

## IMPACTING LEARNING OUTCOMES FOR TOURISM AND HOSPITALITY OPEN DISTANCE LEARNING (ODL) PROGRAMMES BY ENHANCING STUDENTS' LEARNING ERGONOMICS

Hisham DZAKIRIA, PhD

Azilah KASIM, PhD

Universiti Utara Malaysia, Sintok, MALAYSIA

### ABSTRACT

This paper is intended to suggest improvement to learning ergonomics to reduce non completion rate among Malaysia students within the government's lifelong learning programmes particularly among tourism and hospitality professionals who are pursuing higher education and continuous professional development (CPD) training via open distance learning (ODL) programmes. *Learning ergonomics* relates to the design of the learning characteristics, processes and the environment which is intended to support, influence and impact on learning performance adaptability. Effective learning ergonomics offers improvements to the course design, meaningful learning experiences, student comfort and subsequently higher completion study rates. This chapter believes by understanding our learners (i.e their perspectives and narratives as learners, professionals and member of a given community) by means of profiling, learning ergonomics can be enhanced and improve the learning outcomes. The tourism and hospitality students' profile and narratives can help to improve the *institutional, physical* and *mindset ergonomics* in their respective vocational programmes. Their lives provide a narrative that could establish learner's voice on the respective learning experiences. This can result in possible improvements in course design, facilitation of meaningful and inviting learning experiences, student comfort and productivity. The accumulation of these attributes could reduce learning frustrations in tourism educational and promote a better structured learning experience and success and reduced attrition rates among the learners.

**Keywords:** Learning support; ergonomics; institutional ergonomics; physical ergonomics; mindset ergonomics; profiling learners' lives; open and distance learning (ODL).

### INTRODUCTION

Globally, human resource is an area that is growing in importance. As tourism and hospitality industry continues to grow the workers in these sectors needs to be continuously trained and retrained as service providers.

The rise in job demand requires increased staffing levels at a time when the labor pool is shrinking. Tourism and hospitality is a service industry, which is dependent upon the quality of manpower. In Malaysia the shortage of skilled manpower poses a major threat to overall development of tourism and hospitality industry.

Consequently today, we have many local higher institutions that are offering various types of programmes to help mitigate the shortage of workers in this field and help the current professionals to continuously upgrade their skills and knowledge. Nevertheless, like other industries Tourism and hospitality industry in the country is also facing the problem of talent crunch and high attrition rate that must be attended to ensure the continuous growth of this sector in Malaysia and elsewhere.

In spite of prevalent improvements in Open and Distance Learning (ODL) with greater technology and educational tools, stronger learning platforms, improved ODL programmes and courses, advancement of Open Educational Resources (OER) and better tutor training programmes, non completion rates (attrition) in ODL around the world is alarming at 30% - 45% (Jenkins, 2012; Jung, 2009; Simpson, 2003). Various factors have been linked with this phenomenon. Nevertheless, the strongest ones are related to learners' demography (i.e., educational background, age factors; digital divide, learning traditions, etc.) which may attribute to the the high percentages of attrition rates (Harold & Russum, 2000; Dzakiria, 2006; Hara & Kling, 2001; Kember, 1989; Mannan, 2007; Wickersham & Dooley, 2001 ). In spite of continuous concern on the non-completion rate, what actions have ODL stakeholders pursued to address the high attrition rate. How and in what ways have the research findings been used to improve learning? What improvements have been put forward and implemented? What role does learning ergonomics play in reducing attrition rates?

The attrition (non-completion) rates in lifelong learning initiatives programmes via Open Distance Learning in Malaysia is very close to the above statistics (Lai, 2012; Mohamed & Zulkipli, 2014). This cut across many programmes offered through ODL in Malaysia, and tourism and hospitality is one of them. One way to mitigate such situation is to improve the learning support for the learners (Cercone, 2008; Dzakiria, 2013). This relates to searching the "best fit" for conditions that promote effective learning. These may include the learning materials (resources) available, conducive environments, good institutional policies that support learners' enrolment and learning activities, various types of support systems, and so forth.

Authors of this paper believes that by humanizing the learning ergonomics by leveraging on the students' profile and customizing the content to meet the students learning goals could enhance the learning experiences. This chapter is intended not just to illustrate the importance of improving learning ergonomics in open distance learning, but improving it better through learners' narratives which is a method that this chapter prescribes to improve the overall ergonomics where learners' aspects of learning will be considered to maximize learning.

