

# A Good Chat - Are online forums fit for PLT? A review



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A search for articles with abstracts including the terms 'satisfaction' and 'online' on ERIC and online peer-reviewed journals during September 2010 produced seventy-six relevant articles for this review; these disclosed that factors involving student satisfaction with online discussion forums as a teaching medium include: students' contexts; students' perceptions of self-efficacy and of the importance and relevance of the learning task; learning and personality styles; technological self-efficacy; student-student and lecturer-student interactions; flexible learning environments; instructional design; online learning management systems; and the blend of online and face-to-face instruction delivery.

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## **A Good Chat - are Online Forums Fit for PLT? - A Review**

### **Abstract**

The effectiveness of asynchronous Online Discussion Forums (ODF) as a teaching medium in Practical Legal Training (PLT) is dependent on factors affecting student satisfaction with the learning task.

A literature review was undertaken as part of a proposed research project to: (a) investigate the relationship between the use of ODF as a teaching medium in PLT, students' learning behaviours, and student satisfaction; (b) ascertain students' perceptions of their own learning behaviours during the ODF activities and to compare those perceptions with learning behaviours identified in the Community of Inquiry Framework; and (c) make recommendations that might improve the fit between the use of ODFs, positive learning behaviours, and student satisfaction. The research project is still underway.

The review and the proposed study is framed by a constructivist learner-centred approach informed by the theories of Piaget, Vygotsky and others, together with Marzano and Kendall's 'New Taxonomy of Education Objectives', and the 'Community of Inquiry Framework' described by Archer, Garrison, Arbaugh, Gunawardena and others.

A search for articles with abstracts including the terms 'satisfaction' and 'online' on ERIC and online peer-reviewed journals during September 2010 produced 76 relevant articles for this review; these disclosed that factors involving student satisfaction with ODFs as a teaching medium include: students' contexts; students' perceptions of self-efficacy and of the importance and relevance of the learning task; learning and personality styles; technological self-efficacy; student-student and lecturer-student interactions; flexible learning environments; instructional design; online learning management systems; and the blend of online and face-to-face instruction delivery.

These factors are likely to be significant for framing the proposed research and the design, implementation, and evaluation of instruction involving online forums in practical legal training.

### **Introduction**

This paper is drawn from a literature review for my research project regarding post-graduate students' satisfaction with asynchronous online discussion forums (ODF) as one teaching medium in the Professional Responsibility competency in practical legal training (referred to here as PLT).

Routine course evaluations of several PLT cohorts at my organisation disclosed that most students were satisfied or very satisfied with a blended program of PLT, however many students rated satisfaction with the ODF as a teaching medium significantly lower than other teaching media. There is little available data regarding the factors PLT students

identify as affecting their satisfaction with ODF. Using a questionnaire, follow-up interviews, and a researcher's reflective journal, the research project aims to collect data to better understand the factors that affect PLT students' satisfaction with ODF as a teaching medium and to make recommendations about possible actions that might improve student satisfaction with ODF as a teaching medium in PLT.

### Practical Legal Training

In most Australian jurisdictions law graduates are required to complete practical legal training (PLT) to be eligible for admission to the legal profession.<sup>1</sup> The Australasian Professional Legal Education Council identifies over 20 PLT providers.<sup>2</sup> Many of these use some form of computer-mediated communication (such as online discussion forums) as one teaching medium.<sup>3</sup>

The Australian Competency Standards for Entry-Level Lawyers<sup>4</sup> undertaking PLT stipulate: 'an entry-level lawyer should act ethically and demonstrate professional responsibility and professional courtesy in all dealings with clients, the courts, the community and other lawyers' (the PR competency). The site studied for my research project incorporates online discussion forums as one teaching medium for the PR competency.

### Computer Mediated Communications and Online Discussion Forums

Generally speaking 'computer-mediated communications' (CMC) refer to synchronous and asynchronous discussions between two or more individuals at a distance enabled by information and communications technology. Types of CMC include emails, text-based synchronous and asynchronous discussion forums, learning and content management systems, blogging, micro-blogging, social networking sites, virtual environments, telephony, voice over the internet protocol, webcams, webinars, etc. My study focuses on asynchronous text-based online discussion forums (ODF).

I will be using the terms ODF and CMC interchangeably in this paper. Garrison and Archer observe that the 'prevalent form of online learning is asynchronous and text-based

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<sup>1</sup> *Legal Practitioners Act 1981 (SA)* s 14C; *Legal Practitioners Education and Admission Council Rules 2004 (SA)* r 2; *Legal Profession Act 2004 (NSW)* s 24(b)(i); *Legal Profession Act 2004 (Vic)* s 2.3.2(1)(c); *Legal Profession Act 2006 (ACT)* s 21(b)(i); *Legal Profession Act 2007 (Tas)* s 25(b)(i); *Legal Profession Act 2008 (NT)* s 29(1)(c)(i); *Legal Profession Act 2008 (WA)* s 21(2)(c).

<sup>2</sup> Australasian Professional Legal Education Conference, *APLEC Corporate Members* (2004) APLEC <<http://www.aplec.asn.au/Pdf/ACFD815.pdf>>.

<sup>3</sup> Non-exhaustive list of examples: Legal Practice Centre Griffith University, *Graduate Certificate in Legal Practice, Skills and Ethics (In-Practice) - Program Overview* (2011) <[http://www17.griffith.edu.au/cis/p\\_cat/admission.asp?ProgCode=3194&type=overview](http://www17.griffith.edu.au/cis/p_cat/admission.asp?ProgCode=3194&type=overview)>; Leo Cussen Institute., *Course Features - Online PTC* (2011) <[http://www.leocussen.vic.edu.au/cb\\_pages/ptc\\_course\\_features.php#online\\_ptc](http://www.leocussen.vic.edu.au/cb_pages/ptc_course_features.php#online_ptc)>; College of Law, *Coursework Component* (2011) <<http://www.collaw.edu.au/Future-Students/Practical-Legal-Training-Programs/Program-Information/Coursework-Component/>>; University of Technology Sydney, *Practical Legal Training Information Session November 2010* (2011) <[http://www.law.uts.edu.au/practical/plt\\_info\\_10.pdf](http://www.law.uts.edu.au/practical/plt_info_10.pdf)>; ANU Legal Workshop, *Program Outline* (2011) <<http://law.anu.edu.au/legalworkshop/Coursework.aspx>>.

