



Support for Collaborative e-Learning in Asia

Paul KAWACHI

Kurume Shin-Ai Women's College, Japan
kawachi@kurume-shinai.ac.jp

ABSTRACT :

In online learning, student support systems are becoming more important as the basis for course design. In previous years, support had been considered as a supplement to resources given to pre-designed courses. The focus has now shifted since course design, content, and even assessment are formatively developed during the course through negotiation among the students and other agents such as the tutor and institution. Various forms of support are deployable. This paper looks at the design of e-learning courses in Asia to see what form of support is needed at the basic level involving choice of platform and use of technology. With increasing complexity in the e-learning technologies available, it is timely to take a re-look at the human involvement – at what students should be learning and how, and what the tutor should be teaching and how. And then we can identify which technologies serve these learning and teaching purposes. With the realization that online learning is better achieved through group interactivity than alone, there is a movement back to focusing on group learning. There are by definition only the two ways of learning in a group - cooperative learning and collaborative learning. Based on the established theory of transactional distance, e-learning technologies used in Asia were reviewed, to discover only the few elite centres of excellence deployed collaborative learning techniques, while the majority used cooperative techniques emphasizing dialogue to the exclusion of added structure. This report finds that the support needed in Asia should bring in more structure into course design to promote collaborative e-learning as an essential component in acquiring critical thinking skills at university.

1. INTRODUCTION :

With a host of available online and distance learning technologies from which to choose, selecting the most appropriate technology has become an essential role of tutors and instructional designers. Often social constructivist approaches appear to endorse any technology that increases interactions between the student and other agents, but this may be at odds with the cognitive theory for learning that requires some reflective time alone to master deep

quality learning. Indeed many courses endorse cooperative learning in a group alongside or in some haphazard mix with collaborative learning. These two group learning processes are mutually exclusive while at the same time being both integral to the learning process. They are mutually exclusive by definition : cooperative learning proceeds through empathetic sharing of old knowledge. In other words, there is a 'knower' in the group who shares the knowledge about to be taken up and learnt by the others. In contrast,

collaborative learning proceeds through hypotheses testing and empathetic discovery of new knowledge co-constructed by the participants. In other words, there was no 'knower' present during the process until the end when all participants become owners and knowers of the new knowledge. It is by definition that these two processes do not co-exist. Both cooperative learning and collaborative learning are important integral parts in the cognitive learning cycle of acquiring critical thinking skills. Cooperative learning and collaborative learning are deployed sequentially in distinct processes during the critical thinking cycle.

Critical thinking is widely recognized as an avowed aim of a liberal education. Critical thinking is not merely the mechanical application of formal and informal logic, but requires the student to exercise personal judgement through reflective fitting of the new information to prior experience and old knowledge. When old knowledge connected in neural networks is consequently suspected of being incomplete or mistaken, then the student needs to de-construct and then reconstruct the neural network to accommodate the new information and so learn. Such de-constructing can be painful, especially when the old knowledge is tried-and-tested over the years and is like-an-old-and-trusted-friend. Adult students are most likely to find themselves in this situation, and the tutor must assist them by respecting their prior experience while carefully managing their cognitive reconstruction and learning of new information and skills. The tutor can assist here by initiating the various intrinsic motivations to learn to support in each individual a buoyant attitude to learning. Such an optimal attitude entails an openness to de-constructing and a sense of challenge to examine both the incoming new information and the stored old assumptions in a reflective way. The students learning need to question others and to question their own individual preconceptions. There is a certain time for such questioning, just as there is an optimal time for the various tutor interventions to initiate the motivations to learn. The optimal timing can be determined from applying previously established learning

theories which order the particular stages in the learning process. There have been two main theories for the critical thinking process – the first proposed by Dewey in 1933, and the next proposed by Brookfield in 1987. Both can enlighten the social constructivist approach to learning. Dewey (1933) proposed five phases of reflective or critical thinking –

- 1) suggestions, in which the mind leaps forward to a possible solution ;

- 2) an intellectualization of the difficulty or perplexity that has been felt (directly experienced) into a problem to be solved, a question for which the answer must be sought ;

- 3) the use of one suggestion after another as a leading idea, or hypothesis, to initiate and guide observation and other operations in collection of factual material ;

- 4) the mental elaboration of the idea or supposition (reasoning, in the sense in which reasoning is a part, not the whole, of inference) ; and

- 5) testing the hypothesis by overt or imaginative action.

And Brookfield proposed also five phases to develop critical thinking -

- 1) a triggering event ;

- 2) an appraisal of the situation ;

- 3) an exploration to explain anomalies or discrepancies ;

- 4) developing alternative perspectives ; and

- 5) integration of alternatives in ways of thinking or living.

However, the phases given in the above two models do not correlate with each other. The phases themselves are not clearly distinguishable, and indeed the phases need not be sequenced linearly. So these models are not sufficiently clear to constitute the basis of an e-learning syllabus.

A third model was recently proposed by Kawachi (2003a) as a practical syllabus for using technologically-mediated interactions. Kawachi proposed four distinct stages of cognitive learning through social constructivism, directly underpinned by Moore's (1993) Theory of Transactional Distance which tries to measure the psychological distance between the student and the information to be learnt, and which

KAWACHI

has been widely accepted as an effective theory underlying and informing open and distance education. The aim of the Kawachi model was to guide and inform the optimal use of synchronous versus asynchronous media for use in computer-mediated education or e-learning. Briefly here and expounded later, Kawachi proposed four stages -

- 1) synchronous media for cooperative empathic sharing background knowledge ;
- 2) asynchronous media for collaborative framing of a personal theory ;
- 3) asynchronous media for collaborative hypotheses testing of alternative theories ; and
- 4) synchronous media for cooperative social construction.