**Tourism is vital for Malaysian economy. Just like any other professions or fields, it is important to continuously upgrade professionals in this field to ensure that they are always competent, functional and professional. With the Blue Print on Lifelong Learning launched in 2011, Malaysia aspires to democratize learning to all Malaysians.**

**The government wants Malaysian workforce to be more dynamic, knowledgeable and be the best they could be to serve their clientele and people. This chapter argues that the best approach to developing skilled and professional tourism and hospitality labour force is to improve the students' learning ergonomics to support their continuous learning in this field. Specifically efforts must be made towards profiling the learners in a way that would allow important stakeholders in ODL (i.e. course designers, instructional technologists, administrative, etc.) design courses that are customized to the students' needs, and aspirations to excel in future undertakings. Understanding who the learners' are and profiling them accordingly helps course designers to design and deliver learning materials that would match with the required andragogical approaches to impact on learning. Relative to tourism and hospitality industry, learning approaches such as case studies or problem based learning for example may suit various types of learner groups in the field, and this may be more meaningful as they can relate learning to their own experiences.**

**Lifelong education involves continues formal, non-formal and informal education and learning activities. It involves learning and re-learning. Objectives of Lifelong learning in tourism is to support tourism professionals to continuously learn and upgrading their vocational knowledge and ability, and up-skilling the skills, and increasing their competitiveness by increasing knowledge, sharing best practice and providing continuous training for others. CPD and ODL for that matter are tools to help tourism professionals to become more competent and professional and become active participant making them more engaged workforce. This is imperative as tourism and hospitality in Malaysia like many other sectors have become intensely competitive. In fact, if Malaysia does not do enough (i.e. in upgrading and training the professionals) as iterated by Taib (2011), Malaysia may fall behind Thailand, Singapore and other countries in this region.**

**Through Ministry of Higher Education are highly supportive of lifelong learning across many disciplines in Malaysia government today. There is growing demand to enhance the human resources in tourism industry in Malaysia (Taib, 2011).Consequently, many institutions are offering various programmes in tourism and hospitality comprising of short courses at certificate level, diplomas, undergraduate degree programmes up to doctorate of philosophy.**

**In addition, there are also executive programmes to upgrade skills and knowledge offered my various institutions and training agencies. In addition, with the advancement of educational technology and with the rapid development of massification of online courses (MOOCs), many institutions are also beginning to offer various tourism and hospitality online courses (e-learning) with e-tourism curriculum to prospective learners.**

The latter approach is hoped to open doors for more learning and training for tourism and hospitality professionals and learners making learning more accessible and flexible. ODL is seen as the mode that could reach to more learners regardless of where they are, what they do, what learning objectives they have, and etc. Nevertheless, to inculcate or instill lifelong learning and make learning a culture, there are fundamental requirements that must be met. These include:

- ✓ Collaboration among stakeholders on diverse levels (local, regional, national). These refer to the team efforts to provide the best learning opportunities and experiences to learners. Benchmarking best practices, learning from others, leveraging and maximizing recourses to provide the best-fit;
- ✓ Designing curriculum that is carefully crafted to provide contemporary skills and knowledge that match the future labour demands in tourism and hospitality;
- ✓ Learning must be made more accessible and flexible all stages of their life cycles;
- ✓ Creation and establishing learning culture; and
- ✓ Creation of standards to assure quality assurance of all lifelong learning programmes.

The above are prerequisites to ensure success in lifelong learning initiatives. These must be strategize to support the learning demand. Various factors need to be considered. Some of these factors may be relative to educational institutions, others are related to policy, and there is also a socio-cultural dimension that must be attended to. Therefore, this chapter as iterated earlier focuses on learning ergonomics particularly those that relates to tourism and hospitality programmes in Malaysia Specifically, this chapter is intended to define what constitute learning ergonomics and why improving the learning ergonomics would offer better learning support to learners; and how can learning ergonomics can be improved.

## **DEFINING LEARNING ERGONOMICS**

If institutions are able to provide 'best-fit' support system between *learner-content-learning-teaching*, then logically the output would be positive. When learning are made more conducive, learners can learn better and improve their performance greatly. However, a "best fit" does not mean a single ergonomic solution that is best for all students, learning environments and institutions. It would be difficult to design given the broad students' demography. Tourism and hospitality learners may use a variety of learning styles. As a result, it is difficult for institutions to cater for all students equally. However, with effective learning ergonomics, students can be guided by harnessing on values such as convenience, efficiency, flexibility, cost-effectiveness and instructional effectiveness and better for support knowledge management (Gagne et al, 2005). With much consideration into enhancing the learning ergonomics, the learning experience within the tourism and hospitality programmes for example can be tailored more towards student-centred (Golas, 2000).

This can be done by providing essential support to learners that could help them in their future career. For instance if the profile of learners learning to become tour guides show that many of them are inadequate in terms of presentation skills or public speaking, perhaps the Programme can add on these imperative skills.

