# MBTI® Personality Preferences and Diverse Online Learning Experiences

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*The purpose of this case study was to explore students' experiences of asynchronous interactions with other students and with their instructor during an online study module. The module, part of a university course in teacher-librarianship, was designed to assist these students to understand how knowledge of the Myers Briggs Type Indicator® could be used to promote positive partnerships. The case study comprised data from two classes of students (70 students total) who took this module as part of their postgraduate course in teacher-librarianship in 1999 and 2000. The data from student feedback at the end of the module were analyzed in terms of how different MBTI personality preferences experience an online learning community. Students were found to be operating in two different environments, and each environment gave rise to a different identity: (a) community interactive, and (b) independent. In each environment, students with different personalities reported different experiences. Implications for understanding how students with different personalities address their online learning environment and suggestions for future research are addressed.*

## Introduction

The bonus of communications technologies is that they enable professional learning to take place in a global environment. Cross-cultural experiences, values, expectations, roles, and practical strategies as well as personality differences can be valued, shared, and extended. More research about online learning and learners is being reported (Kirkup, 2002; Mayes, 2001; Morgan, Russell, & Ryan, 2002; Salmon, 2000; Younie, 2001). However, none of these studies addresses how students with different personalities deal with information and make meaning in an online learning environment. Understanding how individuals gather information and make decisions about information as online learners can be approached through Myers Briggs Type Indicator (MBTI) personality preferences. This article reports on insights related to personality preferences and online professional learning derived from a case study where postgraduate teacher-librarianship students participated in a three-week online module about understanding concepts of the Myers Briggs Type Indicator® (MBTI®) in relation to creating positive partnerships. At the end of the module, participants were asked to reflect on their online learning interactions with reference to their MBTI personality preferences. Analysis of these reflections in terms of MBTI preferences provides challenges, opportunities, and considerations for recognizing personality preferences when designing and assessing online learning

25

courses. Although the focus of this study was on teacher-librarians, there are implications for professional development and online learning in other fields.

## Literature Review

### *Professional Development and Asynchronous Online Learning*

Teacher-librarians are both teaching professionals and specialists in librarianship. Many work in a school as the sole information specialist: someone who is a specialist in both information literacies and technological literacies. The very nature of information, multiliteracies, and "cognitive flexible literacy" (Younie, 2001) suggests that the role of a teacher-librarian is continually in a state of change. With a focus on "job-embedded learning" (Sparks & Hirsh, 1997), teacher-librarians can critically explore their personal mastery of skills and build appropriate mental models (Senge, 1992) that provide the foundation for unique participation in their whole-school environment. As specialists, teacher-librarians need to go beyond their school environment for professional development.

Opportunities for new forms of professional development that go beyond the traditional face-to-face and hands-on workshops or lectures are available through creative use of the technologies currently available. Formal asynchronous online professional development can tap into technologies already familiar to many teacher-librarians. However, there are costs related to design and implementation of this form of professional development for it to be successful. Just as in any professional development program, there must be appropriate course or program objectives, design, and structure to allow for presentation of information to participants with a variety of learning styles and to ensure critical thinking, creation of knowledge, and practical outcomes. Information alone does not produce worthwhile professional development: the outcome of a program must provide connections for participants so that new understandings or new applications can be applied to extend their information and technological literacy programs and improve library services for the school community. Online learning programs provide opportunities for revisiting old pedagogies to discover how using new technologies can create new pedagogies and effectively address the needs of learners.

### *Different personalities approach online learning in different ways*

People approach online learning in different ways. Differences in personality preferences can be identified using the MBTI. As an indicator of preferences for gathering information and making decisions, the MBTI has been validated in many cultures, including environments where the collective nature of the community culture might seem to override the personality differences of individuals (Kirby & Barger, 1999).