These are directly correlated with the four categories of programmes described in Moore's Theory - of maximal (psychological) transactional distance between the tutor and student (with no educative 'Dialogue' D- and without 'Structure' S-), less transactional distance (D- S+), even less transactional distance (D+ S+), and then minimal transactional distance (D+ S-), respectively.

This four-stage model can be used as scaffolding. Scaffolding is the use of tools, strategies and guides to enable students to achieve a higher level of learning within their zone of proximal development, that they would otherwise be unable to achieve unassisted. The Kawachi model is illustrated below in Figure 1.

The four stages are explained in detail as follows.

In Stage 1, learning occurs in a group cooperatively, gathering and sharing information and fostering a learning community. This Stage covers conventional face-to-face education, and the student(s) receiving content to be learnt. When multimedia are used for distance education, then synchronous computer-mediated communications are most appropriate – such as video-conferencing or chat. The education provider could give administrative or non-academic counselling support including personal comments here (which being non-educative remain as D-) to increase responsiveness to individual needs

(moving from S- through to Stage 2 with S+) which can serve to motivate students (see Moore, 1993, p.29, note 2). In Stage 1 cooperative learning, students should start simply with basic self-introductions (Abrami et al., 1995 ; Towns, 1998) and then move onto describing what feelings they have about the unfolding course and what they would like to self-achieve from the course.

In Stage 2, there is added Structure and collaborative interactions among the students and content. This Stage is characterised by the students questioning the content, by theorising or lateral-thinking to generate and develop metaphors or create new ideas, and these supported by argument which gives structure to their discussions (D- S+). Some time is needed for reflection here, and asynchronous modes such as email and a bulletin board are appropriate. Disagreement and conflict will arise from among the diverse perspectives of the participants and should be moderated but not dispelled by the tutor (McWhaw et al., 2003, p. 82). Here and in the following Stage 3 also of collaborative learning, the tutor remains outside of the forum, as an 'unknower' to allow the collaborative process to proceed.

In Stage 3, the tutor engages the students with guiding comments in what Holmberg (1983) has described as a Guided Didactic Conversation, helping the students achieve the course structural requirements of understanding the general concepts to be learnt (D+ S+). The tutor poses questions and students defend their formulations. This Stage is characterised by hypotheses testing and logical straight-forward thinking (termed 'vertical' thinking in contrast to 'lateral' thinking) associated with problem-solving, and is collaborative. Asynchronous mode is ideal here, to allow sufficient time for cognitive connections and co-construction of new non-foundational knowledge. "It is this very important [Stage 3] process (of creating knowledge) that promises to be the personal computer's main contribution to distance education" (Moore, 1993, p.30).

Stage 4 is characterised by experiential learning and is cooperative, and at minimum transactional distance (D+ S-), in

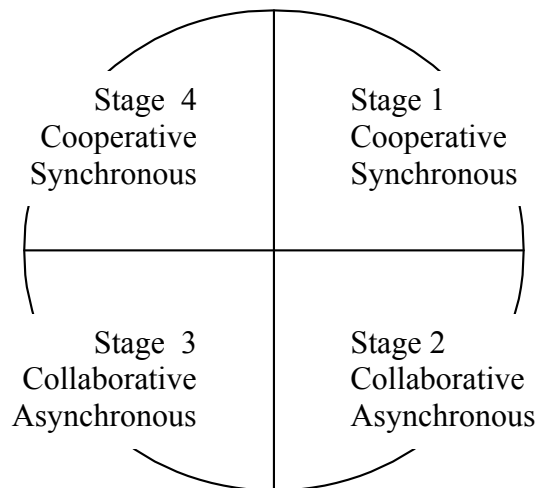


Figure 1 : The Kawachi four-stage scaffolding to support e-learning

synchronous mode and with teaching dialogue to assist the students to reflect on their studies.

This model can be used as a scaffold for e-learning, and can be used to examine how technologies are employed in practice. Through examining how synchronous and asynchronous technologies are used in practice, the stage where more support is needed can be identified and also the kind of support that is needed can be identified.

The practice of e-learning in Asia was next examined. It is important to examine the utilization of e-learning especially in Asia, since even if similar technologies are used as in the West, the provision in Asia produces an effect beyond those seen in the West. In Asia, the social economics has meant a student who is busy e-learning is more isolated from his or her surrounding culture, than a student for example in London where the surroundings may be all high technology, conducive, motivating, encouraging and accepting of a person engaging e-learning. In rural India or China it is easy to imagine that the student is not only physically alone but psychologically and emotionally as well – without social infrastructure supporting e-learning. Thus, in Asia computers and multimedia are not simply instruments for the student but provide a total environment for learning.

This suggests that there may be scaffolding support needs that are Asian-specific. These were investigated here.

2. METHODS :

Various regions in Asia were investigated for their use of cooperative and of collaborative learning methods, and their related use of e-learning technologies. A total of fifteen regions were examined. These (in alphabetical order) were Bangladesh, (mainland) China, Hong Kong (China), India, Indonesia, Iran, Japan, Korea, Malaysia, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand, and Vietnam. In many of these regions, it was difficult or impossible to find collaborative learning taking place in a group. This was all the more surprising since collaborative learning using asynchronous communications can easily be designed to leave a recordable trail of the interactions and might be expected therefore to be more commonly apparent than cooperative interactions. The survey across Asia found a surprising emphasis on pragmatic assimilation of old-knowledge and skills training. And where courses did involve collaborative work and theorizing, then

agents such as the graduates themselves, outside reviewers and prospective local employers all seem to want less focus on the theory and more on the practicalities for social development and returns on investment.

Some details are included next (drawn from a wider report). In Bangladesh, learning was only cooperative and usually one-way from the teacher to the student, without student-to-student interactions, using print, radio, television and audiovideo cassettes (Tandon, 1998).