<sup>4</sup> APLEC *Competency Standards for Entry Level Lawyers*, 2002 <[http://www.aplec.asn.au/aplec/dsp\\_resources.cfm](http://www.aplec.asn.au/aplec/dsp_resources.cfm)>.

and mediated through written language with a minimum of non-verbal or paralinguistic cues'.<sup>5</sup>

Online discussion forums provide flexibility by electronically linking students and instructors at separate locations into a virtual classroom.<sup>6</sup> Students are able to 'evaluate and synthesize certain aspects of a discipline, conversation, discussion, and group learning' even though they are spatially and temporally separate.<sup>7</sup> Flexibility of online discussion forums will not usually result in a reduction of the amount of time students and instructors spend in the course,<sup>8</sup> so ODFs should not be regarded solely as a cost-saving measure.

An advantage of text-based communication is that it 'provides time for reflection. For this reason, written communication may actually be preferable to oral communication when the objective is higher-order cognitive learning'.<sup>9</sup> This seems conducive to the notion of a 'reflective practicum' for training professional practitioners<sup>10</sup> and as part of an 'experiential learning' approach to training.<sup>11</sup> At first glance, online discussion forums do seem fit for use in parts of practical legal training.

## Justification

In 2008 the Victorian Council of Legal Education commissioned a report to recommend accreditation standards for PLT courses.<sup>12</sup> The report submitted to the Law Admissions Consultative Committee (LACC) in 2009 recommended that PLT providers seeking accreditation 'must justify the appropriateness of the teaching and learning methods adopted for each element of its course', provide 'an argument for the basis upon which the effectiveness of the distance learning can be assured', and must 'design the course to enable regular and adequate opportunities for individual interaction between student and teacher'.

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<sup>5</sup> D. Randy Garrison and Walter Archer, 'A Theory of Community of Inquiry' in Michael G Moore (ed), *Handbook of Distance Education* (Lawrence Erlbaum Associates, 2nd ed, 2007) 77.

<sup>6</sup> Desmond Keegan, 'Distance education technology for the new millenium: Compressed video teaching' (1995) <[http://www.eric.ed.gov/ERICWebPortal/Home.portal?\\_nfpb=true&ERICExtSearch\\_SearchValue\\_0=ED389931&searchtype=keyword&ERICExtSearch\\_SearchType\\_0=no&\\_pageLabel=RecordDetails&objectId=0900019b800a7d0c&accno=ED389931&\\_nfls=false](http://www.eric.ed.gov/ERICWebPortal/Home.portal?_nfpb=true&ERICExtSearch_SearchValue_0=ED389931&searchtype=keyword&ERICExtSearch_SearchType_0=no&_pageLabel=RecordDetails&objectId=0900019b800a7d0c&accno=ED389931&_nfls=false)>.

<sup>7</sup> George Siemens and Peter Tittenberger, *Handbook of Emerging Technologies for Learning*. 2009, University of Manitoba: Manitoba <[http://umanitoba.ca/learning\\_technologies/cetl/HETL.pdf](http://umanitoba.ca/learning_technologies/cetl/HETL.pdf)>.

<sup>8</sup> Sue-Jen Chen, 'Instructional Design Strategies for Intensive Online Courses: An Objectivist-Constructivist Blended Approach ' (2007) 6(1) (Spring 2007) *Journal of Interactive Online Learning* 72; Gayle V. Davidson-Shivers, 'Frequency and Types of Instructor Interactions in Online Instruction' (2009) 8(1) (Spring 2009) *Journal of Interactive Online Learning* 23; Rena M Palloff and Keith Pratt, *Building online learning communities: effective strategies for the virtual classroom* (Jossey-Bass, 2nd ed, 2007).

<sup>9</sup> D. Randy Garrison, Terry Anderson and Walter Archer, 'Critical inquiry in a text-based environment: computer conferencing in higher education' (2000) 2(2-3) *Internet and Higher Education* 87.

<sup>10</sup> Donald A. Schön, *Educating the reflective practitioner*, Jossey-Bass higher education series. (Jossey-Bass, 1st pbk. print. ed, 1990); Donald A. Schön, *The reflective practitioner : how professionals think in action* (Avebury, 1991).

<sup>11</sup> John Dewey, *Experience & Education* (Touchstone, 1938).

<sup>12</sup> Christopher Roper, 'Standards for Approving Practical Legal Training Courses and Providers' (Report, Victoria Council of Legal Education, November 2008).

There is substantial international literature regarding the use of online discussion forums as a teaching medium. However, in Australia there is little published research concerning the theory and practice of computer-mediated communications and online discussion forums used as a teaching medium in PLT.

Commentary connected to the report submitted to LACC in 2009 criticised the effectiveness and appropriateness of online delivery of PLT and highlighted contested notions of how learning interactions should be comprised within PLT.<sup>13</sup>

Research is needed to inform discussion about 'best practice' for the effective design and delivery of PLT involving computer-mediated communications and online discussion forums as part of a blended design. Outside the PLT sector it is recognised there is still much to investigate in ODF as a teaching medium. For example, Liu et al called for 'a systematic instructional plan ... to integrate elements of community of inquiry to provide the sense of community in [computer-mediated communications] that is positively related to learning engagement and student satisfaction'.<sup>14</sup> Garrison and Arbaugh observed the need for more studies to identify the factors that affect the relationship between the components of the community of inquiry framework and learning outcomes.<sup>15</sup>

The effectiveness of teaching methods in the Professional Responsibility competency is amplified by community perceptions of the diminution of legal professional ethics. It is suggested that PLT should encourage students to engage positively and persist with the PR subject as part of a professional commitment to lifelong learning.<sup>16</sup>

It is relevant to study students' satisfaction with ODF as a teaching medium, and the possible effects concerning the research and practice of PLT; quality and consistency of teaching and learning; accreditation; and the integrity of PLT qualifications.

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<sup>13</sup> Christopher Roper, 'Standards for Approving Practical Legal Training Courses and Providers' (Report, Victoria Council of Legal Education, November 2008) and Gaye T Lansdell, 'Have We 'Pushed the Boat Out Too Far' in Providing Online Practical Legal Training? A Guide to Best Practices for Future Programs' (2009) 19(1 & 2) *Legal Education Review* 149.

<sup>14</sup> Xiaojing Liu et al, 'Does Sense of Community Matter? An Examination of Participants' Perceptions of Building Learning Communities in Online Courses' (2007) 8(1) *Quarterly Review of Distance Education* 9.

<sup>15</sup> D. Randy Garrison and J. B. Arbaugh, 'Researching the community of inquiry framework: Review, issues, and future directions' (2007) 10(3) *The Internet and Higher Education* 157.