The MBTI has been developed through the works of Carl G. Jung, Katherine Briggs, and Isabel Briggs Myers, who hypothesized that each person has underlying, innate personality preferences. Although how these preferences are used may be influenced by environmental factors, "the essence of the theory is that much seemingly random variation in behaviors is actually quite orderly and consistent" (Myers, McCaulley, Quenk, & Hammer, 1999, p. 3). Four dichotomies that are psychologically different rather than logical opposites underlie MBTI theory. In the discussion below, each dimension is represented by the letter and term used in MBTI theory to indicate a preference for one of the two dimensions of that dichotomy.

1. *Extraversion-Introversion.* How an individual is energized can be either from interaction with people and objects in the outer world (E, Extraversion) or from reflecting on people and objects in his or her own mind (I, Introversion). In an individual, one of the cognitive processes or functions will be extraverted and another cognitive process or function will be introverted: these are the dominant and auxiliary functions.

2. *Sensing-iNtuiting.* The two "perceiving functions" present how information might be perceived or gathered. The Sensing function (S, Sensing) uses the reality of touch, sight, taste, smell, and hearing to gather information. The iNtuition function (N, iNtuiting) unconsciously identifies relationships and possibilities when gathering information.

3. *Thinking-Feeling.* The two "judging functions" indicate how a person judges a situation or makes a decision. The Thinking function (T, Thinking) employs rational use of logic and objective truth when making a decision. The Feeling function (F, Feeling) employs rational use of empathy and subjective values when making a decision.

4. *Judging-Perceiving.* How an individual is oriented in the outer world is evidenced by either structure and organization with a focus on closure and decision-making (J, Judging) or flexibility and organization with a focus on continual search for additional information (P, Perceiving).

A person's MBTI personality profile is determined by preference for one of each of the above four dichotomies, for example, ENTP. The dynamics of type refers to how these four preferences interact in each individual. In order to survive in daily living, each person must use all preferences. However, like writing with the nonnormal hand, the nonpreferred functions are sometimes used awkwardly and without confidence. Ideally, over a lifetime, the less preferred functions are more easily used in appropriate situations, but never with as much ease and flow as the preferred functions. Personality type, as identified through the Myers Briggs Indicator, is dynamic and much more than a combination of four letters. For example, each function (Sensing, iNtuition, Thinking, Feeling) operates differently depending on whether it is introverted or extraverted. As well, according to MBTI theory, each function develops with greater maturity of use over time. However, one function will

27

be dominant; this will be well balanced by a second function, but the third and fourth functions do not develop to the same level.

An understanding of MBTI personality preferences in relation to how individuals relate to online learning can provide useful information for course designers and for course participants. Designers can provide learning opportunities for all the different personalities, and participants can appreciate why they seem to respond differently from their colleagues.

## Addressing Learners in an Online Environment

Online environments provide a platform for constructivist learning where learners actively construct their own understandings based on discussions with teachers and peers and through interacting with various print, nonprint and online resources. Wenger (1998) describes a social theory of learning where individuals can explore new insights through belonging to a "community of practice [that] is a good context to explore radically new insights without becoming fools or stuck in some dead end" (p. 214). In the design of any program, identification of specific professional needs of potential participants must be addressed so that the program starts with the end in mind (Covey, 1990). The participants will have different motivations for participation (gaining credit toward accreditation, addressing a personal learning concern, exploring a professional interest, or just being a "study junkie"). The participants also will have different personalities, and different personalities will want different things from the program. Sensing (S) types will require that the program be useful for their current work and that the information fit with the realities of their work and personal environment. Intuitives (N) and Thinking (T) types will be excited to learn new theories that enable them to explore possibilities and conceptual ideas; they enjoy learning for the sake of learning. Feeling (F) personalities are motivated by values pertaining to benefits for people.

How specific outcomes of a program are interconnected within and beyond the professional role can also be identified (Senge's "five disciplines," 1992) according to participants' personality types. Sensates with a Judging orientation (_S_J) will want to know how the content will relate to past experiences, whereas Sensates with a Perceiving orientation (_S_P) will want to recognize exactly how the outcomes will connect in their immediate experiences. Intuitives with a Judging orientation (_N_J) will look for future possibilities, whereas Intuitives with a Perceiving orientation (_N_P) will look for emerging ideas to improve the future.

