

# Virtual communities of practice: An inquiry into the creation, benefits, motivations, enablers and barriers to participation

**Simon Thomas**

Osaka Prefecture University  
emailsimonatwork@gmail.com

## Forum

*Teachers' Communities of Practice (CoP) offer the potential for continuous professional development through knowledge sharing networks. Taking place both face-to-face and online in Virtual Communities of Practice (VCoP) the transfer, generation, and reinforcement of knowledge can promote better practices in the classroom. Through this investigation, the barriers, motivations and enabling factors affecting the creation and success of VCoPs will be illustrated with reference to literature and interviews with members of a professional organization of teachers in Japan. Significant influences affecting VCoPs will be shown to be teachers' personal motivations, technology use and interpersonal relationships.*

### Introduction

The Japan Association for Language Teachers (JALT) contains 23 special interest groups (SIGs) facilitating information exchange and fellowship across networks of teachers with similar interests. The Computer Assisted Language Learning (CALL) SIG serves those interested in bringing together knowledge and skills of technology and language learning.

Interpersonal relationship building and knowledge sharing within the JALT CALL SIG community are made possible by an annual conference. A journal and newsletter "committed to excellence in research in all areas within the field of CALL" (according to the JALT CALL website) are also distributed, offering teaching ideas, experiences and suggestions for classroom practice. At the time of writing an invitation to join a mailing list had also been received.

The annual JALT CALL conference offers **231**

an opportunity for face-to-face, peer-to-peer learning, social participation and networking in the **JALT CALL** and Technology Enhanced Learning (**TEL**) community. It provides the possibility to observe and learn from others – including more experienced teachers – to acquire, discuss and share knowledge, new classroom ideas, methods and technologies.

The **JALT CALL SIG** is a community of practice (**CoP**), which is “...a group of people informally bound together by shared expertise and a passion for a joint enterprise” (Wenger & Snyder, 2000, p. 139), defined by Wenger’s characteristics of the shared domain of interest, membership and participation in the community, and the shared practice of **CALL/TEL** in teaching (Wenger, 2006).

Despite Web 2.0 technologies facilitating the interaction of people with specific interests across time and space to form distributed yet interactive communities of practice (Wenger, White, Smith, & Rowe, 2005), the **JALT CALL SIG** does not maintain an online/virtual community meeting place in support of its face-to-face interactions. Thus, once the annual conference has concluded, members scatter to resume their practice in the dispersed community, characterized by the relative isolation and clustering of individual teacher nodes (Fontainha & Gannon-Leary, 2008).

The research reported in this paper will illustrate literature on face-to-face and virtual communities of practice, and, through qualitative investigation reveal the varied observations and experiences of communities of practice and virtual communities of practice by three **JALT** members.

This research will be conducted with the following questions in mind:

1. What benefits can a community (such as the **JALT CALL SIG**) gain through the support of an online virtual community of practice (**VCoP**) to enhance limited face-to-face interactions?
2. What are the factors that influence the creation of, and participation in online virtual communities of practice (**VCoP**) in support of interpersonal relationships established in face-to-face meetings?

## Communities of practice

Notions of social development theory (Crawford, 1996; Driscoll, 1994; Vygotsky, 1978) and constructivist learning (Piaget, 1953; Vygotsky, 1978) have long advocated the rewards that collaborative and community learning can bring to individuals and groups. Studies undertaken by Lave and Wenger (1991) and Wenger (1998) into social learning, communities of practice and legitimate peripheral participation can provide illustrations of the structure, relationships and identity of communities and the actions and learning that take place within them. Investigations into this field can provide greater insights into why face-to-face communities (such as the **JALT CALL SIG**) become established, how they function and the benefits that can be gained from knowledge sharing.

### *Formation and sustainability*

Communities of practice are reported to have greater success if they form organically from the intentions of a core group of practitioners for the purpose of social learning, to generate, reinforce and renew knowledge, to develop members’ capabilities to transfer best practices, to develop professional skills and solve problems quickly. Held together by intellectual and social leadership, the communities of practice and their members should be

transparent, flexible and trusting with each other, and in their activities to accommodate legitimate peripheral participation of newcomers leading to mutual engagement (Usoro, Sharratt, Tsui, & Sandhya, 2007; Wenger, 1992; Wenger 1998; Wenger & Snyder, 2000) and the building of knowledge transfer and sharing networks.