In mainland China, there was some use of multimedia technologies, but these were not interactive. The multimedia did not allow student interaction even for navigational purposes. Most learning was standardized and linear in content from the teacher to each student. However, in Hong Kong (China), despite more institutional awareness to build in collaborative learning opportunities, students rarely engaged in active collaborative learning online, not using for example a bulletin board provided for this express purpose (Robertshaw, 2002). Robertshaw found that the bulletin board was mainly used for sharing views and sometimes massively (2002). Similar cooperative sharing of experiences and views occurred also in Indonesia (see below). Research has been reported from Hong Kong on how to encourage students to engage collaboratively online. Tang & Fung, (2002) discovered in a comparative study of two contexts that accrediting online participation was more effective than having optional participation, and also bringing in the students' prior practical experience was more effective than a rather theoretical content. Also they confirmed that the wider the diversity in students then the more collaborative learning takes place in the asynchronous forum (having had 196 students on one course, compared to only 42 in the other). In another study, Shin et al. (2002) found that when participation was optional then the achieved quality of learning was related to the amount of participation. And when participation was an accredited part of the course then the achieved quality of learning was more related to the student's individual perception

of an institutional 'presence' rather than to the amount of participation. Thus research in Hong Kong can be seen to be challenging the problem of facilitating collaborative asynchronous e-learning.

In India, technologies were seen to lower costs but that interactions were only one-way and so cooperative. Panda and Chaudhary (2001) reported only one-way interactivity – either in institutional content delivery, or in student accessing content on the internet, while two-way telephony was needed to add some interactivity to television delivery. Manohar (2002) reported two-way computer-mediated communications were used at one university, but that poor infrastructure was to blame for why wider use of two-way collaboration was impractical. In India, the most useful media was print, followed next by face-to-face contact at a study centre with other students and / or a tutor. Research at another university delivering business courses (Thilagavathy & Namasivayam, 2002) found 60% of students thought that a course delivered at a distance was not adequately linked to future employment and was too theoretical. IGNOU has reported similar findings. Vyas, Sharma, & Kumar (2003, p. 125) concluded the way forward should be towards less structure and more dialogue to better serve the individual wants and needs of each student. They were concerned with undergraduate learning.

In Indonesia, most education is and will likely remain in conventional mode using postal services and face-to-face communication (Belawati, 2002). When asynchronous computer conferencing was provided in two trials of the new technology specifically for collaborative group learning used for in-service university teacher training, the participants were found to move over into a chat-room for synchronous discussions whenever any difficulty or interesting point developed (Lawanto, 2000).

In Iran, new technologies are seen only in terms of their capabilities to deliver massive amounts of texts (Vaziri, 2002). Access is dealt with as meaning access to knowledge, to books, and other content resources. Mohamadi (2002) reported that video-

conferencing and internet communications cannot replace face-to-face education at Payame Noor Open University.

In Japan, most distance education is in vocational and technical training, and is cooperative not collaborative. Computers and the internet are used only for access to content, and also for sending content to one another using multimedia (such as digital cameras and email). In higher education, Kawachi (2002a ; 2002b) found that students use the internet only for accessing knowledge, cooperatively, and do not engage in collaborative learning for example using listserves or bulletin boards – even in their native language. Multimedia is highly advanced with widespread use of wireless media including digital-audio-video cameras inside mobile pocket-phones which can access the internet, or send digital audio-visual and text data, but these are not used for educational purposes - except perhaps for non-academic student support services. There was an Asian e-Learning Network (AEN, 2002) Conference in July 2002, held in Tokyo, resulting in several graduate collaborative e-learning projects, linking seven leading e-learning centres in Tokyo (mainly in one-to-one collaboration in these early stages) with one centre in Malaysia, one in Philippines, one in Thailand, and one in Viet Nam. However, Tsuji et al. (2002) report that in the case of the Japan–Viet Nam, a face-to-face lecture was simply transmitted in voice and video by telephony, and discussions were live synchronous. The quality of the transmissions in these cases is not without technical problems - and discussions (in both the instances of graduate-level trials in which I participated) were mainly social pleasantries, with occasional requests for repetition or re-phrasing. As such they were cooperative and not collaborative. The use of English as a non-native language as medium in these transnational endeavours was a factor in not achieving collaborative learning. It is not yet clear whether such synchronous cooperative learning through videoconferencing stimulates or not a follow-up unintended asynchronous collaborative aspect : Chen & Willits (1999) in Factor Analysis of Dialogue in videoconferencing (with the

first factor being the intended synchronous in-virtual-class interaction) found a second factor of asynchronous out-of-class (mainly through e-mail) interactions. Others have suggested the reverse ; - that asynchronous interaction led to synchronous interaction - for example Lawanto (2000) in Indonesia.

In Korea, the Korean National Open University, Seoul, is the leading centre of excellence in Asia (Srivastava & Venugopal Reddy, 2002, p. 51). They use interactive video-conferencing, and conduct interactive tutorials with distance students. Many universities collaborate to form virtual universities which offer an increasingly wide range of course options to their students and externally to others in lifelong education and training. These Korean virtual universities are now becoming global – though limited to only the native language. Kim Hyesoo & Cheol-Hyeon (2002) found that students at KNOU wanted easier access to online learning resources and more help from tutors – both indicating a continued dependence on traditional ways of learning. Their availability of e-learning technologies suggests that asynchronous collaborative learning might be being used.

In Malaysia, Saleh (undated) reports that highly advanced learning technologies have now been designed at the Universiti Sains Malaysia, using CMC synchronous audiovisual conferencing over the internet at 384Kbps incorporating full-motion 30fps video. Saleh reports that if adequate public funds were provided then their system could be constructed as part of the dream Multimedia Super Corridor. In moving for the synchronous face-to-face conferencing system, she explains that if she were a student she “would like to see the lecturer, or at least to listen to his or her voice” (p. 6). So, despite the advanced technologies, research in Malaysia still seeks to emulate the conventional classroom. Reports were unclear, but what evidence there is suggests they use cooperative learning.

