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Using Web-Based Distance Learning to Reduce Cultural Distance

L. Fai Wong
University of Hong Kong

S. G. Trinidad
Curtin University of Technology

Abstract

In recent years, Web-based distance learning (WBDL) systems have become a popular learning environment for many western learners. While it has been established as an effective learning alternative, WBDL is not flourishing in Hong Kong as expected. This paper proposes that this is because Hong Kong students are not trained to learn independently and actively, as required in distance learning. Trapped in a Chinese Confucian-heritage culture, a generation of Hong Kong learners' learning behavior can be summarized as shy, passive, reactive, inarticulate, non-collaborative, and timid—in short, the SPRINT learning behavior. Hong Kong learners with a SPRINT learning behavior contrast drastically with western learners, who are more proactive, articulate, collaborative, and eager to challenge traditions. The cultural distance in learning that is between western learners and traditional Chinese learners is wide and visible in Hong Kong. The objective of this research was to examine whether a WBDL environment that was integrated with advanced information and communication technology (ICT) can reduce this cultural distance and induce a motivation to learn through interaction. Several key ICT components are suggested that can help to remedy the cultural learning deficiencies of Hong Kong learners when using WBDL environments.

Incubating the Metamorphosis of Distance Learning

Within the last decade, distance learning has gone through a major transformation from being a print-based format to a popular Web-based distance learning (WBDL) system. The power of information and communication technology (ICT) has revamped the landscape of distance learning. Not only has ICT given distance learning a new channel to reach out to millions simultaneously, it also has empowered distance learning with multimedia and communication capabilities. Despite all of this, WBDL is not flourishing in Hong Kong. Distance learning should be more effective and popular in Hong Kong, but it is still lacking the important elements for it to flourish here. The learners are not ready, and the needed ICT is not here yet, like a slow metamorphosis waiting for the incubating energy—ICT that can make distance learning more effective than classroom learning environments. The question is asked, Is this because students in Hong Kong are not trained to learn independently and actively, as required in WBDL, or

is it because the WBDL systems are not suitable or are not used as they should be to encourage good learning?

The focus of this research was to review and explore the many cultural factors that are affecting the metamorphosis needed to use WBDL successfully, and to look at the possible technologies that might be integrated in a WBDL system to reduce the adverse cultural effects of Hong Kong learners. The challenge to Hong Kong institutions wanting to use WBDL is to find out what are the best technologies, appropriate pedagogies, and cultural system designs to incubate the metamorphosis so that WBDL can be more effective and adaptive for Hong Kong learners in this era of lifelong learning.

Reviewing the Cultural Distance in Learning

Many Hong Kong students are passive and uncritical learners (Ballard & Clanchy, 1984; Samuelowicz, 1987) who were brought up in an education system where memorization is the norm and critical thinking is rarely stressed. This is a drastic contrast to western learners, who are more proactive, articulate, collaborative, and eager to challenge traditions. The cultural distance in learning between western learners and traditional Chinese learners is wide and visible in Hong Kong.

Wilson (2001) first used the term "cultural distance" to describe the problems of distance learners who are misinformed because of their cultural difference. Wilson also suggested four "psycho cultural variables" that contributed to cultural distance, that of organization, sociolinguistic factors, cognition, and motivation. In this study, we broadened the term "cultural distance" to include the difference in learning behavior stemming from these psycho cultural variables and cognitive behaviors. What causes cultural distance in learning? Is it due to the norm, the education system, or tradition, or a combination of these? As suggested by Morse (2003), the Chinese culture cultivates a special view of education, and treats education as a means to social and philosophical improvement. Although Hong Kong was governed under British rule for almost 150 years and many people are still holding a foreign passport, Morse argued that ethnicity, not nationality, shapes learners' cultural backgrounds. Their cultures, languages, histories, and traditions play a key role in cultural and cognitive behaviors.

Based on his observations, Biggs (1996) argued that most Hong Kong learners are students-as-tape-recorders. This is partly because of the Confucian-heritage culture, and partly because of the teaching method and learning environment in Hong Kong. The learning outcomes of this kind of learning environment are students well trained in memorizing facts, but poorly trained in communication and interaction with teachers and other learners. They are shy to challenge traditions, inarticulate of what they learn (or fail to learn), non-collaborative in team learning, and timid to ask and answer questions in class. Such students think passively instead of critically, unquestioningly reacting to teachers' instruction instead of actively searching for knowledge. Trapped in a Chinese Confucian-heritage culture, Hong Kong learners exhibit a learning behavior which can be summarized as shy, passive, reactive, inarticulate, non-collaborative, and timid. This summary of learning behavior is abbreviated with the acronym SPRINT, created as a term to explain this phenomenon during the research study.