In contrast, CoPs created artificially by organizations with a set goal in mind are less likely to be successful and sustainable beyond the completion of specific tasks as organizational supervision and interference contradicts the organic, spontaneous and informal nature (Wenger & Snyder, 2000).

Hemmasi and Csanda (2009) report that key factors affecting CoP sustainability include ease of communication between members, interested and proactive facilitators, an easy to use and maintain system of collecting knowledge, and topics relevant to members' interests. Within this construct, a balancing of distinct and complementary experiences is said to occur, which Wenger (1998) describes as giving rise to dualities of meaning. Each element of the duality is significant in creating foundations of CoPs, their evolution, the participants and their practices. Dualities often present in CoPs (such as **JALT CALL**) include participation in community activities and reification of shared knowledge through practice, transference and transformation of explicit and tacit knowledge through formal community conferences and informal networking, and, peripheral and core participation through turn taking in knowledge transfer. In artificially created CoPs these dualities of meaning will often be unbalanced by the forced agendas of the controlling organization affecting their success and longevity.

### *Potential benefits of participation in CoPs*

Although knowledge can be understood in isolation Norris, Mason, Robson, Lefrere and Collier (2003) and Hew and Hara (2007) recognize that in context and a community of shared interests (such as **CALL/TEL**) interactivity, communication and knowledge sharing are integral to "knowing" and essential for the continual evolvement of "knowledge to new plateaus of meaning" (Norris *et al.*, 2003, p. 17). As such, participation in networks, such as the **JALT CALL SIG**, has the potential to be a powerful catalyst for teachers' continuous professional development (Schlager & Fusco, 2003; Stockwell, 2009). A community's mentoring, and self-reflection activities can initiate and generate improved mutual changes in knowledge, skills, attitudes, practice and behavior. Opportunities can be explored, solutions to common problems identified and best practices collected and evaluated in environments of changing needs and technologies (Cambridge, Kaplan, & Suter, 2005), resulting in positive and purposeful action in the classroom.

### *Negative effects of CoPs*

Despite the positive potential there can be negative effects to CoPs. Mitchell, McKenna and Young (2006) and Huysman (2004) acknowledge that there can be complex challenges involved in attempting to change practices within organizations, and CoP knowledge transfer may disrupt or obstruct organizational learning. Hodkinson and Hodkinson (2004) recognize that CoPs can promote poor, unethical or unregulated practices, and can create community/hierarchical divides based on inequality and social power that could affect members' participation. One significantly negative point is the ability of a CoP to sustain itself because of the distance often placed between the members.

### *Effects of limited community interactions*

The potential for professional development to occur in a CoP in the ways that have been noted is dependent on its interactions. A group that meets face-to face, once a year for an annual conference (such as the **JALT CALL SIG**) will benefit less from these limited interactions than a group that meets on a more regular basis. This remoteness can affect the feeling of connectedness that members have with the community impacting on interrelationship trust, commitment to the community, perceived impact on member's professions, perceived community effectiveness and strength of leadership, and the satisfaction with the community experience (Hemmasi & Csanda, 2009).

### *Virtual communities of practice – VCoP*

By utilizing Web 2.0 information and communication technologies (**ICT**) to support and enhance face-to-face meetings the physical location and isolation of members becomes less problematic (Schmitz & Fulk, 1991). The use of **ICT** tools increases the time and place flexibility to people, networks and resources allowing for greater communication, discovery and construction of knowledge and the facilitation of modeling and visualization (Lock, 2006). Commonly used asynchronous **VCoP** tools can include websites, Wikis, forums, learning management systems and others. A **VCoP** can become a database of knowledge with access to information and tried and tested experiences of best practices to keep members informed of developments in specific fields and professions. It can facilitate communication with a wider audience of experts and practitioners with similar interests and can assist new members integrate into a community enabling them to become productive in that field faster (Ardichvili, Page, & Wentling, 2003). Barab, MaKinster and Scheckler (2002) term this "web supported professional development" (p. 245). Despite the benefits of **VCoPs**, to this date, a **JALT CALL SIG VCoP** has not been established. What reasons could be behind this?