<sup>16</sup> 'Promoting a Healthy Legal Culture the Focus of New Australian Academy of Law' (Australian Law Reform Commission, 17 July 2007 2007) <<http://www.alrc.gov.au/media/2007/mr1707.htm>>; Lillian Corbin and Justin Carter, 'Is Plagiarism Indicative of Prospective Legal Practice?' (2007) 17(1 & 2) *Legal Education Review* 53; Nigel Duncan, 'Responsibility and ethics in professional legal education' in Roger Burrige et al (eds), *Effective Learning & Teaching in the Law* (The Institute for Learning and Teaching in Higher Education and The Times Higher Education Supplement, 2002) 105; Kristoffer Greaves and Elspeth McNeil, 'So? Plagiarism, Values, Ethics and Training Lawyers for a Global Profession' (Paper presented at APLEC 2008, Auckland, New Zealand 2008); Matthew Groves, 'Your Cheating Art Will Tell On You' (2008) 82(8) (August 2008) *Law Institute Journal* 43; David Luban, *Legal ethics and human dignity*, Cambridge studies in philosophy and law (Cambridge University Press, 2007); Josephine Palermo and Adrian Evans, 'Australian Law Students' Values: How They Impact on Ethical Behaviour' (2005) 15(1 & 2) *Legal Education Review* 1; Deborah L. Rhode, 'Personal Integrity and Professional Ethics' (Paper presented at The Third International Legal Ethics Conference, Gold Coast, Australia, 2008); Adrian Evans, 'Lawyers' Perceptions of Their Values: An Empirical Assessment of Monash University Graduates in Law, 1980-1998' (2001) 12(1 & 2) *Legal Education Review* 209.

Online discussion is a form of social action, in addition to being teaching and learning action, and it has subjective elements. My research could potentially highlight questions of definitions, methods, measurements, validity, accountability and “fit” where online discussion forums are used as the teaching and learning medium for practical legal training.<sup>17</sup>

### Objectives of the Research

The objectives of my research are to:

- Investigate the relationship between the use of ODF as a teaching medium, students’ learning behaviours, and student satisfaction.
- Ascertain students’ perceptions of their own learning behaviours during the ODF learning activities and to compare those perceptions with positive learning behaviours identified in the theory of a community of inquiry literature.
- Recommend potential improvements to the fit between the use of ODF, positive learning behaviours, and student satisfaction.

### Assumptions and Theoretical Frameworks

As a starting point I have adopted a constructivist learner-centred educational paradigm informed by the theories of Piaget,<sup>18</sup> Bruner,<sup>19</sup> Vygotsky,<sup>20</sup> and Lave<sup>21</sup> to the extent that I am interested in the social and collaborative aspects of constructing learning within a community of practice.

The study is further informed by the Community of Inquiry Framework and Marzano and Kendall’s New Taxonomy of Education Objectives. There is some tension in this approach because constructivists tend to be learner-centred, whereas educational taxonomies tend toward a cognitivist instructor-centred approach. My personal view is that we can benefit from combining these approaches; perhaps each keeps the other honest!

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<sup>17</sup>Jeffrey P. Aguinaldo, 'Rethinking Validity in Qualitative Research from a Social Constructionist Perspective: From "Is This Valid Research?" to "What Is This Research Valid for?"' (2004) 9(1) *Qualitative Report* 127; Trevor G Bond and Christine M Fox, *Applying the Rasch model: fundamental measurement in the human sciences* (Lawrence Erlbaum Associates, 2001); Raewyn Connell and Craig Campbell, 'Researching Education' in R Connell et al (ed), *Education, change and society* (Oxford University Press, 2007) 301; Helen Connole, 'The Research Enterprise' in H Connole, B Smith and R Wiseman (eds), *Study guide: issues and methods in research* (University of South Australia, 1993) 17; Patti Lather, 'Paradigm Proliferation as a Good Thing to Think With: Teaching Research in Education as a Wild Profusion' (2006) 19(1) *International Journal of Qualitative Studies in Education (QSE)* 35; Lyn Yates, *What Does Good Education Research Look Like? Conducting Educational Research* (Open University Press, 2004).

<sup>18</sup>Jean Piaget, *The Construction of Reality in the Child* (Basic Books, 1954).

<sup>19</sup>Jerome Bruner, 'Culture, Mind and Education' in Knud Ileris (ed), *Contemporary Theories of Learning: Learning Theorists in their Own Words* (Routledge, 2009).

<sup>20</sup>Lev S. Vygotsky, *The Mind in Society: The Development of the Higher Psychological Processes* (Harvard University Press, 1978).

<sup>21</sup>Jean Lave, 'The Practice of Learning' in Knud Ileris (ed), *Contemporary Theories of Learning: Learning Theories - In their Own Words* (Routledge, 2009).

Online discussion forums involve student participation through interactions between students, and between students and teachers.<sup>22</sup> In online discussion forums the level of student satisfaction connected to those interactions may affect the students' motivation to learn or engage in the ODF activities.<sup>23</sup> From a constructivist perspective, student satisfaction and learning behaviours partly constitute contexts that ought to be considered as part of an instructional design.<sup>24</sup>

### Community of Inquiry Framework

I have adopted a theory of a community of inquiry to help frame the assumptions and questions used in this study and as way of analysing the data produced by my review and the research.<sup>25</sup>

A community of inquiry (COI) is comprised of three overlapping core elements: 'social presence', 'cognitive presence' and 'teaching presence'; the framework assumes that a COI

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<sup>22</sup> T Anderson and A Kuskis, 'Modes of interaction' in M Moore (ed), *Handbook of distance education* (Erlbaum, 2007); Judith Blanchette, 'Characteristics of Teacher Talk and Learner Talk in the Online Learning Environment' (2009) 23(5) *Language and Education* 391; C. N. Gunawardena and F. J. Zittle, 'Social presence as a predictor of satisfaction within a computer-mediated conferencing environment' (1997) 11(3) *The American Journal of Distance Education* 8; Jason F. Rhode, 'Interaction Equivalency in Self-Paced Online Learning Environments: An Exploration of Learner Preferences' (2009) 10(1) *International Review of Research in Open and Distance Learning*.

<sup>23</sup> Ziad M. Baroudi, 'Formative Assessment: Definition, Elements and Role in Instructional Practice' (2007) 8(1) *Post-Script: Postgraduate Journal of Education Research* 37; R. Butler, 'Task-involving and ego-involving properties of evaluation: Effects of different feedback conditions on motivational perceptions, interest and performance' (1987) 79(4) *Journal of Educational Psychology* 474; C Fulford and S Zhang, *Interactivity in distance education television: A constructed reality*, in Distance Education Symposium 3. 1995: The Pennsylvania State University; C. N. Gunawardena and F. J. Zittle, 'Social presence as a predictor of satisfaction within a computer-mediated conferencing environment' (1997) 11(3) *The American Journal of Distance Education* 8; Katheryn Holmes, 'Analysis of Asynchronous Online Discussion using the SOLO Taxonomy' (2005) 5 *Australian Journal of Educational & Developmental Psychology* 117; Archana Parashar and Robyn Philip, *Online Assessment and Legal Discourse: Dialogue and Choice*, in ASCILITE '98. 1998, Australian Society for Computers in Learning and Tertiary Education: Wollongong, Australia; J Pastellas and K Maxwell, *Blending educational tools and strategies: Integrating online learning in practical legal training programs*, in Online Learning & Teaching Conference (OLT 2005). 2005, Queensland University of Technology: Brisbane. p. 201-208; Virginia Roach and Linda Lemasters, 'Satisfaction with Online Learning: a Comparative Descriptive Study' (2006) 5(3) (Winter 2006) *Journal of Interactive Online Learning* 317; F. Saba, 'Research in distance education: A status report. ' (2000) 1(1) *International Review of Research in Open and Distance Learning* <<http://www.irrodl.org/index.php/irrodl/article/viewFile/4/24>>; M Cecil Smith and Amy Winking-Diaz, 'Increasing Students' Interactivity in an Online Course' (2004) 2(3) (Winter 2004) *The Journal of Interactive Online Learning* 1.

