and graduates are often far more outspoken in their praise of the course than are the academics who teach on it who tend to be more modest in their claims.

This initial contact starts to build the relationship between student and lecturer and between student and graduate. The relationship is further developed if the student chooses to apply for the program and each student is interviewed prior to being offered a place. This allows the course coordinator who takes the first subject of the program to get to know the applicant and determine the applicant's

suitability, particularly in terms of their willingness to give and receive constructive feedback, which is an invaluable source of learning on the course.

The interviews also allows the coordinator to share relevant resources and to draw on each applicant's expertise in class and online. Once the course has commenced, quick response to queries by the course coordinator and lecturers are part of developing trust. The discussion forum allows students to see answers to any questions that have already been answered. This not only saves the lecturer from replying to each individual student about the same question but also creates transparency and a sense of fairness, that everyone has access to the same information.

Trust between students is nurtured through in-class activities and sharing good practice in giving feedback. We use 'real play' rather than 'role play', i.e. students coach each other on real issues, observe and give each other feedback. This allows students to get to know each other in a deeper way than occurs in analysing a case study, because they are sharing information about issues which matter to them. They continue their respectful interactions online. Both in class and online students collectively reflect on their experience and identify key learnings. Questions are encouraged and no question is answered with a 'put down', either face to face or online.

Blended learning makes it easier to foster a climate of trust than a pure online environment. This is particularly the case where a class is managed as a cohort, and goes through a program together, with bonds and trust deepening as students progress. Simple enhancements of the eLearning site, for example, by including photos of each cohort and of in-class activities, make the site seem more human and not just an impersonal piece of technology.

3.2 Communication and Conflict

Coaching is based on communication. The careful selection of students who naturally treat others with respect lays a good foundation for interactions both in-class and online. We find it useful to explicitly discuss the ground rules for interactions in our early face to face sessions. Listening is the most important of all coaching skills. In paying full attention to each speaker in class, and demonstrating by our body language that we are paying attention, the speaker can see that lecturers and fellow students are listening, and the speaker feels valued and gains confidence. We discourage students from multi-tasking such as checking emails on phones or iPads while others are speaking, as this shows a lack of respect or interest in what the other person has to say. Simple exercises can help with this, such as asking one student to summarise or paraphrase what another student has said. As any student can be asked to do this, students have to pay attention. It also helps ensure that the speaker has been heard and correctly understood by others

In the online environment, students continue this, asking clarifying questions when needed, and posting encouraging comments. Coaching is an emerging discipline and profession, so while there are often different perspectives, it is rarely the case that one student is absolutely right and another absolutely wrong. The lecturer occasionally adds to the discussion to provide a thought-provoking reference or example from coaching practice, not as a definitive answer but as another perspective.

We take care to ensure task instructions, marking instructions and grading rubrics are clear and are discussed in class prior to students undertaking a task away from the classroom. The lecturer and subject coordinator also reply to any queries promptly and ensure that all students are made aware of any clarification.

On the rare occasion when conflict has arisen on the program, the lecturer and course coordinator have dealt with it in the face to face sessions, by acknowledging the difficulties and the different perspectives, correcting any factual errors, and referring back to coaching values such as having 'unconditional positive regard' for others. The blended nature of the program allows students to get the benefits of developing close relationships face to face and the practical convenience of being able to work remotely with each other – particularly useful as some of the students live in other states at distances of over 1000km north and south of the campus.

3.3 Support

It was noted in 2.2.3 that working with blended learners or virtual team members online requires an encouraging approach, rather than an approach based on control. This is very much in line with a coaching approach. We try to role model good coaching practice in our interactions with students,

listening attentively to them, asking questions which encourage self-awareness, and giving feedback that is constructive, specific, and timely. Adult learning theory underpins coaching [37]. Specifically, we apply adult learning theories developed by Mezirow (transformative learning), Knowles (andragogy), experiential learning (Kolb) and reflective learning (Schön) as outlined in McCarthy [34]. Hence there is congruence between what we teach and how we teach it, both face to face and online. In the 2012 coaching graduate survey, students described the way feedback given on the course as constructive, precise, honest, encouraging, timely and insightful. According to the student responses, the teachers challenged students, motivated them, helped them develop insights and helped them grow. When asked how teachers did this, responses were that teachers did so through active listening, effective questioning, being well prepared, providing feedback and treating students with respect. The lecturers on the program are both coaches and academics. Their individual coaching practices vary bringing a diversity of perspectives which is valued by the students as reported in the graduate survey. Despite this diversity of coaching practice, lecturers share a common teaching philosophy, based on a constructivist approach, where meaning is developed collaboratively, an appropriate approach for a coaching program as meaning is also developed collaboratively in a coaching session, unlike for example training or consultancy where pre-defined solutions may be provided.