### *VCoP stewardship and technology*

A **VCoP** requires stewardship and technological tools. While the tools or platform should support the **VCoP**, the stewards and the CoP members should be the driving force behind it. Stewards should have experience of the workings of the community to understand its technological needs, and experience with technology to take leadership in addressing those needs (Smith, Wenger, & White, 2006) and thus should be core members. To enable the community to function in a living, dynamic and compelling space requires stewardship that is creative, imaginative and understanding in its design, facilitation and tending of the technology. The technology itself should have perceived ease of use, be reliable, flexible and scalable with longevity to nurture the support and resources needed to attain and cultivate the goals of the community in meeting the needs of professional development (Lock, 2006). Thus, the stewardship and technology integrated into the community will affect a **VCoP's** success.

### *Barriers and negative effects to VCoP participation*

The factors that create barriers and resistance to members joining and participating in online VCoPs revolve around central themes that focus on a lack of knowledge or understanding, or difficulties in knowing how, what, why and when to share.

Professional responsibilities are a significant factor cited as a reason to keep peripheral members of a community away from participation despite their positive motivations to share in knowledge transfer (Hew & Hara, 2007; Wenger, 2002). Low-level interactions can lead to a lack of identification with the community and the practical intangibility of knowledge being shared (Probst & Borzillo, 2008). A lack of motivation of extrinsic/intrinsic values is also seen as a barrier to knowledge sharing. This can be in the form of participants who see no benefit in sharing, but instead prefer to hoard information with the assumption that knowledge is power. This phenomenon decreases however, as distance and perceived organizational threat from colleagues increases (Hew & Hara, 2007). Ardichivili *et al.* (2003) also note long response times to inquiry as a barrier to VCoP participation in situations requiring quick and accurate solutions, when tight-knit face-to-face networks can be substantially quicker and more reliable.

Hew and Hara (2007), Garfield (2006) and Wenger (2002) illustrate that a negative understanding of the technology and distrust of the effectiveness of methods used can be key influences in participation. They encourage the need for competence, familiarity and understanding of technology, which increasingly becomes harder as more platforms, each with their own advantages and disadvantages become available.

What to share is also a significant factor affecting VCoP participation. Fear of contributions lacking importance, accuracy and relevance, being misunderstood and criticized or belittled, or offending and causing conflict within the community are seen as inhibitors to knowledge sharing practices (Ardichivili *et al.*, 2003; Hemmasi & Csanda, 2009; Hew & Hara, 2007; Wenger, 2002).

The negative effects of VCoPs tie closely with the barriers to their use. Firstly, social interaction mediated by online technologies is said to be less effective than face-to-face meeting (Preece, 2000). The speed, direct relevancy of communications and trust could be some of the reasons for this claim. Lack of identification with the community can lead to peripheral users lurking without contributing to the knowledge sharing economy. This in turn can lead to an oppressive dominance of core members, hierarchical divides and difficulty in attracting new members. Reducing communications to screen text also reduces the visual cues that are available in face-to-face situations that can lead to mis-communications and hostility.

### *Motivators and enablers to VCoP participation*

Despite the inhibitors there can be strong motivations for individuals to participate in VCoPs. Classified separately by Hew and Hara (2007) and Scarborough (2003), they can be arranged into corresponding groups.

- ✧ Egoism/Ladder (personal gain),
- ✧ Altruism/Web (individual members' gain),
- ✧ Collectivism/Torch (collective gain) and
- ✧ Principlism/Fortress (reciprocity)

These motivations are defined further as:

- ✧ intellectual, emotional or material need (Van Wilken & Ramsell, 2003),
- ✧ to enhance professional reputations or show commitment in the community (Ardichvili, 2008),
- ✧ due to moral obligation to become a mentor, to gain recognition or become established as an expert (Ardichvili, Page, & Wentling, 2003).