<sup>24</sup> Mohamed Ally et al, *Theory and Practice of Online Learning*, T. Anderson and F. Elloumi, Eds. 2004, Athabasca University: Athabasca, Canada.

<sup>25</sup> Walter Archer, 'Beyond Online Discussions: Extending the Community of Inquiry Framework to Entire Courses' (2010) 13(1) *Internet and Higher Education* 69; D. Randy Garrison and J. B. Arbaugh, 'Researching the community of inquiry framework: Review, issues, and future directions' (2007) 10(3) *The Internet and Higher Education* 157 D. R. Garrison, Martha Cleveland-Innes and Tak Shing Fung, 'Exploring causal relationships among teaching, cognitive and social presence: Student perceptions of the community of inquiry framework' (2010) 13(1-2) *The Internet and Higher Education* 31; D. Randy Garrison and Walter Archer, 'A Theory of Community of Inquiry' in Michael G Moore (ed), *Handbook of Distance Education* (Lawrence Erlbaum Associates, 2nd ed, 2007) 77 Gunawardena & Zittle 1997; Nagel & Kotzé 2010; Shea & Bidjerano 2009; Shea, Sau Li & Pickett 2006; Vaughan 2010).

comprised of students and teachers provides 'the optimum learning experience directed toward realization of learning outcomes'.<sup>26</sup>

'Social presence' describes students' ability to project their personal social and emotional characteristics into a community of inquiry. 'Cognitive presence' describes students' ability to engage through discussion and reflection in critical inquiry comprised of four non-sequential and mutable phases: triggering event, exploration, integration, and resolution. 'Teaching presence' may involve instructional design and organization, facilitation of discussion, and direct instruction, focused on achieving learning outcomes through cognitive and social processes.<sup>27</sup>

Principles based on the COI framework include establishing: a climate that will create a community of inquiry; critical reflection and discourse that will support systematic inquiry; sustained community through expression of group cohesion; encouragement and support for the progress of inquiry to resolution; evolved collaborative relationships where students are supported in assuming increasing responsibility for their learning; and ensured resolution and metacognitive development.<sup>28</sup>

Akyol and Garrison state that the integration of these elements and principles 'should be designed, facilitated and directed based on the purpose, participants and technological context of the learning experience'.<sup>29</sup> The COI framework is applicable to applied disciplines such as legal practice, because of 'the emphasis on using inquiry to develop applicable knowledge'.<sup>30</sup>

A student's perception of the purpose of the online discussion forum learning experience, and satisfaction of expectations for the ODF learning experience, might affect the student's motivation to engage with and persist with ODF learning activities where participation is required over a period of time. If students evaluate ODF as less satisfying teaching medium than others, that might have implications for students' motivation, engagement and persistence with learning activities.

### **A New Taxonomy of Educational Objectives**

Bloom's taxonomy of learning relates student satisfaction to student motivation within the response sub-category of the affective domain.<sup>31</sup> Marzano and Kendall's new taxonomy of educational objectives describes a 'self-system' level of processing of knowledge domains

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<sup>26</sup> D. Randy Garrison and Walter Archer, 'A Theory of Community of Inquiry' in Michael G Moore (ed), *Handbook of Distance Education* (Lawrence Erlbaum Associates, 2nd ed, 2007) 77.

<sup>27</sup> D. Randy Garrison and Walter Archer, 'A Theory of Community of Inquiry' in Michael G Moore (ed), *Handbook of Distance Education* (Lawrence Erlbaum Associates, 2nd ed, 2007) 77.

<sup>28</sup> Ibid.

<sup>29</sup> Zehra Akyol and D. Randy Garrison, 'The development of a community of inquiry over time in an online course: understanding the progression and integration of social, cognitive and teaching presence' (2008) 12(3-4) *Journal of Asynchronous Learning Networks* 3.

<sup>30</sup> J. B. Arbaugh, Arthur Bangert and Martha Cleveland-Innes, 'Subject matter effects and the Community of Inquiry (CoI) framework: An exploratory study' (2010) 13(1-2) *The Internet and Higher Education* 37.

<sup>31</sup> B. S. Bloom, *Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain*. (David McKay Co Inc, 1956); D. R. Krathwohl, B. S. Bloom and B. B. Masia, *Taxonomy of Educational Objectives, the Classification of Educational Goals. Handbook II: Affective Domain* (David McKay Co., Inc. , 1973).

in which the interaction of a student's attitudes, beliefs and emotions determines the student's motivation and attention to learning.<sup>32</sup>

The self-system overarches the metacognitive and cognitive systems of processing. Self-system processing involves the student deciding whether to engage with a learning task and if so the amount of energy to allocate to the task. Self-system thinking can be analyzed in four categories: (1) examining importance, (2) examining efficacy, (3) examining emotional response, and (4) examining overall motivation.<sup>33</sup>

The fourth category, overall motivation, is derived from the first three categories. The conditions affecting the perceived importance of a task are whether it meets a student's need or the attainment of a student's goal. Perceived self-efficacy is derived from the student's beliefs regarding the student's resources, ability or power to effect change. A student's emotional response to a learning task may have significant consequences due to variable control over the student's own emotions and the long-term effect of those emotions after they occur.<sup>34</sup>

It seems that if the student's initial emotional response to a learning task is not positive, it is more likely that the student will not be satisfied with the task, and will not engage or persist with the task. If the student perceives the task as unimportant and/or not efficacious, the student is also unlikely to engage or persist with the learning task.