For some learners, the opportunity to take a course online is preferred over face-to-face interactions; other learners prefer regular face-to-face classes. It is sometimes possible to present a program using mixed delivery modes that may include face-to-face, print study guides, readings, synchronous and asynchronous text, or multimedia technologies. However, when course participants are living in diverse parts of a country or a pro-

28

gram is offered globally, the value of online communications, not only for delivery but also for participant interactions with peers and teachers, provides opportunities beyond those offered in a regular classroom.

Russell and Cohen (1997) created the term *reflective colleagues* to represent their interactions in cyberspace, which involved "timeliness, sharing personal reflections, parallel and tangent thinking, and extreme density of interaction" (p. 144). In an online environment, students can become reflective colleagues where there is no hierarchy in relationships. Such relationships can build a community of learners with a variety of personality preferences.

One of the benefits of an online learning course is the encouragement of participants to interact as if they were part of a community of learners or a community of practice (Wenger, 1998) where personal reflections on study questions can be shared and new knowledge created through rich interactions and cyber-discussions. In some ways, there is an intention to reproduce a face-to-face tutorial situation; however, when the technologies provide asynchronous opportunities, the dynamics of interaction are different. Prior technological academic learning experiences can also influence the confidence of individuals to engage in an online learning community; however, once the technologies are "invisible," learners are better able to focus on knowledge creation (Russell, 1995). Kirkup (2002) suggests that some individuals will present themselves more easily in one "learning space" and less comfortably in a different "learning space." She (like Wenger, 1998) describes a social model of learning where "individuals and collectivities are seen to create/perform their identities through their learning" (p. 182). Wenger understands that learning is a process and that it actively contributes to the transformation of personal identity. "It entails a process of transforming knowledge as well as a context in which to define an identity of participation" (p. 215). The identity of an individual may flourish in certain learning environments and founder in others. However, these authors do not explore personality differences in addressing identities in different learning communities.

Learners' identities can be described in many ways. Salmon (2000) considers learning styles in an online environment where individuals are:

1. Activists who enjoy new problems and experiences to keep engaged and bounce ideas off others with extraverted interactions
2. Pragmatists who need to see obvious links and immediate applications to their work environment and also tend to be comfortable with immediate extraverted interactions
3. Theorists who want to explore in depth and create links between ideas and situations and tend to prefer introversion.
4. Reflectors who use their introversion to engage with the learning task and prefer time to consider their responses. (pp. 72-73)

When these four learning styles are considered from a MBTI perspective, some relationships can be drawn. The Activists may not only be Extraverts,

29

but also have a Perceiving orientation whereby they are continually looking for more information. In the dynamics of their type (E _ _ P), they will extravert their Sensing or iNtuiting function. Pragmatists probably use their Sensing function to make the information they gather useful. They prefer to deal with facts and concrete reality rather than abstract ideas and concepts. Theorists use their iNtuiting and Thinking functions to deal with abstract concepts and ideas. Reflectors would relate to Introversion, as they prefer to spend time alone before sharing with others. These learning styles, although offering some indication of differences between individual approaches to online learning, do not address the depth and complexity that MBTI preferences offer.

Younie (2001) takes a different approach to online learners, suggesting that they need to develop a "cognitively flexible literacy" in order to create personal knowledge through independent and interactive learning. In a globalized, highly technological economy, "the critical intellectual abilities needed for higher order thinking are reasoning, abstraction, analysis, evaluation and problem solving" (p. 215). In order to be involved in knowledge creation, Younie says individuals need to develop knowledge that consists of "information/facts/concepts/theories," which are obtained through knowing how to retrieve information through navigational and research strategies and applying higher-order thinking in the "evaluation of information/critical anaylsis/problem solving/risk assessment/creative solutions." In MBTI preference terms, learners are gathering information using a variety of techniques and sources employing their Sensing or iNtuiting function. Their Thinking or Feeling function is used to make critical decisions and value judgments about that raw information.