Learning From WBDL Learners

WBDL is based on the power and dynamic nature of ICT, which allows distance learners to learn anywhere, at any time, about any subject (Connick, 1997). Additionally, ICT can fully utilize the power of voice, video, and hypertext, and therefore may be able to remove Hong Kong learners' cultural learning deficiencies and obstacles when engaging in WBDL. Although the SPRINT learning behavior embedded in the cultural distance is difficult to remove in the traditional classroom environment, it may be more possible to reduce the adverse effect of SPRINT behavior by using a multimedia and interactive WBDL environment. The key to this depends upon WBDL's unique capability in utilizing asynchronous and synchronous communication so that Eastmond's (1998) Type II and Type III Web-based learning environment can be achieved. Eastmond suggested that WBDL should utilize the power of the Internet and Web-based learning through three different types:

Type I: The first level is to supplement traditional distance learning and to foster self-direction by allowing students to choose areas of focus and assignments that fit their personal needs, and to select Internet resources to address them.

Type II: The second level is to have computer conferencing with an emphasis on interaction, constructive criticism, and learners' reflections.

Type III: The third level is to engage in virtual courses and institutions, a truly Web-based course with color graphics, audio, video, and hyperlinks.

As suggested by Goodwin (2001), an effective WBDL system should be cost-effective, transcend regional and time barriers, increase emphasis on collaboration, and increase accessibility to experts. These features of ICT can enhance the effectiveness of distance learning in a way that cannot be done easily in a traditional classroom environment. It is necessary to integrate the technology with pedagogy to formulate the key ICT components of a WBDL that can reduce the cultural distance of Hong Kong learners.

A series of interviews were conducted with field players using WBDL, a course coordinator, a technology director, and several WBDL learners. Attempts were made to develop a holistic view of the issues and problems in the system by interviewing the different field players directly to explore and discuss students' experience in WBDL learning. The interviews were conducted separately, privately, and on an individual basis as to ensure viewpoints were expressed unobtrusively. The questions were open-ended, designed to guide the interviewees to address specific issues, while allowing them to tell their stories without being constrained by the questions themselves. Based on the interviews, a set of key ICT components of distance learning were investigated as the tools and means to reduce the problem of cultural distance in learning and satisfy the needs of distance learners. This process can be summarized in the 4-phase DATA model (see Table 1) used as the research procedure.

Table 1
The 4-Phase DATA Research Procedure

Phase 1 (D)	*D*efine the problem.	Literature review. Formation of research questions.
Phase 2 (A)	*A*nalyze the problem.	Preliminary interviews. Needs and cultural factors of distance learners. (Informants: field players in distance learning.)
Phase 3 (T)	*T*ackle the problem.	ICT components in a WBDL system. Field players review the recommendations.
Phase 4 (A)	*A*dminister the problem.	Steps to assess the WBDL system. Specify ways to nurture the new system.

The interviews revealed that WBDL users in Hong Kong often view the Internet and ICT as a convenient tool for learning administration, rather than as an important medium that has the capability to remove the learning impediments embedded in their culture, or as part of a pedagogical solution to reduce the cultural distance in learning. WBDL courses need to be redesigned to incorporate advanced ICT features that can enhance interaction and communication amongst learners and teachers. Teachers also need to understand the way adults learn best and be trained to be able to work effectively in such WBDL environments (Trinidad, 2004).

According to one student's opinion, there should be more collaboration and face-to-face activities provided by a WBDL system. They want a WBDL system that is capable of facilitating such activities, and these capabilities should be fully used by the students and promoted by the teachers. The learner's experience reflected that the ability of collaborated learning activities in WBDL is underused and the benefit of collaboration is unrealized.

These misconceptions about and disappointments in Web-based learning systems may not be that the contents are unattractive, or that the design is not user friendly. It is more likely that the whole learning environment and culture in Hong Kong is not ready to exploit a highly effective Web-based distance learning system. This study showed WBDL learners do expect WBDL to have more learning activity, more interaction, more collaboration, and more communication. To be able to integrate these features into a WBDL environment, one must redesign course content, invest in infrastructure, retrain learners and teachers, and create a powerful Internet-based communication system, nurturing new kinds of learning communities. All this can be done by incorporating advanced multimedia and communication technology into the WBDL system.