The self-system level of processing overlaps with the community of inquiry framework's elements of social presence, cognitive presence and teaching presence because the student's self-system is relevant to whether a student will engage socially and cognitively in the ODF activity and the way in which the elements interact with the student's self-system. It is important to consider the students' contexts and how they perceive their own role and develop their autonomous learning skills in an online context.<sup>35</sup>

Some literature suggests that individuals' personal learning styles may be a factor in satisfaction with ODF, however it is beyond the resources of this preliminary study to systematically survey the participants' learning styles and this may represent a limitation in the findings of the present study. A later more comprehensive study might incorporate investigation of participants' learning styles, but some research casts doubt on the validity and utility of testing for learning and personality styles.<sup>36</sup>

I will draw on the concepts set out in the community of inquiry framework and Marzano and Kendall's taxonomy of education objectives to guide and frame my research and the description of results.

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<sup>32</sup> Robert J Marzano and John S Kendall (eds), *The New Taxonomy of Educational Objectives* (Corwin Press, 2nd ed, 2007).

<sup>33</sup> Ibid.

<sup>34</sup> Ibid.

<sup>35</sup> Liyan Song and Janette R Hill, 'A Conceptual Model for Understanding Self-Directed Learning in Online Environments' (2007) 6(1) *Journal of Interactive Online Learning* <[www.ncolr.org/jiol](http://www.ncolr.org/jiol)>.

<sup>36</sup> Harold Pashler et al, 'Learning Styles: Concepts and Evidence' (2008) 9(3) (December 2008) *Psychological Science in the Public Interest* 105.

## Review of Literature

I searched for articles on the terms 'satisfaction' and 'online' on the Education Resource Information Centre database, and electronic databases incorporating a range of peer-reviewed journals during June-September 2010. The initial search returned over 1000 results. Seventy-six articles were selected for review based on the terms 'satisfaction' and 'online learning' appearing in an article's abstract and for their relevance to online discussion forums as a form of computer mediated communications in education and training for adult learners.

Shaw and Marlow<sup>37</sup> identified six dimensions to student attitudes toward computer mediated communications: 'comfort', 'interactivity', 'self-satisfaction', 'value new technology', 'experience' and 'context'. Wu, Tennyson and Hsia<sup>38</sup> found 'computer self-efficacy, performance expectations, system functionality, content feature, interaction, and learning climate are the primary determinants of student learning satisfaction'. Each of these dimensions appears to varying degrees throughout the review.

### Do Student Learning/Personality Styles Affect Satisfaction with CMC?

Hong (observational case study, 26 cases) found no relationship between student learning styles and satisfaction with CMC.<sup>39</sup> Kanuka and Nocente (survey, 204 cases) found no relationship between personality types and satisfaction with CMC.<sup>40</sup> Akdemir and Koszalka (survey, 12 cases) found no one superior strategy to match CMC instructional strategies to students' learning styles.<sup>41</sup>

By contrast, Downing and Chim (survey, 160 cases), found individual learning styles appeared to affect satisfaction with CMC.<sup>42</sup> Lu and Chiou (survey, 522 cases) found student job status, gender, and learning styles were relevant to students' satisfaction' with CMC.<sup>43</sup>

Manochehri and Young (comparative study: 36 online cases; 58 face-to-face cases), found students' learning style made a significant difference in satisfaction between online and face-to-face methods.<sup>44</sup> Wilson (co-relational survey, 95 cases), concluded personality type was related to variations in CMC usage.<sup>45</sup>

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<sup>37</sup> Graham Shaw and Nigel Marlow, 'The role of student learning styles, gender, attitudes and perceptions on information and communication technology assisted learning' (1999) 33(4) *Computers & Education* 223.

<sup>38</sup> Jen-Her Wu, Robert D. Tennyson and Tzyh-Lih Hsia, 'A study of student satisfaction in a blended e-learning system environment' (2010) 55(1) *Computers & Education* 155.

<sup>39</sup> Kian-Sam Hong, 'Relationships between students' and instructional variables with satisfaction and learning from a Web-based course' (2002) 5(3) *The Internet and Higher Education* 267.

<sup>40</sup> Heather Kanuka and Norma Nocente, 'Exploring the effects of personality type on perceived satisfaction with web-based learning in continuing professional development' (2003) 24(2) *Distance Education* 227.

<sup>41</sup> Omur Akdemir and Tiffany A. Koszalka, 'Investigating the relationships among instructional strategies and learning styles in online environments' (2008) 50(4) *Computers & Education* 1451.

<sup>42</sup> Kevin Downing and Tat Mei Chim, 'Reflectors as Online Extraverts?' (2004) 30(3) *Educational Studies* 265.

<sup>43</sup> Hsi-Peng Lu and Ming-Jen Chiou, 'The impact of individual differences on e-learning system satisfaction: A contingency approach' (2010) 41(2) *British Journal of Educational Technology* 307.

<sup>44</sup> Nasar Manochehri and Jon I. Young, 'The impact of student learning styles with web-based learning or instructor-based learning on student knowledge and satisfaction' (2006) 7(3) (Fall2006) *Quarterly Review of Distance Education* 313.

<sup>45</sup> E. Vance Wilson, 'Student characteristics and computer-mediated communication' (2000) 34(2) *Computers & Education* 67.

Han and Park (survey and content analysis, 43 cases), found student attitudes toward thinking and learning may affect their interactions and satisfaction with CMC.<sup>46</sup>

Research not specific to CMC has cast doubt on the validity and utility of testing for learning styles see, for example, Coffield et al<sup>47</sup> and Pashler et al,<sup>48</sup>.

It seems that learning styles can affect satisfaction and engagement with CMC, however the literature suggests the preferred approach is to design instruction (whatever the medium) in contemplation of the range of learning styles rather than attempt a 'bespoke' instructional design.

### **Does the perceived importance or nature of the learning task affect satisfaction?**

Atherton (interviews, 124 participants) suggests adult students' perception of the proportion of personal effort to learning outcome is especially relevant to satisfaction with supplementary or vocational learning.<sup>49</sup>

Liaw (survey, 424 cases) found the perceived usefulness of the learning influences students' decision to use CMC.<sup>50</sup>

Bures, Amundsen and Abrami (questionnaires & interviews, 167 cases) conclude students' beliefs regarding the personal relevance of learning tasks and the relationship between the tasks and expected learning outcomes, are predictive of satisfaction with CMC.<sup>51</sup> Lin, Lin and Laffey (factor analysis, 110 cases) and Gilbert, Morton and Rowley (questionnaires, 19 cases) made similar findings.<sup>52 53</sup>

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<sup>46</sup> Insook Han and Innwoo Park, 'The Effects of Epistemic Belief and Discussion-Facilitating Strategy on Interaction and Satisfaction in Online Discussion' (2008) 19(4) *Journal of Interactive Learning Research* 649.

<sup>47</sup> Frank Coffield, David Moseley, Elaine Hall and Kathryn Ecclestone, 'Learning styles and pedagogy in post-16 learning: a systematic and critical review' (2004) LSRC Reference, retrieved 19 June 2011,

<<http://www.hull.ac.uk/php/edskas/learning%20styles.pdf>>; Frank Coffield, David Moseley, Elaine Hall and Kathryn Ecclestone, 'Should we be using learning styles? What research has to say to practice' (2004) LSRC Reference, retrieved 19 June 2011,

<<https://crm.lsnlearning.org.uk/user/login.aspx?code=041540&P=041540PD&action=pdfdl&src=XOWEB>>.