Information communication technologies have transformed opportunities for online educational practices, yet the new practices are often unpredictable, and teachers and learners need "to be informed by understanding of the plural, embedded, entangled, unstable and (in)visible characteristics of literacies, technologies and learning practices" (Morgan et al., 2002, p. 51). Again, using the MBTI lens, each personality type will approach new ways of gathering information and making decisions using his or her unique combination of preferences.

An understanding of MBTI personality preferences in relation to how individuals relate to online learning can provide useful information for course designers and course participants. Designers can present opportunities for the different personalities, and participants can appreciate why they seem to respond differently from their colleagues.

## Context of the Research

The participants in this research were teachers studying at Queensland University of Technology in Brisbane, Australia for their Graduate Diploma in Education (Teacher-Librarianship), which is equivalent to one year of

academic study. Most students spread their eight units (12 credit points each) of study over several years, so at any time, there are about 150 students at various stages through their course. All units are available only externally, with print materials and online technical and teacher support. The three-week module described in this study is part of a 13-week, 12-credit-point, compulsory unit. Some students have "met" each other online in units studied earlier; others may be new to the course.

As a long-time teacher of distance education students and user of communications technologies, I designed an online module to assist students to recognize their MBTI personality preferences. In the design and delivery of this module, I combined my knowledge of instructional design with my experiences using e-mail and web forums to produce a module that would capture the attention of the students and provide them with insights relevant to their professional and personal lives. Two offerings of the module (33 and 37 students) were used to investigate how these individuals with diverse MBTI preferences experienced online learning.

The students were provided with a printed study guide, some readings, suggested Internet sites, online resources, and instructions for participation in web forum discussions. Contribution to six specific asynchronous web forums was required. Before starting the module, students answered the G-form Myers Briggs Indicator and sent this to me by "snail mail." From the beginning of the module study period, students worked independently to identify their own MBTI preferences and share their self-perceptions with their colleagues in the online forum. Based on how they scored on the Indicator, I provided lengthy feedback via a personal e-mail to each student, in conjunction with their first forum contribution. The first forum contribution comprised self-selection of MBTI preferences, for which they had read the printed study guide material and accompanying set texts. To support their self-selection, students were required to present examples of times when they had experienced each of their four basic preferences. As students put this first contribution into the class forum space, others were encouraged to reflect on their own preferences as being similar or in contrast to those of their colleagues. Five further forum contributions were required, each of which focused on one aspect of MBTI in relation to work or family personal interactions. Some students shared personal information with their online colleagues. By the end of the five forum contributions, all students had confirmed or modified their understanding of their own MBTI preferences, and this final self-selected MBTI type is used with quotes to support the case study reported in this article.

The final web forum contribution required participants to reflect on the module learning strategies; their own interaction with the resources; and their challenges, learnings, emotions, and critique of the online module. Two groups of adult students (33 and 37 participants) have now completed the

31

three-week online module. All were qualified teachers, aged from the mid-20s to 50s, and located in towns and cities across Australia (and one in Spain).

## Case Study Research

A case study research method was used to address the research problem to identify different experiences of learning for individuals with particular MBTI preferences in an online asynchronous environment.

Stake (1995) indicates that case study research "is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances" (p. xi). The important circumstance for this study was asynchronous online learning, and the data from the two groups of students were pooled to provide what Stake calls a "collective case study." Although it is not possible to generalize from a single case, it is appropriate to use analysis of case study data to lead "to understandings, to assertions, perhaps even to modifying of generalizations" (p. 4).

Only three of the 16 MBTI types were not represented: ESTP, INTP, and ENTP. The number of participants representing each preference dimension is presented in Table 1.

### Gathering Data

With permission from the participants, I recorded all web forum contributions. Over the six forums, each student clarified his or her own preferences and provided examples of how those preferences were evident in interactions with work colleagues, friends, and family. MBTI preferences identified by each student in their final forum were the accumulation of my professional MBTI facilitation and their personal reflections over the three weeks; therefore, these were considered to be the most accurate for their type and applied to their comments in this study.