In Pakistan, distance education remains based on print, radio, and television (Tandon, 1998).

In the Philippines, the UP OU relies heavily on face-to-face interaction. At the

Polytechnic University (PUP OU), similar strategic dependence on face-to-face interaction is also widespread, and though print-based courses are the norm. However, they find that their students “learn more by direct experience and least prefer reading” so the emphasis on print media has resulted in students “performing unsatisfactorily academically” (Sabio, 2002, p. 128). The lack of infrastructure is the root-cause for the weak uptake of e-learning, with high recurrent costs associated with connectivity for using the internet and email. Researchers in Asia often point to the high attrition rates from Western distance education and see the emphasis on theory to be one aspect worthwhile avoiding if they in Asia aim to reach a maximum number of their population, to reduce poverty and eliminate illiteracy - aims which they feel are not priorities in Western distant education. High local context relevance is seen as crucial for e-learning in Asian countries : to counter the very high attrition rates reported from western distance education (ranging between 28 and 95% attrition), Dalit (2001) advocates more-regionally-specific Asian approaches. She concluded that a student-centred open learning approach with high personal relevancy will be best for the Philippines “to serve the unique characteristics and needs of the Filipino learner” (Dalit, 2001, p. 103).

In Singapore, reusable learning objects are actively being developed for helping students learn collaboratively (Joung & Kim, 2002). Each structured learning object self-contains the objectives, contents and guides to other emerging e-resources, and the collaborative learning activities for the students. Thus they are researching the development of e-learning through a flexible structure of many learning objects which can be selected by each student according to and responsive to their different individual learning needs and wants. Some of these units appear to be cooperative one-way but interactive multimedia, while others may foster collaborative learning among students in a group.

In Sri Lanka, there are highly developed e-learning programmes with online interactive multimedia with discussions

(probably synchronous) and virtual laboratory capabilities. These likely stimulate collaborative critical thinking among the participants. However, Coomaraswamy has pointed out that future employers find the courses too theoretical and irrelevant to employment needs (Tandon, 1998).

In Thailand, multimedia presentations in lecture-format in the Thai language have recently been put onto CD-ROM, and these are distributed through the internet to their students, who can download and study them off-line (Boondao, 2002). At present these CD-ROMs are rudimentary in content, and e-learning as such is cooperative and one-way or at the individual level.

In Viet Nam, use of learning technologies has been largely limited to enabling graduate students to participate in transnational interactions (Robinson et al., 2001), for example in cooperative synchronous sharing of knowledge through computer-mediated face-to-face mode with Japan (Tsuji et al., 2002).

3. DISCUSSION :

3.1 Scaffolding for Collaborative Learning :

The current practice of online and distance education is largely dependent on whatever technologies are available and the repertoire of skills of the tutor. Students are usually encouraged to work together to solve tasks and are given much freedom to use whatever resources in whatever way they choose. A high drop-out rate from open and distance learning is not unrelated to this somewhat haphazard approach to ‘teaching’ using technologies. While several guides have been published for how to teach and learn online, these have largely been descriptive or case studies, and transmissibility to other contexts has not been adequately covered. Transmissibility of western methods into Asian contexts is particularly susceptible to being impractical. There is therefore a need for research into the educative effectiveness of learner support systems and the various scaffolding

schemes that might be proposed..

The four-stage model for critical thinking to learn (given in Figure 1) as a scaffold has been tried out in practice and its effectiveness has been evaluated (Kawachi, 2003b, in press). The model as a scaffold has been tested out in small groups, and in large classes divided into small groups, at both the undergraduate and at the postgraduate level, in Japan. It was not completely successful. This was due to the limited duration of the courses and the levels of maturity in the students. The limited duration of the shorter (six-month) courses meant that the self-pacing or un-paced nature meant the students could not complete the full learning cycle. The low levels of maturity in the undergraduate younger students meant that they found much difficulty in navigating Stage 3. Despite Stage 3 bringing difficulties for some students, the largest hurdle was found in moving from asynchronous collaborative Stage 2 to asynchronous collaborative Stage 3. This needs discussion. The task activities of Stage 3 require the students to raise doubts about others, to question the teacher and the text, and to search for ones own opinion even though this might be against the old established opinions of others in authority. One reason for the students not moving into Stage 3 was that the activities of Stage 3 were inconsistent and incongruous with their own life or cultural view of the world (for example see Briguglio 2000, p. 3, for a discussion of Jones 1999 unpublished report). While adults generally have more experience than adolescents from which to draw additional information so they can be expected to be more questioning during learning from a teacher or other resource. The 'flip-side' to this is that collaborative learning also brings into question their own understanding of the world and adults are more likely to hold a fairly complete and (to the individual) dependable view of the world, so adults may find Stage 3 argumentation to be too threatening to their Self-concept. On the other hand, younger or immature adults can be expected to not yet hold adequate foundational knowledge with which to engage the Stage 3 questioning and

answering. Therefore in these ways Stage 3 collaborative learning can be troublesome for all ages of students – and more so if the world of the student mismatches that of the course-writer and tutor, as is often the case when Asian students engage a western course. Specific scaffolding of some sort must be deployed, and if students were made aware of the need for collaborative learning, when choosing a course, then they are more likely to persist and to succeed.