<sup>48</sup> Harold Pashler, Mark McDaniel, Doug Rohrer and Robert Bjork, 'Learning Styles: Concepts and Evidence' (2008) 9 (3) *Psychological Science in the Public Interest*, pp. 105-19.

<sup>49</sup> James Atherton, 'Resistance to Learning: A Discussion Based on Participants in In-Service Professional Training Programme' (1999) 51(1) *Journal of Vocational Education and Training: The Vocational Aspect of Education* 77.

<sup>50</sup> Shu-Sheng Liaw, 'Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard system' (2008) 51(2) *Computers & Education* 864.

<sup>51</sup> Eva Mary Bures, Cheryl C. Amundsen and Philip C. Abrami, 'Motivation to learn via computer conferencing: exploring how task-specific motivation and cc expectations are related to student acceptance of learning via cc' (2002) 27(3) *Journal of Educational Computing Research* 249.

<sup>52</sup> Yi-Mei Lin, Guan-Yu Lin and James M. Laffey, 'Building a Social and Motivational Framework for Understanding Satisfaction in Online Learning' (2008) 38(1) *Journal of Educational Computing Research* 1.

<sup>53</sup> Jennifer Gilbert, Susan Morton and Jennifer Rowley, 'e-Learning: The student experience' (2007) 38(4) *British Journal of Educational Technology* 560.

Wickersham and McGee (action research study, 30 participants) conclude that 'even when deeper learning principles are used to design learning activities, other factors interact with learner perceptions of satisfaction'.<sup>54</sup>

### **Does Self-Efficacy and ICT Efficacy affect satisfaction?**

Artino Jr (survey, 564 cases) posited self-efficacy as a factor in satisfaction with CMC.<sup>55</sup> Liaw<sup>56</sup> and Lin, Lin and Laffey<sup>57</sup> definitely conclude students' perceptions of self-efficacy as important.

In relation to self-efficacy with ICT in particular, Wu, Tennyson and Hsia (survey, 212 cases) found this to be a 'primary determinant' of satisfaction.<sup>58</sup> Drennan, Kennedy and Pisarki (two questionnaires, 248 cases, 256 cases) found positive perceptions of ICT and of autonomy in learning is influential.<sup>59</sup> Sun et al. (survey, 295 cases), found (among other things) that learner computer anxiety and perceived ease of use are 'critical factors' affecting perceived satisfaction with CMC.<sup>60</sup>

Students experienced with ICT were more satisfied in an online course: Hong (case study, 26 participants).<sup>61</sup>

Differences in students' ages may affect variations in student satisfaction with CMC: Shea and Bidjerano (survey, 5000 cases).<sup>62</sup>

By contrast Pena-Shaff, Altman and Stephenson (case study, 35 participants) found that attitudes and expectations about ICT and CMC 'were not significantly correlated to students' participation levels and perceptions of learning'.<sup>63</sup>

### **Interactions: Student with Students**

Greater levels of student-student interactions in CMC engender greater satisfaction.<sup>64</sup>

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<sup>54</sup> Leah E. Wickersham and Patricia McGee, 'Perceptions of satisfaction and deeper learning in an online course' (2008) 9(1) (Spring2008) *Quarterly Review of Distance Education* 73.

<sup>55</sup> Anthony R. Artino Jr, 'Online or face-to-face learning? Exploring the personal factors that predict students' choice of instructional format' In Press, Corrected Proof *The Internet and Higher Education*.

<sup>56</sup> Shu-Sheng Liaw, 'Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard system' (2008) 51(2) *Computers & Education* 864.

<sup>57</sup> Above, n 50.

<sup>58</sup> Jen-Her Wu, Robert D. Tennyson and Tzyh-Lih Hsia, 'A study of student satisfaction in a blended e-learning system environment' (2010) 55(1) *Computers & Education* 155.

<sup>59</sup> Judy Drennan, Jessica Kennedy and Anne Pisarki, 'Factors affecting student attitudes toward flexible online learning in management education' (2005) 98(6) *The Journal of Educational Research* 331(8).

<sup>60</sup> Pei-Chen Sun et al, 'What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction' (2008) 50(4) *Computers & Education* 1183.

<sup>61</sup> Kian-Sam Hong, 'Relationships between students' and instructional variables with satisfaction and learning from a Web-based course' (2002) 5(3) *The Internet and Higher Education* 267.

<sup>62</sup> Peter Shea and Temi Bidjerano, 'Cognitive presence and online learner engagement: a cluster analysis of the community of inquiry framework' (2009) 21(3) *Journal of Computing in Higher Education* 199.

<sup>63</sup> Judith Pena-Shaff, William Altman and Hugh Stephenson, 'Asynchronous Online Discussions as a Tool for Learning: Students' Attitudes, Expectations, and Perceptions' (2005) 16(4) *Journal of Interactive Learning Research* 409.

<sup>64</sup> Ibid.

In two separate studies Rovai found that a stronger sense of community produces greater satisfaction and increased likelihood of persistence with learning (survey, 314 cases);<sup>65</sup> and students with a strong sense of community will feel their education goals are being met and discussions per student may increase where discussions are graded (survey, 262 cases).<sup>66</sup> Drouin (survey, 71 cases) found a 'sense of community' is related to *student-student* interactions rather than instructor-student interactions.<sup>67</sup>

So and Brush (questionnaire, 48 cases) reached similar conclusions finding the 'relationship between social presence and overall satisfaction was positive but not statistically significant', and that 'course structure, emotional support, and communication medium were critical factors' for satisfaction.<sup>68</sup>

Caspi, Gorsky and Chajut (content analysis, 7706 messages) found the learning group size affects the proportion of student-student interactions in CMC and also 'appears to affect the frequency of instructor postings to the group'.<sup>69</sup> In smaller group sizes instructor-learner interactions are higher than learner-learner interactions, whereas in larger group sizes learner-learner interactions increased above instructor-learner interactions. In this particular study a small group was up to 10 students, a medium group was between 11-51 students and a large group was over 51 students.

Cho et al (survey, 31 participants) say students with high willingness to communicate were 'more likely to explore network connections with other learners and tended to get higher final grades'.<sup>70</sup> However Finlay, Desmet and Evans (survey 2 groups, n=97, n=27) found student participation has a positive effect on satisfaction but no effect on learning.<sup>71</sup> Hong similarly concluded that perceptions of student-student interactions were not related to student satisfaction and learning outcomes.<sup>72</sup>

Techniques that students use to encourage other students to participate include 'giving own opinions or experiences', 'questioning', 'showing appreciation', 'establishing ground

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<sup>65</sup> Alfred P. Rovai, 'Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks' (2002) 5(4) *The Internet and Higher Education* 319.