The final forum provided rich data for qualitative analysis. In this forum, students were required to respond to the following questions about their online experience:

1. What were your (a) frustrations, (b) challenges, (c) learnings, (d) emotions, (e) criticisms?
2. Do you have any suggestions for experiencing MBTI in an open learning unit?
3. How did the (a) Study Guide, (b) Readings, and (c) Web Forum Discussions work for you?

Table 1
Representation of Each Preference Dimension in the Study Group

| | | | |
|---|---|---|---|
| Extravert energy | 24 | Introvert energy | 46 |
| Sensing perceiving function | 43 | iNtuiting perceiving function | 27 |
| Thinking judging function | 20 | Feeling judging function | 50 |
| Judging orientation | 54 | Perceiving orientation | 16 |

4.  What did you learn about online networking communications?

## Data Analysis

"Standard qualitative designs call for the persons most responsible for interpretations to be in the field, making observations, exercising subjective judgment, analyzing and synthesizing, all the while realizing their own consciousness" (Stake, 1995, p. 41). Content analysis of responses to the final forum questions, along with my personal reflections on the specific strategies I used in the design and implementation of the module, have been combined to illustrate the impact of personality preferences, as revealed by the MBTI, on the students' experiences of learning in an online learning module.

The comments from the two groups were pooled, printed, read, and reread in the context of the MBTI preferences identified for each student. Comments were grouped and reanalyzed in relation to commonality of MBTI preferences and potential relationships between similar preferences and student comments.

# Findings: Diverse Online Experiences

Analysis of the data found that students presented two distinct personal identities: *community interactive* and *independent*. The community interactive identity related to the experiences of participating in cyberspace as part of a community of learners comprising student colleagues and their instructor. The independent identity related to the personal and technological contexts.

## Community Interactive Identity

The students operated in a community of learners. Interactive in this community of learners, participants developed personal relationships and gathered information to extend their learning.

### Community interactive identity: to develop personal relationships

Introverts, in particular, found the asynchronous "anonymous" environment a comfortable space in which to express their personal opinion as they built rapport with their colleagues.

> If I had to discuss some of these things in a group situation I may have been quite reluctant and I think many [Introverts] would feel this way. (ISFJ)

> Writing to you all was much easier and I found that I included a lot more personal information than I would have if I was speaking with a group. (ISTJ).

> Web forums are an easy way of sharing ideas in a way that is non-threatening. It is great to be able to read other people's messages and feel that you sort of know them, even through you don't. (ISFJ)

> The web forum made the course more personal.... It was amazing how open everyone has been—probably because we are not known to each other. (ISFJ)

> My biggest challenge was being so open with my feelings. I am not used to bear-ing [sic] my sole [sic] to people I do not know. I was pleased with the anonymity of the online format. (INFP)

However, Introverts can be overwhelmed when there are too many par-ticipants in one group. Those with extraverted Feeling will also be particular-ly aware of the needs of their colleagues. With over 30 participants, more than 60 forum entries had to be read for each of the three weeks.

> It is a good way for large numbers of people to share thoughts, ideas and infor-mation with each other. At the same time it can be overwhelming on such a large scale. It was also useful to be able to read over your own comments as well as others. (ISFJ)

> I think the only concern I had is that you have to remember that you are address-ing many people, rather like a chat line. I felt a little self conscious when I remembered this after I sent my third posting. I even received an email of con-cern from one participant (Thanks). It certainly gives the opportunity to gain a reflective colleague or two. (INFJ)

Extraverts who extravert their Feeling or Sensing function preferred a face-to-face environment, whereas an Introvert with an extraverted Thinking function did not share this need for seeing the body language of colleagues.

> I really miss face-to-face lectures or tutorials. I believe reading a lot of Anne's body language would have clarified some of those bizarre thoughts I had about certain aspects of the course. (ESFJ).

> As an [Extravert], I was always feeling I'd like to actually talk in person. (ESTP)

> As an INTJ, it doesn't bother me not to have face to face interaction. (INTJ)

One Extravert believed the asynchronous environment provided the op-portunity to get to know more people than in previous face-to-face experi-ences.