The trust which we nurture throughout the program provides a basis from which students understand that feedback is given to help them and in no way diminishes them as people, but rather is an input to their learning. The discussion forum on eLearning is primarily used by students, with lecturers adding occasional thought-starters or links to resources relevant to a particular discussion thread. However, students often prefer to use email to share information among themselves. They have also set up their own LinkedIn group for students and graduates of the course, creating a virtual community of practice which they monitor and manage.

Although the average age of students on the Master of Business Coaching is over 40 and hence these students often have carer responsibilities both for children and for their own parents, attrition rates for the Master of Business Coaching are lower than our other post-graduate courses at under 6%. We attribute this to the support we provide both face to face and online, as well as the strong motivation of carefully selected students, in other words student satisfaction is not related purely to the content of the program, even if this is what initially attracts them. Students report high levels of satisfaction with individual subjects at the time of completion as well as retrospectively in the graduate survey, indicating that the current approaches are effective in engaging students and achieving course learning outcomes. In the 2012 Survey of Coaching Graduates, 85.5% of graduates were satisfied or very satisfied with the Master of Business Coaching. The aspects graduates found most enjoyable were: growth in knowledge, peer learning, development of relationships with other students, being able to put learning into practice, finding out about different coaching approaches, self awareness, growth in confidence, diversity of lecturers, readings, class discussions, depth of feedback on assignments, and one student even listed exams under 'most enjoyable'!

3.4 Technology

In our experience, allowing students to choose the medium in which they interact electronically is very powerful and removes one of the main sources of frustration, viz. the slowness of the University's eLearning platform (currently being updated but transition to the new platform will only take place in 2013-2014). However, we do continue to use the eLearning platform for a number of applications, including access to resources and uploading assignments. From time to time, students require support with the application, most frequently to do with browser or firewall settings. However the university's IT support services are only available in daytime when our part-time students are working, so that students can find it difficult to access the support they need in a timely fashion. Technology issues can be particularly challenging for mature students. Furthermore, work life issues of studying at home also add to students' stress levels. They already have major commitments in undertaking study in addition to work, family and other responsibilities. The 2012 Survey of Coaching Graduates highlighted this juggling of commitments as one of the most challenging parts of the course.

4 AN ON-LINE ASSESSMENT TASK

An innovative assignment which we run each year is an eCoaching assignment. eCoaching is a rapidly developing form of coaching. According to Wilson [38], at least half of all coaching is by telephone, although most first meetings are held face to face. Internet videoconferencing is rapidly

increasing. Other media such as email and SMS are also used. eCoaching is also being used by some coaches to offer specialist services worldwide, e.g. coaching for expatriate couples. eCoaching can be difficult because the coach is used to noting and acting on body language and non-verbal cues. However the increasing prevalence of eCoaching both for full time external coaches and for managers coaching remote team members, means that it is important for students to develop proficiency in this area. The eCoaching assignment is thus an authentic assessment, similar to a real world task. Authentic activities are engaging for adult learners who want to be able to apply their learning, not merely acquire knowledge for its own sake [39, 40], hence we try to ensure that our assessments are relevant to current practice.