Incorporating ICT Into WBDL Courses

In order to attract learners to the pathway of lifelong learning, it is essential for the WBDL learners to feel welcomeness, comfort, enjoyment, and support in the learning

environment. A well-designed WBDL course in distance learning should provide strong teaching, counseling, orientation, and administrative support services to learners (Kember, 1995). An effective WBDL course should at least be capable of utilizing the power of Internet to achieve Eastmond's (1998) Type I level of Web-based learning, including the basic elements of (a) course outline and reading list; (b) communication with the teacher via the Internet, at any time, anywhere, and at any length; (c) online group activities to foster collaboration; and (d) online instructional support that can provide individual attention and summarizing comments (Rohfeld & Hiemstra, 1995).

The objectives and pedagogy of designing a WBDL environment should focus on courses that are capable of benefiting from the use of ICT so that it can go beyond Eastmond's (1998) Type I level of Web-based learning. The aim is to incorporate pedagogically new ICT into the WBDL environment, therefore helping reduce the learning behavior of SPRINT embedded in Hong Kong learners' culture. This should include using computer-mediated communications (CMC), adopting interactive videoconferencing, and interacting in virtual learning environments.

Implementing Computer-Mediated Communication

As noted by one informant, "communication, especially among students, has not increased in the Web-based learning environment." Murphy and Yum (1998, p. 73) reported that distance learners rarely contacted their course coordinator, unless there was a serious problem. They also noticed that communication amongst distance learners was minimal due to lack of friendship and few opportunities to collaborate on project work. Referring to the same subject, Kaur, Fadzil, and Baba (1999) believe that online discussion can help build group knowledge and facilitate learning with peers and experts at any time, anywhere and at any pace. Online discussion can also provide moral support, motivation, and enthusiasm to distance learners.

Many educators and researchers support the use of CMC to enhance the collaboration activities in distance learning. The CMC used must put ICT to the best use in the most effective way. It can be used to develop greater levels of self-directed learning, resulting in rich online exchanges for Chinese learners (Smith & Smith, 2002). This is particularly significant for Hong Kong learners who have cultural distance in learning. As this research showed, insufficient experience in collaboration and socialization contributed to the cultural learning deficiency for Hong Kong learners engaged in regular WBDL. As one learner-informant complained, "it is a bit lonely to learn on the Web, it also lacks of opportunities to interact with other students." By integrating CMC into WBDL courses, a friendly and comfortable learning environment can be created for distance learners. As suggested by Salmon (2000), online socialization forms an early and important component of establishing required levels of comfort and skill. Salmon (2000, pp. 25-37) developed a five-step CMC learning model to explain how the learning process of distance learners was formulated. The model's five steps consisted of access and motivation, online socialization, information exchange, knowledge construction, and development.

It is particularly important and suitable to develop greater levels of self-directed learning, and resultant rich online exchanges for Hong Kong learners. As suggested by Morse (2003), CMC is particularly effective for low-level learning, which is less

language dependent. When used with graphics and audio, CMC can also lessen the language burden for non-English speakers. This is especially true for Hong Kong's distance learners, who must comprehend a second language, English, and deal with the difficulties of using Chinese characters on the Internet.

Can an effective CMC system reduce the cultural distance embedded in Hong Kong learners? Can we use the CMC system to enhance learning outcomes of distance learners in Hong Kong? Can CMC remedy Hong Kong learners' problems of rarely asking questions and of having difficulties with articulating expression? As suggested by Morse (2003), CMC can give learners multiple threads of discussion simultaneously and more time to revise and organize their thoughts. Morse also believes that CMC can help learners participate in group discussions at their own pace and in more detail. For Hong Kong distance learners, a WBDL course adopting the CMC environment could allow learners to have better concentration, and richer discussions and it could provide them with a more flexible platform to articulate their thoughts and expressions. Furthermore, to be an effective CMC for distance learners, it should have a moderator to ensure that discussion was encouraged and nurtured. Therefore CMC can provide Eastmond's Type II level of services to distance learners and it appears to be an effective way to reduce the SPRINT learning behavior embedded in Hong Kong learners.

Adopting Interactive Videoconferencing

Based on the learner-informants' opinions, many distance learners still prefer the traditional classroom tutor than the WBDL tutor, as one such learner related: "Even if I do have questions, the Net Tutor is different than the regular classroom tutor and I prefer to ask the real person [classroom tutor]." Sitting in classrooms is a regular way of conducting teaching and learning, but it defeats the meaning of open and distance learning. For those distance learners who would like to meet their teachers in person but do not want to restrict themselves to the rigid classroom setting or spend time in traffic getting to university classes, the use of interactive videoconferencing (e.g., see Northeast Texas Network Consortium Coordinating Office, 2002) may be a good alternative.