> You certainly didn't feel isolated. I have to say that I feel closer to my fellow peers. We are on more of a personal level. When I was a full time student at Uni-versity, I sat in a room full of people, but never really got to know them. The on-line forums, show the real person. (ENFJ)

## Community interactive identity: to gather information and extend learning

The asynchronous environment provides a forum where students can see examples of how the theory has been put into practice by others; it also gives support when a student is unsure how to approach an assignment. Sensates with introverted Sensing particularly like to reflect on how the theory has been applied successfully in other locations.

> It has certainly made the study more meaningful because you can relate to the range of varying examples given by the other students rather than just relating to your own little world. (ISFJ)

34

> Web forums complemented the readings and enabled me to SEE how the theories and concepts translate to real situations and experiences. (ISTJ)

When the assessment requires sharing personal reflections and experiences, it is understood that the responses of colleagues can be read without fear of plagiarism and, through reading these contributions, inspiration and guidance facilitate completing the assessment requirements.

> I also really appreciated reading other people's questions and responses without feeling like you were "cheating." Being able to communicate this way meant I could be reassured that I was understanding the material correctly and if I was stuck on how to begin or what approach to take, I was able to get a guide from other people. (ISTJ)

> The web forums helped me when I was little unsure of what to do, the fabulous people who went first each forum, really helped me to understand what exactly was expected of us. Thanks guys!!!! So many interesting topics, scenarios and information were found in all the web forums which made for a very interesting read!!!! (ENFP)

> Online communications ... helped to fill the void of isolation and knowing whether you were on the right track with the study guide and assignment because it allows for discussion and questions. (ISTJ)

Students with extraverted Feeling appreciated stimulation of new learning and ideas through online discussion and feedback with colleagues and the instructor.

> I found the web forums and emails beneficial, insightful and have certainly learned through other's and their experiences ... I've engaged my family and some friends in the process. (ENFJ)

> You learn so much more when you discuss your ideas with other people and gain a new perspective from other people's suggestions. (ISFJ)

> It's also great to know that feedback is there for you, not only from the unit coordinator, but your peers. (ENFJ)

Specific online techniques are also learned from modeling by other students. In this instance, the ISFP personality has reflected on the usefulness of writing style to make her contributions more readable for others.

> It is important to be succinct (in an online environment in particular for there is so much to read) and to have information in readable blocks. I did not do this at first and realized that my contributions were hard to read. I saw how others expressed themselves and their writing style. I have used this to improve my written expression (I hope) for an online environment. (ISFP)

## Independent Identity
The independent identity related to the personal and technological spaces or contexts and involved personal reflections, priorities, attributes of the in-

35

structional design of the module, and issues of computer access and technological confidence.

## Independent identity: personal context

The personal contextual identity involved reflection, priorities and efficiency combined with the instructional design of the module. The asynchronous environment provided the opportunity for Introverts to read, reflect, and respond in their own time frame. Introverted students with a Feeling function preference wanted time to read and reflect on the contributions of colleagues, whereas the Introverted student with an extraverted Thinking function preference focused on managing the amount of data efficiently.

> The delayed time factor was a bonus and a curse: it allowed time for private reflection, but made it too easy to skip communication with people by thinking that I'd get back to it later. (ISFJ)

> In my own time I quite enjoyed reading other's comments though with four subjects on the roll, time constraints meant that I couldn't get involved in the responding process ... I guess it comes down to priorities in busy lives. (INTJ).

Students with a Judging orientation wanted structure in the organization of the module that was presented as a printed study guide with print readings and online sites linked from the module home page. Perhaps their introverted Sensing or iNtuition function liked to work independently through the materials. They found the organization of the module with questions, reading guidance, and spaces for personal responses to be valuable for bringing closure for assignments.

> The step-by-step format of the study guide was very helpful ... like the boxes and numbers; they were less daunting than pages and pages of text! (ENFJ)

> The study guide I found really helpful and made a point of answering the questions as I went through it as these became the basis of the web forums ... I like this step by step procedure. (ISFJ)

> The study guide interspersed with insightful readings [was] great for me because I had time to pace myself and process my thoughts and ideas without falling behind, as is often the case in lectures. (INFJ)

An Introvert student with extraverted Sensing wanted flexibility in contribution format.