Ardichvili (2008) and Guldberg and Mackness (2009) between them propose further significant factors that can increase motivation and act as enablers to VCoP participation that can be added to the factors earlier identified as requirements for the formation and sustainability of CoPs. These are Guldberg and Mackness's (2009) factors of Emotion, Connectivity, Understanding Norms and Learning Tensions, and Ardichvili's (2008) ideas of Supportive Culture and Trust. Put simply, firstly, the tools and technology require simplistic ease of use in order for members to feel comfortable in the online environment. Secondly, the fostering of face-to-face/online relationships would increase the sense of belonging to the community. Finally, the establishment of VCoP guidelines and netiquette would ascertain protocols and help participants in knowing how and what to participate. Consideration of all these points will affect participation in VCoPs.

In comparison with the literature illustrated here, what are the perceptions, observations and experiences of JALT members towards VCoPs and their creation in support of face-to-face relationships within JALT SIGs?

## Methodology

To investigate the opinions and experiences of, and activities within VCoPs by JALT SIG members a qualitative research methodology was adopted with the procedure of semi-structured interviews (N = 3). This format allowed the researcher to begin with a defined questioning plan but adapt and respond to the flow of conversation in order to pursue alternative tangents (O'Leary, 2010) and probe for more information. The three focal questions were:

1. How does JALT (and its SIGs) help you in your professional role?
2. What benefits can a community (such as the JALT CALL SIG) gain through the support of an online virtual community of practice (VCoP) to enhance limited face-to-face interactions?
3. What are the factors that would influence the creation of, and your participation in online virtual communities of practice (VCoP) in support of interpersonal relationships established in face-to-face meetings?

## Procedure and process

Each participant was sent an electronic version of the ethical consent form, interview questions and an outline of the project by email. This gave participants a chance to clarify or ask questions prior to the interview. With participants consent the interviews took place using the Skype Voice over Internet Protocol application due to the timing of the research, the participants' availability and their geographical location. The use of Skype to conduct research interviews has several advantages. Not only is it inexpensive and user friendly, but also it is geographically flexible, allows easy recording of conversations and with the video chat function does not lose the non-verbal cues that are utilized by either party. A number

of challenges can occur however with technology failures resulting in time lags breaking the flow of conversation, disconnection problems and loss of data. (Saumure & Given, n.d.). Before the start of each interview participants were reminded that the interviews were to be recorded. To ensure the reliability and validity of the transcribed data each participant was invited to review the transcript for authenticity prior to it analysis.

## Participants

Participants in this study are English language teachers, each working at a number of different universities in Japan. They were selected based on their ability to give different perspectives from three membership levels within **JALT SIGs** and their availability during the research period.

A thematic analysis of the interviews with the three participants follows, after which a discussion of participants' responses to the questions will be presented.

- ✧ Participant A (**PA**): **JALT CALL SIG** member (Interviewed: August 20, 2010: 15 minutes)
- ✧ Participant B (**PB**): **JALT SIG** member (not **CALL**) (Interviewed: August 18, 2010: 35 minutes)
- ✧ Participant C (**PC**): **JALT SIG** coordinator (not **CALL**) (Interviewed: August 16, 2010: 25 minutes)

## Results

### 1. How does **JALT** (and its **SIGs**) help you in your professional role?

Participants' views of **JALT** as a community of practitioners correspond with much of the literature. The insight that the participants provide brings the literature to a personal level through anecdotal evidence of observation and experience.

Participant C sees **JALT** as providing "contact with other people who are doing the same thing as them" and in doing so "... it gives a network of people to bounce ideas off" (**PC**). Participant A acknowledges the **JALT CALL SIG** as bringing rewards to collaborative learning opportunities. However, for Participant A it "doesn't help much outside of the conferences and the journals." (**PA**). This illustrates a perceived lack of connectedness between members in the dispersed community throughout Japan, through the non-provision of a virtual community to support and enhance the face-to-face meetings. Despite this, it was suggested that **JALT** as an organization is "... like a great big invitation to get to know people", and is "just a vehicle to get whatever you want to get out of it (...) if you jump in and become active" (**PB**). Seen with this positivism, participation in **JALT** and the **SIG** conferences and events has the potential to be a powerful catalyst for continuous professional development, reinforcing Schlager and Fusco's (2003) observation.