Interactive videoconferencing was adopted in distance learning for its broadcasting capabilities. Over the past 20 years, the technologies of video compression and broadband connection have made interactive videoconferencing more flexible, stable, and reliable for educational purposes. With the introduction of streaming video, the problems of video ghosting, image softness, and audio delays and echo are mostly resolved. Furthermore, as the cost of digital video cameras, video monitors, and point-to-multipoint broadcasts has gone down drastically, the cost of implementing interactive videoconferencing for distance learning is becoming more affordable and attractive.

For Hong Kong distance learners who have cultural distance in learning, interactive videoconferencing can give them the best of both worlds. While their learning activities can take place in the comfort of their home and they do not have to be intimidated by other classmates, they can still establish a visual connection with teachers and other participating learners. Reed and Woodruff (1995) pointed out that by using interactive videoconferencing, teachers might use online conversation and visual body language to enhance communication and encourage interactive discussion. This can be very helpful for timid distance learners who need teachers to motivate their active

participation. Furthermore, discussions can become more lively and enriched than in traditional classrooms, as more learners in remote sites may be willing to participate. As explained by one learner-informant, "because it's not a face-to-face environment, I have many more opportunities to communicate with the tutor."

Another advantage of interactive videoconferencing is its ability to connect external subject-matter experts. Remote subject-matter experts can help validate understanding, provide feedback, and introduce practical examples (Reed & Woodruff, 1995). This real-world connection can greatly motivate the passive distance learners to participate and to interact with the subject-matter experts online.

When incorporating interactive videoconferencing into a WBDL environment, teachers can show learners photos, graphics, PowerPoint presentations, and verbal explanations simultaneously. Interactive videoconferencing also allows application sharing, allowing learners to read and edit documents in real time. These kinds of sharing and feedback activities would encourage collaboration that is difficult to conduct in Hong Kong's traditional classroom environment. By establishing real- time visual contacts amongst learners and teachers, interactive videoconferencing can remedy Hong Kong learners' SPRINT learning behavior.

As broadband television systems such as Hong Kong's NOW TV are in place and available for the majority of Hong Kong residents, the cost of conducting interactive videoconferencing in Hong Kong will be lower than expected. These new forms of interactive TV are capable in carrying two-way signals and making interaction with viewers easy. If educators want to use this advancement in ICT to reduce the effect of SPRINT learning behavior for learners in Hong Kong, they need to find a way to work with this new kind of interactive TV and redesign WBDL courses to take full advantage of this new technology.

Interacting in Virtual Learning Environments

The use of CMC and interactive videoconferencing are examples of how ICT can advance WBDL into Eastmond's Type II level of Web-based learning. While learners can enjoy interactions, constructive criticism, and reflections in CMC and interactive videoconferencing, they are not engaging in Eastmond's Type III Web-based learning environment. Another emerging ICT that can be used to advance WBDL into a Type III level of learning environment is three-dimensional virtual learning environment technology. (For a description of virtual learning environments, see Ferl First, 2004.) For the purpose of this project, we were interested in virtual learning environment technology's ability to enhance interaction, gestures, actions, and presentation in the context of distance learning.

Web-based virtual learning environment technology is becoming a reality because of advancement in Internet connectivity and image compression technology. What kind of unique role can virtual learning environment technology play in WBDL learning? For constructivists, knowledge has to be constructed through the learners' active participation. For them, learning means interacting with the learning environment, and experimenting with their skills. In the case of difficult issues and complex knowledge, learning has to be an iterative and repeated process. The ability to simulate real objects and events are unique features that virtual learning environment technology can provide

while other forms of ICT cannot. For example, it is quite easy in virtual learning environment technology to simulate traffic congestion that causes car accidents. This kind of simulation is very useful for a traffic controller to learn about the consequences of mishandling the situation and ways to avoid disaster.

The beauty of virtual learning environment technology is that it can repeat the simulation as often as the learner wants. While it is impossible for interactive videoconferencing to repeat the teaching conferences, virtual learning environment technology can do this in a WBDL environment. Winn's recent study (2002) showed that artificial environments can help students to reify abstractions, can scaffold students to solve complex problems, and can immerse students into dynamic phenomena. When artificial environments apply to WBDL, the empowerment effect in learning can be explosive.