<sup>66</sup> Alfred Rovai, 'Strategies for grading online discussions: Effects on discussions and classroom community in internet-based university courses' (2003) 15(1) *Journal of Computing in Higher Education* 89.

<sup>67</sup> Michelle A. Drouin, 'The relationship between students' perceived sense of community and satisfaction, achievement, and retention in an online course' (2008) 9(3) (Fall2008) *Quarterly Review of Distance Education* 267.

<sup>68</sup> Hyo-Jeong So and Thomas A. Brush, 'Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors' (2008) 51(1) *Computers & Education* 318.

<sup>69</sup> Avner Caspi, Paul Gorsky and Eran Chajut, 'The influence of group size on nonmandatory asynchronous instructional discussion groups' (2003) 6(3) *The Internet and Higher Education* 227.

<sup>70</sup> Hichang Cho et al, 'Social networks, communication styles, and learning performance in a CSCL community' (2007) 49(2) *Computers & Education* 309.

<sup>71</sup> William Finlay, Christy Desmet and Lorraine Evans, 'Is it the technology or the teacher? A comparison of online and traditional english composition classes' (2004) 31(2) *Journal of Educational Computing Research* 163.

<sup>72</sup> Kian-Sam Hong, 'Relationships between students' and instructional variables with satisfaction and learning from a Web-based course' (2002) 5(3) *The Internet and Higher Education* 267.

rules', 'suggesting new direction', 'personally inviting contributions from other people', and 'summarising'.<sup>73</sup>

### Interactions: Student with Teacher

Several studies found a relationship between student satisfaction and the teacher role in CMC: Bolliger & Wasilik, survey, 102 cases;<sup>74</sup> Bower & Kamata, survey, 555 cases;<sup>75</sup> Herbert, survey, 122 cases;<sup>76</sup> Hong.<sup>77</sup>

Relevant factors include 'sense of availability and connectedness' (Shin & Chan, survey, 285 cases);<sup>78</sup> 'quality and timeliness of instruction' (Young & Norgard, survey, 233 cases);<sup>79</sup> and 'instructor's expertise and counselling' (Paechter, Maier & Macher, survey, 2196 cases).<sup>80</sup> Bangert (case study, 33 participants) found teaching presence combined with social presence produced more high quality cognitive responses from students.<sup>81</sup>

However, Kelly, Ponton and Rovai (content analysis, survey, 534 cases) found that online students consider the teacher less important than do face-to-face students and rated the course and course materials as a higher priority.<sup>82</sup> Wise et al (surveys, 20 cases) found social presence affects the learner's interactions and perception of the teacher but has 'no effect on perceived learning, satisfaction, [or] engagement'.<sup>83</sup> The degree of students' previous online experience may be relevant to this (Brinkerhoff and Koroghlanian, survey of two groups, n=512, n=991).<sup>84</sup>

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<sup>73</sup> Khe Foon Hew and Wing Sum Cheung, 'Attracting student participation in asynchronous online discussions: A case study of peer facilitation' (2008) 51(3) *Computers & Education* 1111.

<sup>74</sup> Doris U. Bolliger and Oksana Wasilik, 'Factors influencing faculty satisfaction with online teaching and learning in higher education' (2009) 30(1) *Distance Education* 103.

<sup>75</sup> Beverly L. Bower and Akihito Kamata, 'Factors Influencing Student Satisfaction with Online Courses. (Statistical Data Included)' (2000) 4(3) *Academic Exchange Quarterly* 52.

<sup>76</sup> Michael Herbert, 'Staying the Course: A Study in Online Student Satisfaction and Retention' (2006) IX(IV) *Online Journal of Distance Learning Administration*  
<<http://www.westga.edu/~distance/ojdla/winter94/herbert94.htm>>.

<sup>77</sup> Kian-Sam Hong, 'Relationships between students' and instructional variables with satisfaction and learning from a Web-based course' (2002) 5(3) *The Internet and Higher Education* 267.

<sup>78</sup> Namin Shin and Jason K. Y. Chan, 'Direct and Indirect Effects of Online Learning on Distance Education' (2004) 35(3) *British Journal of Educational Technology* 275.

<sup>79</sup> Andria Young and Chari Norgard, 'Assessing the quality of online courses from the students' perspective' (2006) 9(2) *The Internet and Higher Education* 107.

<sup>80</sup> Manuela Paechter, Brigitte Maier and Daniel Macher, 'Students' expectations of, and experiences in e-learning: Their relation to learning achievements and course satisfaction' (2010) 54(1) *Computers & Education* 222.

<sup>81</sup> Arthur Bangert, 'The influence of social presence and teaching presence on the quality of online critical inquiry' (2008) 20(1) *Journal of Computing in Higher Education* 34.

<sup>82</sup> Henry F. Kelly, Michael K. Ponton and Alfred P. Rovai, 'A comparison of student evaluations of teaching between online and face-to-face courses' (2007) 10(2) *The Internet and Higher Education* 89.

<sup>83</sup> Alyssa Wise et al, 'The effects of teacher social presence on student satisfaction, engagement, and learning' (2004) 31(3) *Journal of Educational Computing Research* 247.

<sup>84</sup> Jonathan Brinkerhoff and Carol M. Koroghlanian, 'Student computer skills and attitudes toward internet-delivered instruction: an assessment of stability over time and place' (2005) 32(1) *Journal of Educational Computing Research* 27.

Individual teaching practices affect the above factors (Blignaut and Trollip, interviews with instructors and students from 18 courses).<sup>85</sup> For example, the amount of instructor's interventions may impinge on students' 'free expression of thoughts and opinions' (An, Shin and Lim, survey and content analysis, 3 groups, 18/18/20 cases).<sup>86</sup> Woods (surveys, 40 cases), found no significant difference regarding satisfaction with overall learning experience or personal relationship with the instructor regardless of the number of personal emails sent to students.<sup>87</sup>

Shin (survey, 506 cases) concluded that teaching presence affects student-perceived learning achievement rather than student satisfaction with CMC.<sup>88</sup> Dennen, Darabi and Smith (32 instructors interviewed, 170 students surveyed) found that despite teachers' focus on course content and feedback, students' satisfaction is affected by the 'perception that they are treated as individuals and that their interpersonal communication needs are met'.<sup>89</sup>

### **Does Student demand for flexibility in learning affect satisfaction?**

The flexibility of online courses (compared to face-to-face) 'is important for student satisfaction'<sup>90</sup> and the desire for flexibility 'outweighs the need for instructor and peer interaction when choosing to enrol in an online course'.<sup>91</sup>

### **Does the learning/content management system affect student satisfaction?**

Satisfaction with the learner interface may be 'the most important dimension of the decision to engage' with the task (Shee and Wang, surveys, 276 cases).<sup>92</sup>

Consistent course design and technical support availability are important for satisfaction,<sup>93</sup> as is robustness and usability of the learning platform, access to learning resources, currency of learning materials, and timetabling (Gilbert, Morton and Rowley, surveys, 19 cases).<sup>94</sup>

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<sup>85</sup> Seugnet Blignaut and Stanley R. Trollip, 'Developing a Taxonomy of Faculty Participation in Asynchronous Learning Environments--An Exploratory Investigation' (2003) 41(2) *Computers & Education* 149.