### 2. What benefits can a community (such as the **JALT CALL SIG**) gain through the support of an online virtual community of practice (**VCoP**) to enhance limited face-to-face interactions?

All participants provided positive views of the benefits that individuals and groups can receive from participation in **VCoPs**. Participant B sums these up by saying, "What you could get out of an **VCoP** is endless. You can be inspired, motivated, informed, pointed in different directions and it goes exponential the more people you bring in" (**PB**). More specifically, the sharing **237**

and collaboration aspect between members was a strong beneficial influence on classroom practices for Participant A. *"In terms of talking with teachers, you are sharing your ideas and getting feedback and hearing what else is being done and adopting these ideas and changing, adapting them to your classroom"* (PA). Interconnectedness between a wider audience of classroom practitioners and experts featured strongly in Participant C's comments. The comments recognized the value of getting *"people in other EFL situations introducing ideas from their point of view or from a different paradigm"* (PC) through a VCoP. It was also seen as beneficial value to have the history of discussions and idea sharing that goes on in forums available, *"to be able to go back and see what other people have said and contributed to on various topics"* (PC). The concept of web-supported professional development (Barab, MaKinster, & Scheckler, 2002) was considered unlimited by Participant B. Within a VCoP, personal *"development can occur in speaking and writing skills, theoretical understanding, introduction to other people and their interests"* (PB). As the interview developed, Participant B continued to praise the personal and group dynamic growth that can evolve from participation in a VCoP. Development can occur *"motivationally, professionally intellectually creatively spiritually. It's just endless."* *"It's hard to define what is available because everything is available."* (PB).

### 3. What are the factors that would influence the creation of, and your participation in online virtual communities of practice (VCoP) in support of interpersonal relationships established in face-to-face meetings?

Discussion with the three participants uncovered several of the major themes found in literature on the factors that affect the creation of, and participation in VCoPs.

#### *Barriers and negative effects to VCoP participation*

In contrast to the communities of practice and the face-to-face contact that teachers encounter in their daily roles and the conferences that they attend, interviewees found that communication and relationships often failed to transfer to the online arena with the same level of benefits. This was due to several factors, the first of which was the non-commitment of members. In efforts to build VCoPs Participant B had found that *"... we've had great rapport between (conference) participants but it doesn't translate into a forum. We've not had a committed core to keep the momentum going. When we've gone out to create that place to be it hasn't happened at all"* (PB). Participant A explained this as partly affected by the ease of communication and speed of communication that occurs in face-to-face relationships. Where teachers are involved in different situations and with different people everyday and *"can talk about education ..."* they *"don't feel the need to seek it out online"* (PA). Those that don't have this opportunity *"seek out somewhere where they can have these conversations"* (PA). This confirms the observation by Ardichivili et al. (2003). This led to reduced online member participation, that in turn continued to affect other members' contributions as realized by Participant C. People *"... don't have the incentive to check and to comment because of the lack of other people involved and commenting."* *"It's depressing to see only a couple of core people contributing all the time, which puts people off"* (PC). In efforts to explain why this occurred, the technology and platforms that are used are cited as having an *"effect on the desire to interact with people and the forum"* (PB). Participant C explained that there is now *"so much out there in the way of information and forums that people forget to look."* *"The number of places that people do go to to work (and socialize) together is so many ... it gets tiring keeping up to date with the technology and platforms that are out there."* (PC). The ease of use of the chosen

online space was a strong consideration in creating a VCoP. For Participant B, as Hew & Hara (2007), Garfield (2006) and Wenger (2002) had explained, the continual developments in technology made it hard to *“keep up with everything that is out there, and so you veer in the direction where you feel most successful”* (PB).