3.2 Benefits Accruing :

The benefits from deploying the collaborative learning Stages 2 and 3 have been reported by Brandon & Hollingshead (1999) and Feather (1999) to be 'increased student responsibility, initiative, participation, learning and higher grades, as well as increased communication with their peers through discussion of course concepts' (McWhaw, 2003, pp. 80-81). However, most of these of actually prerequisites for collaborative learning, and of their lists perhaps only increased learning can be considered as an outcome. Increased opportunities for reflection should also be added to their lists. (The aspect of 'higher grades' is an artifact : if assessed according to western values then higher grades are going to be obtained, while if assessed according to Asian values including the time expended for marginal if any pragmatic benefit then grades are likely unaffected.) Since these collaborative Stages 2 and 3 are better undertaken in asynchronous mode, then some record of participation can be used for assessing grades. That students are aware of this can be extrinsically motivating and can pre-empt group members from free-loading or just lurking. Continuous assessment can be adopted and furthermore if there is a summative examination then the tutor and institution have some background on the student's writing skills and aptitude that might identify or prevent suspicions of plagiarism. The asynchronous discussion can be recorded and used for peer assessment as well as for self-assessment. So these collaborative Stages are useful to allow a range of different assessment methods to be agreed upon by the students

themselves, the tutor and institution. This fosters maturity, responsibility, and active participation. Bates & Poole (2003, pp. 245-247) has indicated that awarding points for the quality and frequency of postings online may motivate students to participate. It has even been suggested that negative points be given for non-participation in order to move students into participation (McWhaw et al., 2003), though readers might worry that accruing a large balance of negative points during a course might be de-motivating to a struggling student.

3.3 Tutor Interventions :

From Figure 1 and the details of the four stages, it is clear that the core Stages 2 and 3 of collaborative learning need tutor interventions in order for the student to progress. From the corresponding categories of Moore's (1993) theory of transactional distance, these two core Stages are characterized by added Structure. This is shown in Figure 2 below.

What forms of added structure would best serve the Asian student needs more research. In the western literature various techniques have been recently suggested. Bates & Poole (2003) report in depth their advice on moderating online learning. They clearly find (p. 237) that initially and finally there should be opportunities for synchronous discussions among students, away from tutor intervention – corresponding to Stage 1 and Stage 4. And they recognize that after the initial stage, there is a need for the tutor to move the students away from sharing knowledge cooperatively to the students giving reasons and requiring reasons from others in collaborative argument – corresponding to Stage 2 and Stage 3. It is also noteworthy that they agree with Bullen that there is a need for silence (no tutor Dialogue) during the early collaborative phase - corresponding to Stage 2 (see Bullen, 1997, p. 39, and Bullen, 1998). Students must give evidence and reasons behind their opinions during their collaborative Stage 2, and this requirement gives added Structure to their discussions. At this time (Stage 2, S+ D-), there is no tutor educative dialogue. If the tutor intervenes, it is only to give some

clarification of concepts being negotiated by the students, or to direct students to other resources from which to prosecute their lines of argument (Bates & Poole, 2003, p. 234 ; Bullen, 1997, p. 39).

Students in Asia would likely benefit from specific scaffolding closely moderated by the tutor to assimilate the necessary collaborative learning skills. Skills that could be practiced either before the course or early on during Stage 1 as an aside, or as a recourse from Stage 2 and Stage 3, include online etiquette, empathy and turn-taking (Kawachi, 2003a ; Probst, 1987 ; Zimmer, 1995), setting appropriate and achievable goals, critique, giving and responding to feedback and so on (Colbeck et al., 2000 ; Oliver & Omari, 2001). Such closely-moderated skills training can constitute the added structure required as scaffolding which - after skills acquisition - can properly be removed.

Collaborative learning in a group by definition brings the added benefit of acquiring the new shared co-constructed knowledge. In learning environments such as found in Asia where learning is cooperative only, then individualism and competitiveness are the usual hallmarks, and all learning that does occur is of so-called old knowledge. The insertion of collaborative learning Stages means that all participants share equally in acquiring the new knowledge and group bonding is promoted. More than this, each student develops the social values of working with and helping others in the awareness that the common good will be promoted. Seeing value in disagreement and in the ultimate resolution from collaboration enhances personal development and induces a passion towards lifelong learning. That such collaborative learning remains difficult to achieve, even in the West, should not deter institutions in Asia from engaging the collaborative process themselves

3.4 Summary of the Need for Scaffolding to promote Collaborative Learning in Asia :

It is important to distinguish cooperative learning from collaborative learning (for

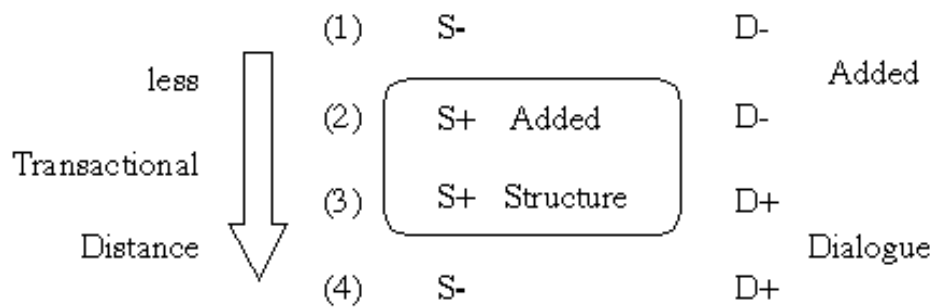


Figure 2 : Detail showing the core stages of added Structure in the learning process

more details see Kawachi, 2003a). Cooperative learning essentially involves at least one member of the group who 'knows' the content soon to be learnt by the other(s). Learning takes place through the 'knower' – for example the text or the teacher delivering the content to be learnt. Collaborative learning on the other hand follows a scientific process of testing out hypotheses. A participant publicly articulates his (or her) own opinion as a hypothesis and being open to the value of conflict allows this to be negated if possible by others, in which case the original participant or another offers up a modified or alternative hypothesis for public scrutiny. In collaborative learning, disagreement and intellectual conflict are desirable interactions. All participants share in co-constructing the new knowledge together, and this learning occurs inside the group as a type of consensus achieved through analysis and argument. In collaborative learning, there was no 'knower' prior to the learning process taking place (in contrast to the situation of cooperative learning). The research in educational media from many rural regions of Asia is currently concerned with the cooperative learning modes seen in Stage 1 and Stage 4, with an avoidance of collaborative learning through critical thinking seen in Stage 2 and Stage 3. It is a