<sup>86</sup> Heejung An, Sunghee Shin and Keol Lim, 'The Effects of Different Instructor Facilitation Approaches on Students' Interactions during Asynchronous Online Discussions' (2009) 53(3) *Computers & Education* 749.

<sup>87</sup> Robert H. Woods, Jr., 'How Much Communication Is Enough in Online Courses? Exploring the Relationship between Frequency of Instructor-Initiated Personal Email and Learner's Perceptions of and Participation in Online Learning' (2002) 29(4) *International Journal of Instructional Media* 377.

<sup>88</sup> Namin Shin, 'Transactional Presence as a Critical Predictor of Success in Distance Learning' (2003) 24(1) *Distance Education* 69.

<sup>89</sup> Vanessa P. Dennen, A. Aubteen Darabi and Linda J. Smith, 'Instructor-Learner Interaction in Online Courses: The relative perceived importance of particular instructor actions on performance and satisfaction' (2007) 28(1) *Distance Education* 65.

<sup>90</sup> Andria Young and Chari Norgard, 'Assessing the quality of online courses from the students' perspective' (2006) 9(2) *The Internet and Higher Education* 107.

<sup>91</sup> Timothy Braun, 'Making a Choice: The Perceptions and Attitudes of Online Graduate Students' (2008) 16(1) *Journal of Technology and Teacher Education* 63.

<sup>92</sup> Daniel Y. Shee and Yi-Shun Wang, 'Multi-criteria evaluation of the web-based e-learning system: A methodology based on learner satisfaction and its applications' (2008) 50(3) *Computers & Education* 894.

<sup>93</sup> Andria Young and Chari Norgard, 'Assessing the quality of online courses from the students' perspective' (2006) 9(2) *The Internet and Higher Education* 107.

<sup>94</sup> Jennifer Gilbert, Susan Morton and Jennifer Rowley, 'e-Learning: The student experience' (2007) 38(4) *British Journal of Educational Technology* 560.

The type of interface (web-based, text-based, graphical, and metaphorical) makes no significant difference to learning performance; however a metaphorical interface may correlate with an increase in learner attention (Cheon and Grant, surveys, content analysis, 41 cases).<sup>95</sup>

Conversely, Karatas and Simsek (surveys, 60 cases) found no significant relationship between the learning system and satisfaction, or the learning system and student satisfaction with flexibility of delivery.<sup>96</sup> Stokes (2001, survey, 145 cases) found a majority of participants expressed satisfaction with CMC regardless of age, grade point average, university classification, major, and experience with Web-based courses.<sup>97</sup> Hong concluded that perceptions of the CMC environment were not related to student satisfaction.<sup>98</sup>

## Hypotheses

Drawing on the review, I propose the following hypotheses as to the fitness of online discussion forums for practical legal training:

- The utility of testing for learning styles and personality styles is uncertain. The preferred approach is to adopt an instructional design with a blend of teaching media to appeal across the range of styles and personalities.
- The studies indicate that the success of the teaching medium is connected to learners' perception of the relevance or importance of the learning task to learning outcomes and/or to future practice. Instructors should take care to frame the learning tasks to encourage learner motivation, engagement and persistence with the task.
- Similarly, learners' perception of their self-efficacy is important. Instructors should ensure that learners are informed about the resources available to the learners to commence, undertake and complete the learning task. This includes the technical aspects of using the online forum software.
- Learner / Learner interactions are the most important regarding learner satisfaction with online discussion forums as a learning medium.

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<sup>95</sup> Jongpil Cheon and Michael M. Grant, 'Are Pretty Interfaces Worth the Time? The Effects of User Interface Types on Web-Based Instruction' (2009) 20(1) *Journal of Interactive Learning Research* 5.

<sup>96</sup> Serçin Karatas and Nurettin Simsek, 'Comparisons of internet-based and face-to-face learning systems based on "equivalency of experiences" according to students' academic achievements and satisfactions' (2009) 10(1) (Spring2009) *Quarterly Review of Distance Education* 65.

<sup>97</sup> Suzanne P. Stokes, 'Satisfaction of college students with the digital learning environment: Do learners' temperaments make a difference?' (2001) 4(1) *The Internet and Higher Education* 31.

<sup>98</sup> Kian-Sam Hong, 'Relationships between students' and instructional variables with satisfaction and learning from a Web-based course' (2002) 5(3) *The Internet and Higher Education* 267.

- Instructors can encourage learner / learner interactions by ensuring the cohort size is large enough to allow for multiple interactions but not so large that the learner's individual identity is lost in the crowd.
- Instructors can encourage learner / learner interactions by highlighting learners' own methods such as exchanging opinions and experiences, asking questions, showing appreciation, settling ground rules, suggesting new directions for discussion, summarising back and personally inviting contributions from other participants.
- Learner / Instructor interactions: learners need to sense the instructor is available and willing to interact, the instructor must provide quality and timely guidance, and the instructor's credibility (expertise) is important.
- Learner / Instructor interactions: the instructor should not be over-interventionist as this can impede learner / learner interactions, however the instructor's teaching presence can be vital to produce high-level cognitive interactions to improve learning.
- Learners' satisfaction is affected by the 'perception that they are treated as individuals and that their interpersonal communication needs are met' despite the instructors' focus on course content and feedback.
- The learning and content management system used to deliver instruction and the online discussion forums must be robust and easy to use. Visual appeal is important but not as important as these other factors.
- Synchronous interactions are highly regarded but greater value is placed on flexibility. Consequently asynchronous interactions will generally be preferred.

### **Factors for further study**

The literature review disclosed factors involving student satisfaction with online discussion forums as a teaching medium include: students' contexts; students' perceptions of self-efficacy and of the importance and relevance of the learning task; learning and personality styles; technological self-efficacy; student-student and lecturer-student interactions; flexible learning environments; instructional design; online learning management systems; and the blend of online and face-to-face instruction delivery.

These factors have been used to frame the research project currently underway. It is likely that these factors would be material to the design, implementation, and evaluation of instruction involving online forums in practical legal training.

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