Strongly affecting the desire and ability to interact was the time that teachers had available to contribute. As suggested by Hew & Hara (2007) and Wenger (2002) *“...you might be less willing to talk to people (online) because you don’t have the time to invest”* (PA). *“There are too many different things that people are doing that they don’t have the time, they prioritize and work related matters just aren’t at the top of the list”* (PC). Just as Probst and Borzillo (2008) had speculated, this low level interaction and identification with a community led to greater practical intangibility of the information being shared. Participant C had noted this and remarked, *“People don’t post because the topics that are being put up are not relevant ... and are sometimes so banal that they are not worthy of commenting on”* (PC). As Ardichvili et al. (2003), Hemmasi and Csanda (2009), Hew and Hara (2007), and Wenger (2002) had remarked, there was a reluctance and fear to contribute to online communities for concern that comments would not be worthy. *“Fear of looking stupid is a huge hurdle. You don’t want to look a fool in front of your peers”* (PB). This was especially the case when experts in particular fields are brought in to add to discussions and ideas. *“When you are bringing in the experts who is going to be the first to comment or question what has been posted?”* (PB).

All three participants’ who took part in this research had personal observations and experiences of the obstacles to VCoP participation in similar themes to the literature.

### *Motivators and enablers to VCoP participation*

Despite the barriers and negative effects to participation in virtual communities of practice that have been seen, as the literature has illustrated, and Participant B supports, there can be increased benefits to professional practice if the right mix of motivators and enablers is in place. A key component to these is the members of the community. It was emphasized that these members need to have a face-to-face relationship, in order *“to develop rapport and camaraderie”* (PB) in support of the online contact. This would also help to build *“trust, leadership, flexibility to evolve lack of ego”* (PB) within the group and to *“build a core set of people that you (they) feel comfortable communicating with”* (PB). Members of this community need to be highly motivated to build, share and develop knowledge in the pursuit of better professional practice. They need to have *“confidence to a degree, but also creativity and enthusiasm to jump on something that is perceived to be successful”* (PB). From within this core group, As Smith, Wenger and White (2006) did, Participant B also couldn’t emphasize strongly enough that for a successful VCoP to evolve a principle coordinator is required in order to create momentum and move the community forward. *“Great leadership can’t be undervalued and it takes strong leadership to get it up and running”* (PB). In order to bring the dispersed community together in one place a platform is required, and through personal experience Participant B had discovered that *“platforms affect the desire to interact with people and the forums”* (PB), and as Lock (2006) had stated, they need to *“have the ease of use construct to enable people to catch on to them”* (PB). Having met these requirements, participant B was in no doubt that *“Once you build up a community and build up trust, your imagination is the only limit to what can be done”* (PB).

## Discussion

Throughout the interviews and data analysis it was evident that the level of experience each participant had with (V)CoPs differed greatly, which affected their attitudes towards them. Participant B had much greater understanding of the factors that influenced (V)CoP creation and participation, and also had a highly positive attitude towards (V)CoPs compared to Participant A and C.

Each participant identified positive benefits for (V)CoP participation including the sharing and developing of knowledge and ideas in order to benefit professional development. In line with literature, Participant B identified that face-to-face communities do not transfer easily to the virtual environment, citing lack of a committed core of members and the choice of platform as particular problems in VCoP creation and management.

In their explanations for non-participation each participant referred to factors uncovered in the literature. Participant A gave preference to, and focused on the benefits of speed, relevance and transfer of explicit and tacit knowledge that close-knit face-to-face communities can have. Participant B and C however referred to the ease of use of technology and chosen platform, time, member participation, relevance of comments/postings made on the VCoP, and fear and trust within the community. Cited in the literature but not by any of the participants, was firstly, the emergence of hierarchical power structures that can occur, and secondly, the desire to hoard information for the purpose of power. This suggests that all participants take part in active knowledge sharing in building professional practices.

Participant B was the main contributor of examples of enablers and motivations to VCoP participation, providing many examples with similarities to those found in literature. This illustrated a deeper understanding and knowledge of VCoPs than Participants A and C. The factor not explicitly mentioned by Participant B, but referred to in the literature was the need for transparency in VCoPs' actions to allow for legitimate peripheral participation and the integration of newcomers into the community.