> I find writing in sentences demanding. I am more able to make sense if I write in dot-point form. (ISTP)

## Independent identity: technological context

For some students, the technology was invisible, and for others, it was intrusive and impinged on their online participation. How the technological context is dealt with may vary between different personality types. Some students were confident in their use of technology for cyber-learning, and the technology was invisible as they focused on the task.

> With email you can download the messages then work offline, reading them leaving the telephone lines free, replying to them in the "to send" box and then reply to several in a short space of time. (INFP)

> I really like being able to hop online when it suits me—it doesn't matter if it is midnight…. It's quick, it's instant, it's convenient! (ISFJ)

Technology was intrusive when other factors militated against easy access to complete the online task, especially for students with a Feeling preference when they were concerned about other computer or telephone users and also wished to provide reflective responses to their colleagues.

> My biggest problem with it is I don't have computer access at home and find I am usually rushing in my replies. (ISFJ).

> Having only one telephone line into the house can severely restrict your online time especially when … you have to stay "off the air" from about 8 o'clock onwards until [my daughter] rings. (INFP).

Where technology had been intrusive in the past, the online requirements of this module helped to build technological confidence. The Introverts who also had introverted Sensing reinforced their computing skills and also increased their understanding of how online communications operate.

> Communicating on the web was a little daunting at first but now I'm not at all concerned about it. (ISFJ).

> Having been introduced to online networking communication last semester, I feel that completing this web discussion has allowed me to become more proficient with the method. My computer skills have continued to be improved and I am more willing to try things without fear of something going wrong. (ISFJ)

Through the words of the participants, these findings report diverse experiences of asynchronous online learning. Although all 16 MBTI types were not represented and representation was uneven among the represented types, this case study highlighted some potential differences in how online learning is experienced by different personalities.

## Discussion

All participants were asked to respond to the same four open-ended questions about their approach to learning in an online environment, and each wrote about what was personally important. Different personality types focused on issues that held importance according to the dynamics of their MBTI type.

Analysis of the data identified two different identities held by the participants in relation to the requirements presented in the instructional design of the module for this case study. (This module included a print study guide, readings, and required asynchronous online contributions.) The community interactive identity is represented through building personal relationships and gathering information to extend learning. The independent identity is

represented through personal and technological contexts. Each of the 16 personality types approaches learning online with a different focus, so although the motivation may be different, the actual behavior can look the same.

Recognition of different learnings and approaches to learning arising from different personalities is appropriate in a global constructivist pedagogical environment. Communities of reflective colleagues are enhanced when participants recognize and value differences in approaches to gathering information and making decisions about their creation of knowledge. The online technologies provide a learning space that is substantially different from a face-to-face environment. Although both spaces offer the opportunity to build a community of learners, the look and feel of the cyberspace community is different. Apart from the interactive presence, the technology enables each person to learn at a time and in a space that is appropriate for different personalities to operate in their personal and technological contexts. For example, Introverts, particularly, find the asynchronous online space more conducive to presenting their voice, which often goes unheard in a face-to-face environment.

In a community of learners, the Sensing and iNtuitive functions are applied when gathering information. The Sensates want useful or practical information to support their work situation, whereas the iNtuitives look for the emerging big picture and future-oriented information. The Thinking and Feeling functions are applied when making decisions. People with a Thinking preference will make decisions based on logic and task, like the student who did not need to meet other students face-to-face. People with a Feeling preference will make decisions based on values for people and are concerned when interactions with people are jeopardized. It was these people who were more concerned about not having time to respond to forum contributions.