In the discussion of using virtual learning environment technology to reduce learning deficiency for distance learners, one should recognize that such technology is more effective for less able students (i.e., learners with cultural distance) than for more able learners (Byrne, 1996). This is because learners with learning deficiencies can benefit more from the effects of spatial reasoning, situation presence, and interactive enjoyment in their process of knowledge construction. Other studies show that learners' ability to benefit from virtual learning environment technology depends on three contributing factors (Winn et al., 1997). First, immersion can make it possible for learners to experience what they are learning from a different prospective. Secondly, interaction fostered by virtual learning environment technology can facilitate learning because such technology can nurture interaction more easily than other forms of teaching environments. Thirdly, learners' engaging in experience in virtual learning environment technology can allow them to better control the learning environment and the computer in a more complex and sophisticated way. As virtual learning environment technology can give learners the feeling of autonomy and empowerment in their knowledge construction process, it can also motivate the passive learners to be more interactive so that their passiveness can be reduced. Virtual learning environment technology could be used as an excellent tool to remedy the SPRINT learning behavior embedded in Hong Kong learners.

A 3-D virtual environment software, Activeworlds (2003b), allows users to create objects and structures to move in real time and demonstrates the power of Web-based virtual learning environment technology. Activeworlds is a shared virtual learning environment software that allows the use of special "avatars" (see Activeworlds, 2003a) to create a virtual "face-to-face" conversation, or situation in an e-learning classroom. In the case of subject-matter-expert avatars they can have an online, face-to-face conversation with another avatar (learner or teacher). Other online distance learners can be part of the audience in the same world and learn from the virtual face-to-face simulated conversations or situation classrooms. For example, the teacher can invite an environment expert to be the subject-matter-expert avatar to interact and answer questions for learners online about the subject of environmental protection. This kind of situation classroom can be used in many types of teaching where live subject-matter experts, who are unable to appear in person in class, can be an important source of knowledge.

Since many Hong Kong learners "have a particular mentality" and "have to hear the tutor/professor spell out the knowledge in order for them to learn and believe it," as pointed out by one of the informants, an online subject-matter-expert avatar that appears in a virtual learning environment could help to ease this kind of mentality. Subject-matter-expert avatars can have actions, conversations, graphics, and videos to show WBDL learners the knowledge and experience that the expert possesses. When incorporating virtual learning environment technology in a WBDL environment, it can make the guest-lecturer strategy (Rayburn & Ramaprasad, 2000) more real and more effective. When several WBDL courses from different parts of the world are linked to a single virtual learning environment, it can form a super situation classroom, achieving the large-lecture-hall strategy in a grand way. These virtual courses with online subject-matter-expert avatars, color graphics, audio, video, and hyperlinks can become a highly cost-effective system that can remove the language barrier and can improve the learning outcomes for thousands of Hong Kong learners who are struggling with their SPRINT learning behavior.

So can a WBDL system do what a traditional classroom environment has failed to do? Can Hong Kong learners shake off their cultural distance in learning? The challenge is whether a new set of pedagogical practices can be formulated and adopted to develop a more pedagogically sound WBDL environment. The technologies of CMC, interactive videoconferencing, and virtual learning environments are here and WBDL is gaining acceptance worldwide. What we need is the vision and the will power to induce these ICT elements into WBDL so that the metamorphosis of WBDL learning can take place.

Moving to the Next Step

The use of ICT in a WBDL environment consists of three parts: the software and course contents that integrate with ICT, the technology infrastructure that supports the flow of information, and the environment that nurtures the WBDL system. Although the technology infrastructure is not discussed in detail, it is considered as an important step in building an effective WBDL environment.

The effects of infrastructure will take a long period of time to emerge; therefore, it will be difficult to assess any benefits that ICT may bring about for learners. Whether teachers have any planned productivity gains is also difficult to realize without long-term observation and assessment. Thus, any investment plan in ICT infrastructure should be carried out in multiple phases and must be reviewed on a regular basis to allow for possible adjustments and enhancements. The review process should assess how the objectives of the plan and the roles of technology are being carried out over time.