The ergonomics that this chapter focuses is not just looking for physical fit, but one that includes other factors. These includes learners' educational background, working experiences, psychological state, personalities, personal interests, strengths and weaknesses, etc., which help to build the learners' "mindset" and expectations towards completing their respective programmes successfully (Nagel, 2009, Tung, 2012).

In order to progress students' performance and deliver a worthy educational experience, related stakeholders must provide better learning ergonomics - which include not just the *physical*, but *cognitive* and *mindset ergonomics* must also be considered to provide better learning experiences. This can be achieved by profiling the students' lives and back round. If this is done with proper planning, it may provide institutions with meaningful information of their students. This information on learners' human factors is important to support learning. Such efforts would afford institutions and important stakeholders in ODL to enhance learning experiences and promote programme completion among learners.

In summation, learning ergonomics is about providing sufficient support to promote a healthy and balance interactions between *learners-content-teachers-institutions*. It involves understanding the theoretical principles underlying the learning ergonomics concept, data and approaches to optimise learner well-being and overall learning performance. The need to improve learning ergonomics in ODL is pertinent. It exceeds the importance of other components and processes. All important stakeholders in Tourism and hospitality ODL programmes (Tutors, curriculum designers, instructional technologists, administrators, educational technologists and all relevant practitioners) must be sensitive to the demand of better learning ergonomics within this field. They must respond to ergonomic concerns to help learners learn better and complete their programmes successfully. With dynamic learning ergonomics, the students of tourism and hospitality can learn better and relate to the real-world issues in the field (Anuar, et al., 2012).

Good learning ergonomic must contribute to the planning, design and evaluation of the various tasks, jobs, products, organizations, environments and systems in order to provide the learners with educational products that are compatible with their needs, resources, abilities and interests. Important stakeholders (i.e. instructors, course designers, technologists, etc.) must have a wide-ranging of interpretation and understanding of tourism and hospitality.

These also include taking into account students' physical, institutional, mindset, social, organizational, environmental and other relevant factors that can help increase motivation for learners to stay teach (Tung, 2012).

It is also worthy to note that those who are working within the domain that offers educational training, courses and services to students of tourism and hospitality, this domain is not exclusive as it evolves continuously. The world and for that matter, tourism and hospitality sector is a progressive sector and is constantly changing with array of issues and concerns. New skills and demands constantly introduced; old ones take on new perspectives. Today, with the advancement of technology in work place, tourism and hospitality professionals have to learn, re-learn, re-engineer and redesign the way they learn (Dzakiria, 2004) for future improvement.

### **FINDING 'BEST -IT' FOR LIFELONG LEARNING**

To a significant degree, the performance of students and educational systems are context dependent. This is true in traditional education and it is equally true for open distance learning. Students, tutors and institutions may be greatly similar or different one from the other. As such, finding the "best fit" or solution that would work with all students, institutions and systems may be difficult. There is no one "best fit" or perfect practice that can be implemented by any institution. These institutions can, however, learn from each other on various management or design issues while not adopting any one model for implementation. The UK Open University is said to be a very dynamic Open University model. Similar accreditation has been awarded to the Athabasca Model (Canada), the Indra Gandhi National Open University (IGNOU), the University of Phoenix (USA) and others. But due to geographical locations, learners' profiles and demographic data, cultural differences, etc., many institutions have to create their own best-fit that work for them and their students be it a 'blended approach' that would be effective for the respective institution. Today, the Open University Malaysia (OUM), Universiti Sains Malaysia (USM), Wawasan Open University (WOU) and Asia e-University (AeU) are examples of successful ODL providers in Malaysia. They are similar and different in many ways, and between these institutions there are also distinct approaches or model that is employed.

Enhancing learning ergonomics can significantly improve the students' learning performance and experience. Learning ergonomics is concerned with how and why the design characteristics of educational processes and systems influence the performance of students. The scope of learning ergonomics includes all modes (modalities) and levels of performance-design-interaction that may occur within a specific educational environment. The "design" of the learning process relates to the physical design of instructional materials, environments and technologies. These include information communication technology (ICT), classroom implements and equipment, textbooks, audiovisual materials and systems, work stations, computer hardware and software, school classrooms, buildings, etc. to institutional designs of various skills, tasks, classes of knowledge and curricula targeted for learning, to the social and interpersonal design of the interactions of participants in the system with one another and to the management and administration of jobs, supervisory relationships, organizations, policies and programmes of educational systems, as well as to the designs of communities in which the learning occurs.