The eCoaching assignment requires each student to coach a fellow student remotely and to submit a reflection on the process. Students have already had many face to face assignments coaching each other, demonstrating specific coaching skills such as active listening and powerful questioning, and have also had experience in self-assessment, giving and receiving feedback, and reflection. In the first year we ran the eCoaching assignment, students had to use the university eLearning site, interacting on the discussion forum tool in threads only available to each coaching pair. The biggest advantage is using the university site was that students had technical support if needed, and the lecturer could monitor progress and therefore, the lecturer could have intervened if necessary (it was not). However major drawbacks related to what the students termed the 'clunkiness' of the eLearning system, Compared with one click to get to their Facebook page, students instead had to go to the University's home page, log on to the students' page, go to the eLearning site, pick the relevant subject, and go to their own page. Despite this drawback, the students reported several advantages:

- The lack of body language or auditory clues meant the students focused particularly carefully on the words their partner used.
- It heightened their awareness of how much they rely on body language and auditory clues in their face to face coaching and hence how important it is to keep developing their skills in this area.
- Those who were relatively new to coaching were able to take time to think about the best way to respond to what their partner said which made them both more relaxed and more confident than in their face to face coaching.
- They honed their skill at asking questions. Knowing that they would not be able to see if the other person was confused or didn't understand the question, they took care to word their questions clearly. They also learned only to ask questions which were in the interest of their partner, rather than following up questions of tangential interest. In other words, they became more focused.
- They learned how to use the technology better, e.g. rather than put several questions in one response, they found it was better to have one question per response, as this increased the likelihood of the question being answered

In summary, the eCoaching assignment not only gave students practice and feedback on eCoaching, it also improved their face to face coaching. Given these learning advantages, we have continued to run this assignment in subsequent years. However since the first year, we have allowed students to choose the virtual format of their choice. Tellingly, none of the students has chosen the eLearning format, but instead use a variety of other media including Facebook and SMS. The coaching-related learning has continued but without the complaints about the University's eLearning platform. This assignment is a good example of adult learning, being both authentic in terms of relevance to the workplace and allowing autonomy in terms of platform choice. We do not use any multiple choice or other forms of surface learning checks. Although the latter can be managed very efficiently online, we do not believe they are effective in stimulating adult learning and hence we always seek to make our assignments authentic and challenging, so that students will not just complete the assignments for the sake of marks and passing the course but because they can use what they learn in their professional lives.

In the 2012 coaching graduates survey, graduates were asked to mark their use of skills and knowledge gained on the course on a scale of 1-10, where:

- 1 is 'I do not use any of the skills or knowledge I gained on the course' and
- 10 is 'I use all the skills and knowledge I gained on this course'.

Fig. 1 shows the response.

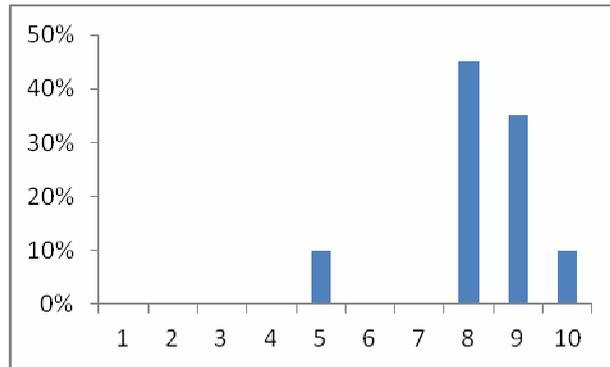


Fig. 1. Graduates' view of their use of skills or knowledge gained on the MBC

In other words 90% of graduates say they use most or all of the skills or knowledge they learn on the course. This indicates that the real world relevance which we strive to achieve through in-class activities and assessment tasks does indeed result in students gaining knowledge and skills which they can apply in real life.

5 CONCLUSION

The issues identified by research into virtual teams are also relevant to blended learning, in particular the importance of trust, communication and conflict, support and technology issues. Many of the same issues are relevant in the face to face and online learning environment. A blended learning approach allows the strengths of one mode to compensate for the weakness of the other, for example face to face can be used to develop trust initially or to resolve conflict, while online can be used to provide rapid feedback to a whole class. The online part of the blended learning class can be used not simply to place a traditional assignment online but to undertake an authentic task online. Similar tasks could be designed for many management courses and would be valuable given the huge increase in virtual teams, both within the same country or internationally.

Principles of adult learning are as important in the online part of the course as in face to face. The principle of autonomy supports the practice of allowing students to choose the medium which they use to complete an online assessment. It would be useful for further research to identify whether there are aspects of adult learning which are more or less important in the online environment and/or whether some additional factors are at work.

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