Self-motivation for involvement and sharing was a key factor given by Participant B, although it was not given in the depth of personal, individual, group gain and reciprocity, nor levels of intellectual, emotional or material need that literature entered. Other similarities found (including in those required by face-to-face CoPs) were the need for a core group of practitioners with social and intellectual leadership, trusting online and face-to-face relationships, and a platform offering ease of use.

## Conclusion and implications

While this paper does not highlight any new or previously unknown information, it serves to reinforce the available knowledge and understanding of the barriers and negative effects, and motivators and enablers to creating and sustaining successful face-to face and online/virtual communities of practice. It illustrates findings in current literature on the subject and compares them to the observations and experiences of three participants in JALT and JALT SIGs.

The sharing and transference of knowledge can provide benefits to teacher professional development. The more frequent meetings are held between members of a teaching community with similar interests, such as the JALT CALL SIG, the greater the potential for impact on classroom practices can become, through stronger relationships, increased trust and

communication technologies into established face-to-face communities, such as **JALT CALL SIG**, can increase the frequency of contact, but require distinct characteristics in its members and chosen technology in order to remain sustainable, functioning and useful to the community members.

## References

- Ardirchvili, A. (2008). Learning and knowledge sharing in virtual communities of practice: Motivators, barriers, and enablers. *Advances in Developing Human Resources*, 10, 541-554.
- Ardirchvili, A., Page, V., & Wentling, T. (2003). Motivation and barriers to participation in virtual knowledge sharing communities of practice. *Journal of Knowledge Management*, 7 (1), 64-77.
- Barab, S. A., MaKinster, J. G., & Scheckler, R. (2002). Designing system dualities: Characterizing a web-supported professional development community. *The Information Society*, 19, 237-256.
- Barab, S., Kling, B., & Gray, J. (2004). *Designing for virtual communities in the service of learning*. Cambridge: Cambridge University Press.
- Cambridge, D., Kaplan, S., & Suter, V. (2005). *Community of practice design guide: A step-by-step guide for designing & cultivating communities of practice in higher education*. Retrieved August 1, 2010 from: <http://net.educause.edu/ir/library/pdf/NL10531.pdf>.
- Crawford, K. (1996). Vygotskian approaches to human development in the information era. *Educational Studies in Mathematics*, 31, 43-62.
- Driscoll, M. P. (1994). *Psychology of learning for instruction*. Needham, MA: Allyn & Bacon.
- Dubé, L., Bourhis, A. & Jacob, R. (2005). The impact of structuring characteristics on the launching of virtual communities of practice. *Journal of Organizational Change Management*, 18 (2), 145-166. Retrieved September 1, 2010 from: <http://www.emeraldinsight.com/0953-4814.htm>.
- Fountainha, E. & Gannon-Leary, P. (2008). Communities of practice and virtual learning communities: Benefits, barriers and success factors". *European Commission Education and Culture DG. Munich Personal RePEc Archive*. Retrieved August 1, 2010 from: <http://mpra.ub.uni-muenchen.de/8708/>
- Garfield, S. (2006). Ten reasons why people don't share their knowledge. *KM Review*, 9 (2), 10-11.
- Guldberg, K., & Mackness, J. (2009) Foundations of Communities of Practice: enablers and barriers to participation. *Journal of Computer Assisted Learning*, 25 (6), 528-538.
- Hemmasi, H., & Csanda, C. M. (2009). The effectiveness of communities of practice: An empirical study. *Journal of Managerial Issues*, XXI (2), 262-279.
- Heron, R., & Hammond, F. (2001). Partnerships and educational benefits in post graduate nursing education. *Australasian Journal of Neuroscience*, 14 (2), 18-21.
- Hew, K. F. & Hara, N. (2007). Empirical study of motivators and barriers of teacher online knowledge sharing. *Educational Technology Research and Development*, 55, 573-595.
- Hodkinson, P. & Hodkinson, H. (2004). *A constructive critique of communities of practice: Moving beyond Lave & Wenger*. Seminar paper presented at Integrating Work 7 Learning, Contemporary Issues Seminar Series, 11th May, **OVAL** Research working paper 0402.