The module used in the case study represented personal explorations of MBTI preferences, and through reading each other's forum contributions, the intention was to recognize differences in other MBTI types. Awareness of personality preferences highlights one's own preferences for gathering information and making decisions. With this knowledge, it is possible to recognize when one is energized by particular activities and why other activities are deenergizing. When Introverts realize that they prefer to take time to reflect on contributions of colleagues before responding, they may arrange their online time to download contributions, respond offline, and connect later to send their reflections and personal contributions. Extraverts with extraverted Feeling may recognize their need to have face-to-face interactions and decide to supplement the online communications with face-to-face meetings with class colleagues or interested friends to discuss issues arising from their study. The opportunity for computer-based synchronous discussions and videoconferencing with colleagues is becoming more readily avail-

able and may be taken up by some course participants, but not necessarily by everyone.

Teacher-librarians can apply this study in several arenas: personal professional development; designing professional development for teaching colleagues; and designing online opportunities for students. When deciding to study in an online professional development program, or when involved in the instructional design of online programs, it is valuable to explore how a community of interactive learners can be created through valuing all MBTI preferences.

Further research is needed to extend the present study with a wider range of Myers Briggs types to gain a clearer picture of the dynamics that operate when learners use their community interactive and their independent identities. Where the participants know their Myers Briggs type, a study of an online module with non-MBTI related content is needed. Research with high school students would provide insights into the value of assisting these students to recognize their own approaches to gathering information and creating knowledge. This study addressed one case where asynchronous forums were the focus for understanding how diverse online learning experiences were represented by different Myers Briggs Type Indicator preferences. Synchronous spaces may provide entirely different approaches to gathering information and creating knowledge for different Myers Briggs types.

## Notes
Myers Briggs Type Indicator and MBTI are registered trademarks of Consulting Psychologist Press, Inc.
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## References
Covey, Stephen R. (1990). *The seven habits of highly effective people.* Melbourne: Business Library.
Kirby, Linda K., & Barger, Nancy J. (1999). Uses of type in multicultural settings. In I.B. Myers, M.H. McCaulley, N.L. Quenk, & A.L. Hammer (Eds.), *MBTI Manual* (3rd ed., pp. 367-384). Melbourne: Australian Council for Educational Research and Consulting Psychologists Press.
Kirkup, Gill. (2002). Identity, community and distributed learning. In M.R. Lea & K. Nicoll (Eds.), *Distributed learning: Social and cultural approaches to practice* (pp. 182-195). London: Routledge Falmer.
Mayes, Terry. (2001). Learning technology and learning relationships. In J. Stephenson (Ed.), *Teaching and learning online: Pedagogies for new technologies* (pp. 16-26). London: Kogan Page.
Morgan, Wendy, Russell, Anne L., & Ryan, Michael. (2002). Informed opportunism: Teaching for learning in uncertain contexts of distributed education. In M.R. Lea & K. Nicoll (Eds.), *Distributed learning: Social and cultural approaches to practice* (pp. 35-55). London: Routledge Falmer.
Myers, I.B., McCaulley, M.H., Quenk, N.L., & Hammer, A.L. (Eds.). (1999). *MBTI Manual* (3rd ed.). Melbourne: Australian Council for Educational Research and Consulting Psychologists Press.

Russell, Anne L. (1995). Stages in learning new technology: Naïve adult email users. *Computers and Education, 24*(4), 173-178.

Russell, Anne L. (2000). Using e-technologies and Myers-Briggs personality preferences. *Access, 14*(4), 30-32.

Russell, Anne L., & Cohen, Leonora M. (1997). The reflective colleague in e-mail cyberspace: A means for improving university instruction. *Computers and Education, 29*(4), 137-145.

Salmon, Gill. (2000). *E-moderating: The key to teaching and learning online*. London: Kogan Page.

Senge, Peter. (1992). *The fifth discipline: The art and practice of the learning organisation*. Sydney: Random House.

Sparks, Dennis, & Hirsh, Stephanie. (1997). *A new vision for staff development*. Alexandria, VA: Association for Supervision and Curriculum Development.

Stake, Robert E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Wenger, Etienne. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.

Younie, Sarah. (2001). Developing a "cognitively flexible literacy": From an industrial society to the information age. In Marilyn Leask (Ed.), *Issues in teaching using ICT* (pp. 206-222). London: Routledge Falmer.

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