Western view that education should aim to develop reflective critical thinking skills in the student (especially in adults in lifelong learning, and in teacher training). This translates to a need for promoting collaborative learning not just cooperative. Experiential learning does have a significant role to play but this is only after the collaborative process, after alternatives to current practice have been argued out and the students then test out their findings in their own context - through experiential learning. Collaborative learning is an essential stage in the overall cognitive development cycle of learning. In collaborative learning, the participants (having reflected upon and conceptualised their own practices) articulate their individual practices and being open to the value of contradiction allow others to question and seek rationale behind the practice, and they defend their practice with reasons, and through such hypotheses testing are open to consider other ways which are also examined by the group. Only after this group collaborative process, does the individual take what they feel is best and go away and test out this new way in their own practice, experientially and publicly. Only in the first and last stages is cooperative learning used. The core stages are collaborative and theoretical in nature.

Approaches to learning differ between cultures, and Asian students have been discovered to prefer approaches different from those of Western students (Kawachi, 2002c), though overall-stereotyping is unreliable because individual and local differences show wider variations than found between Asian and Western students (Kember and Gow, 1991). For instance, differences in approach to learning have been identified in three different groups of Chinese according to their local cultural context (Hong Kong, Malaysia, and Singapore) (Smith & Smith, 2000). Fu and Townsend (1998) found that Chinese students approach their writing English differently, while Ayers and Quattlebaum (1992) have found that English test proficiency was not correlated with overall academic achievement. Cross-cultural differences rather impact on the time expended for interacting and on the quality of learning achieved in terms of the extent to which a deep - as opposed to a surface - approach to learning is adopted (Kawachi, 2002b). The dilemma here is that if students copy the required way of writing – the vocabulary, the rhetorical design, and the acceptable conclusions (in the college or professor's context) then a high grade can be obtained. In contrast, if the students re-interpret the content to be relevant in their own context and write in their own culturally-deep way, then they may be marked down as misunderstanding and not fluent and be given a failing low grade (Kawachi, 1999a; 1999b; 2002c). This dilemma is at the centre of the philosophical difference between distance education and open learning : where 'distance education' seeks to impose uniformity and conformity to an institutional standard, while 'open education' seeks to value and foster the diversity of the students (Edwards, 1995). In Asia, technologies are used for access to content. This can be described as asynchronous and cooperative, where cognitive learning takes place individually, after the inter-group interactions, through social reconstruction of the received information. During the e-learning cooperative knowledge-sharing process, the student is passive and similar to being in

conventional education. In the West, Spender (2002) has noted that the diversity of knowledge available through the internet as non-narrative media means that students will need to become more active learners to question and discern what content they access. This questioning and selectivity are not yet apparent in Asian students generally. Students should take more advantage of computer-mediated communications to interact collaboratively. Spender (2002, p. 25) characterises e-learning as collaborative and identifies the specific characteristics of e-learning which distinguish Asian e-learning from Western, and suggest that e-learning does not generally take place in Asia. In only those few places of excellence, where collaborative e-learning may be taking place in Asia, this is usually only at the post-graduate level – for example transnationally in the Asian eLearning Network (AEN). However, e-learning essentially depends for its success by addressing local needs within the local context, and how far such transnational cross-cultural e-learning can succeed is yet to be seen. The collaborative development of reusable learning objects in video-cassette format across national and cultural borders was found to be too difficult even pairwise between the technologically advanced centres of FernUniversität (Germany), KNOU (Korea), Stanford University (USA), UAJ (Japan), and the UKOU (Britain), according to research by Nagaoka (2002) who attributed the difficulty to the finding that the aims and targets of education were too largely different among the ODL institutions.

Some research notably from the centres of excellence in Hong Kong, Japan, Korea, and Singapore is concerned with the collaborative modes seen in Stage 2 and Stage 3. These stages involve questioning one's knowledge and practice, and the knowledge and practice of others, and questioning the content to be learnt. These might be interpreted as not typically Asian - but Western - values in education. Indeed research in the West is particularly focused on the collaborative phases of learning. Western research clearly identifies the issue of forming early on a community of

learning, characterising Stage 1 and the movement to reduce the maximum transactional distance towards development of Transactional Presence (Shin, 2002). In Asia, the few centres of excellence that do exist are rapidly developing e-learning, and these centres are becoming more focused and concerned with research into collaborative learning. To what extent can these centres help the rural regions of Asia move beyond the traditional cooperative modes of content acquisition and experiential learning ?

The digital divide in Asia may currently be widening. If the digital divide is to be reduced, these centres of excellence should put new research efforts to promoting collaborative learning in the rural regions. The rural regions of Asia in turn need to consider more theory and critical thinking in their research., and consider adopting scaffolding to promote collaborative learning in a group.