- Huysman, M. (2004). Communities of practice: Facilitating social learning while frustrating organisational learning. In Tsoukas, H. & Mylonopoulos, N. (Eds.), *Organisations as knowledge systems: Knowledge, learning and dynamic capabilities* (pp. 67–85). Basingstoke: Palgrave Macmillan.
- JALT (n.d.). *Japan Association for Language Teachers*. Retrieved August 1, 2010 from: <http://jalt.org/>
- JALT CALL, (n.d.). *Japan Association for Language Teaching, Computer Assisted Language Learning SIG*. Retrieved August 1, 2010 from: <http://jalt.org/groups/call>.
- Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
- Lock, J. V. (2006). A new image: Online communities to facilitate teacher professional development. *Journal of Technology and Teacher Education*, 14 (4), 663–678.
- Mitchell, J., McKenna, S. & Young, S. (2006). Communities of practice change practice – but not always, nor easily. *Paper presented at 4th International Conference on Researching Work and Learning, University of Technology Sydney, 11–14 December 2005*. Retrieved August 1, 2010 from: <http://www.voced.edu.au/docs/confs/nver/vetconf15/tr15mitchellmckennayoung.doc>.
- Norris, D., Mason, J., Robson, R., Lefrere, P., & Collier, G. (2003). A revolution in knowledge sharing. *Educuse Review*, September/October 2003, 14–26.
- Perry, R. G., & Zender, A. (2004). Let's get together. *Association Management*, 56 (7), 28–33.
- Piaget, J. (1953). *The origin of intelligence in the child*. London: Routledge & Kegan Paul.
- Probst, G., & Borzillo, S. (2008). Why communities of practice succeed and why they fail. *European Management Journal*, 26, 335–347.
- Scarborough, H. (2003). Why your employees don't share what they know. *KM Review*, 6 (2), 16–20.
- Schlager, M. S., & Fusco, J. (2003). Teacher professional development, technology, and communities of practice: Are we putting the cart before the horse? *The Information Society*, 19 (3), 203–220.
- Schmitz, J., & Fulk, J. (1991). Organizational colleagues, media richness, and electronic mail: a test of the social influence model of technology use. *Communication-Research*. 18 Aug. 487–523. Retrieved August 1, 2010 from: <http://crx.sagepub.com/content/18/4/487.short>
- Stockwell, G. (2009). Teacher education in CALL: Teaching teachers to educate themselves. *Innovation in Language Learning and Teaching*, 3 (1), 99–112.
- Usoro, A., Sharratt, M., Tsui, E., & Sandhya, S. (2007). Trust as an antecedent to knowledge sharing in virtual communities of practice. *Knowledge Management Research and Practice*, 5, 199–212.
- Van Winkelen, C., & Ramsell, P. (2003). Why aligning value is key to designing communities. *KM Review*, 5 (6), 12–18.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wenger, E. & Snyder, W. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, January-February 2000, 139–145.
- Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. New York: Cambridge University Press.
- Wenger, E. (2006). *Communities of practice*. Retrieved August 1, 2010 from <http://www.ewenger.com/theory/index.htm>.

- Wenger, E., White, N. & Smith, J. (2009). *Digital habitats: stewarding technology for communities*. Portland: CPsquare.
- Wenger, E., White, N., Smith, J. D. & Rowe, K. (2005). Technology for communities. *CEFRIO*. Retrieved August 1, 2010 from: [http://waterwiki.net/images/9/97/Technology\\_for\\_communities\\_-\\_book\\_chapter.pdf](http://waterwiki.net/images/9/97/Technology_for_communities_-_book_chapter.pdf)

## Author biodata

**Simon Thomas** is a part-time instructor at Osaka Prefecture University. His professional interests are in Technology Enhanced Learning, Networked & Collaborative Learning and Teacher Development in these areas.