Assessment is another important step, which should be applied to reviewing more than just the course content and technology; it should also include a mechanism to assess the learning outcomes of a WBDL environment. The purposes of assessment are multifold, to compare and explore the potential effectiveness of WBDL and to establish formative and summative quality guides of WBDL materials (Herrington, Herrington, Oliver, Stoney, & Willis, 2001). There are several ways to measure the effectiveness of WBDL systems, such as counting activity frequency, as suggested by Simonson (1977); using a summative and formative approach, such as that of Nguyen & Kira (2000), and measuring benefits, as proposed by Goodwin (2001). Educators and WBDL designers

should decide, from the outset, which measures are to be used, and should ensure evaluations are carried out regularly and objectively. Alternatively, the effectiveness of WBDL can be measured by counting the dropout rates of Web-based learners, as proposed by Lynch (2002, p. 13). Herrington et al. (2001) developed a checklist of 16 critical elements for a more consistent assessment and evaluation of WBDL environments. This can determine the scope and extent of three main areas of WBDL through (a) pedagogies, (b) resources, and (c) delivery strategies. The quality checklist can help to maintain the quality of designing, developing, and delivering WBDL materials.

Assessment must be explicit, objective and accurate. When the learner assessed is not honest or the outcomes being assessed are not the work of learners, it is difficult to conduct an accurate assessment. The popularity of the Internet and Web-based search engines may make information flow more freely. It may also nurture the culture of "copy and paste." Lynch (2002, p. 25) estimated that 20% of students (Web-based and traditional students together) are involved in plagiarism and cheating. This problem draws more attention in the WBDL environment, as it is more difficult to verify a learner's identity online. Assessors should use ICT to check learners' work by comparing it with those in public databases. Another defense step is to use security software to check learners' identifications online during examinations. As no technology is completely fraud-proof, using advanced ICT to build in more interactive features into WBDL courses and examinations may be the better way to deal with this problem. However, as Albon and Trinidad (2002) stress, teaching for the test or exam should not be the major part of any learning environment. Assessment as part of the learning process should be open-ended, negotiable, educative, explicit, and informative, involving challenges, decisions, and reflections through the development of real-world products or authentic tasks and activities. They state there is more to learning than knowing content and learners need to develop competency in applying knowledge. Performance-based assessment allows learners to construct their knowledge and to produce real-world products and services that cannot be cut and pasted from the Internet easily as learners are constructing new knowledge. Processes should include peer-reviewed presentations, reflections, interviewing, interpreting, and applying research findings, producing the product using group work over a period of time. These tasks can be used to build courses or modules online as part of the pedagogical process.

Nurturing the WBDL Environment

Part of the pedagogical reengineering process is to change the attitude of the field players, the teachers and learners, and to enhance the communication amongst them. This is especially true for the timid Hong Kong learners who do not usually ask or answer questions in class. To successfully implement such a WBDL system, it is important to select a set of culturally appropriate approaches and to have a policy to nurture this environment. Thus, in order to promote the use of WBDL systems, it is necessary to encourage and train learners to use resources in the WBDL environment more effectively. Thompson (1999) suggested that a face-to-face orientation for learners, before programs start, might convince learners to become learning collaborators and to give timely feedback to improve the programs. When this happens, the WBDL

environment will become more learner-centered than the traditional classroom environment.

Metamorphosing Into a Butterfly

This paper lays out the interrelationship between course design, pedagogy, communication technologies, infrastructure investment, training, and the learning environment. In retrospect, our ideal is to have the pedagogy shape ICT technology, but in reality, the development of ICT also shapes the choices that can be made pedagogically (Holt & Thompson, 1998). Our challenge is to reach a consensus from all field players so that the process of converging technology and pedagogy can be as painless as possible, and an essential part of the WBDL environment.

For a distance learning environment where learners and teachers have to deal with the SPRINT learning behavior, the objective goes beyond learning at a distance. The goal is to incorporate new communication technologies into WBDL so that the cultural factors that contribute to Hong Kong learners' SPRINT behavior can be remedied. The challenge is to choose the appropriate technology that can enhance communication, interaction, and articulation amongst learners and teachers. The difficulty is to find a way to adopt proper pedagogies in the cultural setting of Hong Kong learners. When ICT is pedagogically incorporated into the WBDL environment, it should be able to help change SPRINT learners into active, collaborative, and interactive learners, thus reducing the cultural distance between Hong Kong learners and western learners.

When such a WBDL system is established, both educators and learners in Hong Kong will find the WBDL environment has more pedagogical forces than the traditional classroom environment. They will also find that WBDL courses have more powerful and interactive forces than face-to-face tutorials. When these forces are amalgamated, its synergy can incubate forces for the metamorphosis of distance learning. It will enrich, enhance, and empower distance learning. As new technologies of the Internet and communication are emerging rapidly in Hong Kong, distance learning integrated with new ICT, will metamorphose into a butterfly, ready to fly to new heights.

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