REFERENCES :

- Abrami, P.C., Chambers, B., Poulson, C., De Simone, C., d'Appolonia, S., & Howden, J. (1995). *Classroom connections : Understanding cooperative learning*. Toronto : Harcourt Brace.
- AEN, (2002) *The Asian e-Learning Network*. <http://www.asia-elearning.net/>
- Ayers, J.B., & Quattlebaum, R.F. (1992). TOEFL Performance and success in a master's program in engineering. *Educational and Psychological Measurement*, 52, 973-975.
- Bates, A.W., & Poole, G. (2003). *Effective teaching with technology in higher education : Foundations for success*. San Francisco, CA : Jossey-Bass.
- Belawati, T. (2002). Harnessing the use of information and communication technology (ICT) in Indonesian distance education : A conceptual design. *Proceedings of the 16th AAOU Annual Conference* (p. 126). Seoul, Korea : Asian Association of Open Universities.
- Boondao, S. (2002). From classroom to compact disc and the web. *Proceedings of the 16th Annual Conference* (p. 140). Seoul, Korea : Asian Association of Open Universities.
- Brandon, D.P., & Hollingshead, A.B. (1999). Collaborative learning and computer supported groups. *Communications Education*, 48, 109-126.
- Briguglio, C. (2000). Self directed learning is fine – if you know the destination! In A. Herrmann, & M.M. Kulski (Eds.), *Flexible futures in tertiary teaching : Proceedings of the 9th Annual Teaching Learning Forum*. Perth : Curtin University of Technology. Retrieved May 14, 2003, from <http://cea.curtin.edu.au/tlf/tlf2000/briguglio.html>
- Brookfield, S.D. (1987). *Developing critical thinkers*. San Francisco, CA : Jossey-Bass.
- Bullen, M. (1997). *A case study of participation and critical thinking in a university-level course delivered by computer conferencing*. Unpublished doctoral dissertation, University of British Columbia, Vancouver, Canada.
- Bullen, M. (1998). Participation and critical thinking in online university distance education. *Journal of Distance Education*, 13(2). Retrieved February 24, 2003, from <http://cade.athabasca.ca/vol13.2/bullen.html>
- Chen, Y-J., & Willits, F.K. (1999). Dimensions of educational transactions in a videoconferencing learning environment. *American Journal of Distance Education*, 13(1), 45-59.
- Colbeck, C.L., Campbell, S.E., & Björklund, S.A. (2000). Grouping in the dark. *Journal of Higher Education*, 71, 60-83.
- Dalit, J.B. (2001). Access, equity and gender issues in open and distance learning. *PUP (Polytechnic University of the Philippines) Open University Journal on Open and Distance Learning*, 2(1):88-108
- Dewey, J. (1933). *How we think : A restatement of the relation of reflective thinking to the educative process*. Lexington, MA : D.C. Heath and Company.
- Edwards, R. (1995). Different discourses, discourses of difference : Globalisation, distance education and open learning, *Distance Education*, 16(2), 241-255.
- Feather, S. (1999). The impact of group support systems on collaborative learning groups' stages of development. *Information Technology, Learning, and Performance Journal*, 17(2), 23-34.
- Fu, D., & Townsend, J.S. (1998). Cross-cultural dilemmas in writing: Need for transformations in teaching and learning. *College Teaching*, 46(4): 128-133.
- Holmberg, B. (1983). Guided didactic conversation in distance education. In D. Sewart, et al. (Eds.), *Distance Education : International Perspectives* (pp. 114-122). London : Croom Helm.

KAWACHI

- Perspectives* (pp. 114-122). London : Croom Helm.
- Joung, Y.R., & Kim, S.Y. (2002). Design template framework of learning object for reusable e-learning contents. *Proceedings of the 16th Annual Conference* (p. 109). Seoul, Korea : Asian association of Open Universities. [<http://www.aaou.or.kr>]
- Kawachi, P. (1999a). Language curriculum change for globalization. paper presented at the 34th Annual RELC Seminar – *Language in the Global Context : Implications for the Language Classroom*. Singapore : SEAMEO RELC.
- Kawachi, P. (1999b). Accommodating diversity in approaches to learning. *Saga University Guide and Research in Progress*, 3, 12-14..
- Kawachi, P. (2002a). Why the sun doesn't rise : Empirical findings that explain the exclusion of Japanese from online global education, and suggested solutions. *Global E-Journal of Open, Flexible and Distance Education*, 2(1). Retrieved May 18, 2003, from <http://www.ignou.ac.in/e-journal/contentsII?PaulKawachi.htm>
- Kawachi, P. (2002b). Poverty and access : The impact of language on online collaborative learning for Japanese learners. In H.P. Dikshit, S. Garg, S. Panda, & Vijayshri (Eds.) *Access & equity : Challenges for open and distance learning* (pp. 159-170). New Delhi : Kogan Page.
- Kawachi, P. (2002c). On-line and off-line reading English rates : Differences according to native-language L1, gender, and age. *Proceedings of the 16th Annual Conference*. Seoul, Korea. Asian Association of Open Universities.
- Kawachi, P. (2003a). Choosing the appropriate media to support the learning process. *Journal of Educational Technology*, 14(1), 1-18.
- Kawachi, P. (2003b). Empirical validation of a multimedia construct for learning. In S. Mishra, & R. Sharma (Eds.), *Interactive multimedia in education and training*. New Delhi : Idea Group (in press)
- Kember, D., & Gow, L. (1991). A challenge to the anecdotal stereotype of the Asian student. *Studies in Higher Education*, 16, 117-128.
- Kim, Hyesoo, & Cheol-Hyeon Roh (2002). Three approaches to increase the quality of distance education in Korea. *Proceedings of the XV Annual Conference* (p. 74). New Delhi : Asian Association of Open Universities.
- Lawanto, O. (2000). Applying interactive learning technology in improving teaching quality training for faculty members at Universitas Surabaya Indonesia. *Proceedings of the International Learning and Sharing Forum on Empowering Universities and Small Medium Enterprises*, Annual Conference of the Association of Asia and Pacific Universities. Surabaya, Indonesia. Retrieved April 29, 2003, from http://gdenet.idln.or.id/country/ar_indonesia/IMPR_TEACH_full.htm
- Manohar, K.M. (2002). Reaching the unreached in higher education : The role of ODL in the digital era. *Proceedings of the 16th Annual Conference*. Seoul, Korea : Asian Association of Open Universities.
- McWhaw, K., Schnackenberg, H., Sclater, J., & Abrami, P.C. (2003). From co-operation to collaboration : Helping students become collaborative learners. In R.B. Gillies, & A.F. Ashman (Eds.) *Co-operative learning : The social and intellectual outcomes of learning in groups* (pp. 69-86). London : RoutledgeFalmer.
- Mohamadi, M. (2002). Presentation of a video program in a practical course in geology. *Proceedings of the 16th Annual Conference* (p. 113). Seoul, Korea : Asian Association of Open Universities.
- Moore, M. G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical principles of distance education* (pp22-38). London: Routledge.
- Nagaoka, R. (2002). Similarity and diversity among the way ODL universities follow in the age of ICT revolution and possible open collaborative relationship among them. *Proceedings of the 16th Annual Conference* (p. 118). Seoul, Korea : Asian Association of Open Universities.
- Oliver, R., & Omari, A. (2001). Student responses to collaborating and learning in a web-based environment. *Journal of Computer Assisted Learning*, 17, 34-47.
- Panda, S., & Chaudhary, S. (2001). Telelearning and telelearning centres in India. In C. Latchem, & D. Walker, (Eds.), *Telecentres : Case studies and key issues* (pp. 149-157). Vancouver, BC : Commonwealth of Learning. Retrieved August 24, 2002, from http://www.col.org/Telecentres/telecentres_in_tro.htm
- Probst, R.E. (1987). Transactional theory in the teaching of literature. *ERIC Digest* ED 284 274. Retrieved April 24, 2002, from http://www.ed.gov/databases/ERIC_Digests/ed284274.html
- Robertshaw, M. (2002). Enhancing peer-to-peer.

- support through the internet. *Proceedings of the XV Annual Conference* (p. 117). New Delhi, India : Asian Association of Open Universities.
- Robinson, B., Le Van Tran, & Tran Duc Vuong (2001). Viet Nam. In O. Jegede, & G. Shive, (Eds.), *Open and distance education in the Asia Pacific region* (pp. 237-254). Hong Kong : Open University of Hong Kong Press.
- Sabio, C.J. (2002). Understanding distance educational learning in the Philippines : Profile and study habits. *Proceedings of the 16th Annual Conference* (p. 128). Seoul, Korea : Asian Association of Open Universities.
- Saleh, M.N. (undated, c2000). *The future of distance education in Malaysia : The role of information technology*. Presentation as part of a Funding Application to the Malaysian Government, added to a review of Distance Education in Malaysia. Retrieved April 24, 2003, from http://gdenet.idln.or.id/country/ar_malaysia/C_R_Malaysia.htm
- Shin, N. (2002). Beyond interaction : The relational construct of 'Transactional Presence'. *Open Learning*, 17(2), 121-137.
- Shin, N., Jegede, O., Yau, J.S-W., Chung, L.H-M., & Chan, J.K-Y. (2002). An exploration of the effect of online learning environment on distance learning. *Proceedings of the 16th Annual Conference*. Seoul, Korea : Asian Association of Open Universities.
- Smith, S.N., & Smith, P.J. (2000). Implications for distance education in the study approaches of different Chinese national groups. *Journal of Distance Education*, 15(2), 1-11. Retrieved November 22, 2002, from <http://cade.athabasca.ca/vol15.2/smithsmith.html>
- Spender, D. (2002). E-learning and its future. *Paper presented at the Global Summit in Australia*. Retrieved April 26, 2003, from http://www.educationau.edu.au/globalsummit/papers/d_spender.pdf
- Srivastava, M., & Venugopal Reddy, V. (2002). Is information and communication technology reshaping the learner support? Association of Indian Universities *University News*, 40(4), 43-54.
- Tandon, N. (1998). *Barriers to information and communication technologies encountered by women*. Asian Region, Report on Gender Barriers to ICT. New Delhi : Commonwealth Educational Media Centre for Asia. Retrieved April 3, 2003, from <http://www.col.org/wdd/>
- Tang, T. K-W., & Fung, Y. Y-H. (2002). A comparison of two learning communities in the digital era – how contexts and functions affect online participation in distance learning courses for teachers. *Proceedings of the 16th Annual Conference*. Seoul, Korea : Asian Association of Open Universities.
- Thilagavathy, N.S.S., & Namasivayam, N. (2002). Imperatives of research in market-oriented strategy for open and distance education of Madurai Kamaraj University, India : a case study. *Proceedings of the 16th Annual Conference*. Seoul, Korea : Asian Association of Open Universities.
- Towns, M.H. (1998). How do I get my students to work together? Getting cooperative learning started. *Journal of Chemical Education*, 75, 67-69.
- Tsuji, M., Kubo, D., Taoka, F., & Teshima, M. (2002). The role and issues of international tele-education : Lessons learned from the Japanese experience. *Proceedings of the XV Annual Conference* (p. 96). New Delhi : Asian Association of Open Universities.
- Vaziri, A. (2002). Education in the era of information and communication technologies. *Proceedings of the 16th Annual Conference* (p. 102). Seoul, Korea : Asian Association of Open Universities.
- Vyas, R.V., R.C. Sharma, & A. Kumar (2003). Delivery tools of distance learning in psychology through internet : An overview. In N.K. Chandel, R. Jit, S. Mal, & A. Sharma (Eds.), *Psychological implications of information technology* (pp. 124-140). New Delhi : Deep & Deep Publications.
- Zimmer, B. (1995). The empathy templates : A way to support collaborative learning. In F. Lockwood (Ed.), *Open and distance learning today* (pp. 139-150). London : Routledge.

Paul KAWACHI has been teaching at universities for more than 20 years, and is currently at the Department of Informatics, Kurume Shin-Ai Women's College, 2278-1 Mii Machi, Kurume City 839-8508, Japan. Tel : 81-90 4999 7820, Fax : 81-942 43 2531, Email : kawachi@kurume-shinai.ac.jp, URL : <http://www.kurume-shinai.ac.jp>.

For copyright / reproducing permission details, email : Office@AsianJDE.org