**It is a holistic approach to support learning that relates the entire learning communities (stakeholders). Harmonizing the communities with sufficient support would increase communities and enhance learning engagement.**

**In addition, it is also worthy to mention that variations in students' performance across fields, may be related to variable consistency, reliability or reproducibility in learning, as well as to errors, accidents, poor quality, inefficiencies, reduced productivity and/or lack of competitiveness in the performance of students and educational systems that may arise as a consequence of poor design of the institutional and physical ergonomics to support learning.**

**Learning ergonomics has scientific origins. This suggests that much of the variability in cognitive performance is not attributable neither to innate ability nor to learning ability, but to specific design features (physical ergonomics) of the respective learning environment the students belong to (Tung, 2012). These may comprise different logistical supports to serve the tourism and hospitality learners based on their profiles. Seemingly, a senior tour guide for example who had been working for 30 years and one who has left school for three decades. He or she may not be familiar with the advancement of technology and softwares used. Consequently, he or she will need some training or coaching on the use of technology to learn. In addition, and library skills would also become essential. The present learning landscape has transformed into what it was not 30 years ago, and for one who considers oneself as being traditional and conventional learner may certainly need support. It is in such cases that customizing and attending to such handicap might be able to ease and support learning.**

## **ISSUES ON LIFELONG LEARNING**

**The literature seems to suggest that although we have greatly improved and championed the establishment of ODL as an enabler to education, ODL institutions and stakeholders have yet to take enough measures to improve and support students' learning in ODL (Dzakiria, 2006; Jenkins, 2012; Mannan, 2007; Serwatka, 2005; Sweet, 1986; Tung, 2012). It is timely to deliberate the human factors, conditions and all the processes affecting the students learning and improve the learning ergonomics. With better learning ergonomics in ODL, human interactions will be improved and overall system performance of delivery systems will be optimized. Improved learning support, students would be able to learn better and much more effective. It is therefore imperative that institutions and programme managers and all relevant stakeholders be more sensitive towards learners' needs and requirement. So often, learners' voice has been marginalised.**

**Ergonomic principles which focus on human factors have achieved proven success in improved performance, competitiveness and learning in many organisations (Dzakiria, 2004; Dzakiria et al., 2006; Smith, 2007; Haslam, 2002; Korkmaz & Sommerich, 2009). Nevertheless, the alarming non completion rates in ODL seem to suggest that the advantages from the application of ergonomics vis-a-vis the performance of students in ODL have yet to be ascertained. Continuous efforts must be made by institutions to ensure students are learning and able to meet their learning/career objectives.**

Logically if such support is good, the output would also be good. Of course there are also human factors that may determine learning success which may also be dependent on good support for learning. Therefore providing an enhanced or improved system, software, classroom facilities, library support, technology, etc. are essentials.

Evidently, the relevance of ergonomic principles to evaluating and upgrading ODL students' learning performance has received minute attention (Berliner & Biddle, 1995; Dzakiria et al., 2006; Jenkins, 2012; Yoder, 2005). The non completion rate issues among students of tourism and hospitality in ODL has not received much attention. Probable cause for such situation has been put forth by Smith and Smith (1966, p. 1). They proposed that "factors of human design long have been ignored in experimental psychology. It has been believed that learning could be studied as a general process". The above should be explained as different from other tangible physical ergonomics like the sofa we sit on at work, or the bed we sleep on, or the designs of car seats, etc. All these tangible objects require continuous ergonomics improvements to promote human performance and to improve our well beings.

While, literature regarding context specificity in performance and learning can be cited to contradict a generalized learning theory (Smith,1994; Smith et al., 1994) it is likely that the latter viewpoint still plays an influential role in educational policy development and decision making. The authors feel the former perspective is irrelevant.

Although learning may not be "tangible" in principle, it is fundamental to all facets of human life and activities and requires attention and continuous improvement. The landscape of the field of tourism and hospitality has changed significantly over the last two decades, making it more competitive and demanding to manage. There is so much that needs to be learned and re-learned. Tourism today is far different that it was twenty or thirty years ago. Therefore supporting the students not just with the relevant content, but the means to learn effectively of what is required for one to be a tour operatour, tour agent, etc. needs utmost attending Institution's inability to support student's needs in learning may increase the non-completion rates among the learners.

## **ERGONOMICS TYPES**

Learning attributes contribute to educational human performance. Nonetheless, research on ergonomics seems to propose that design factors have important contribution to learning performance. Thus, it should be explored further for the benefits of ODL. Learning requires enhancement in teaching and learning approaches and deliverables. The integration of nine events of instructions (Gagne, 1967; Gagne et al., 2005; Smith & Ragan, 2006) in ODL delivery system can enhance satisfaction learners' satisfaction in acquiring knowledge. Such integration can help improve the instructors-learners interaction and enhance learning.



This is important element to consider. Open distance learning is becoming one of the fastest growing educational modalities in contemporary higher education. With improved learning ergonomics in ODL, students of tourism and hospitality for example would also be digitally literate and able to pursue their course effectively within the their ODL ICT-rich environment.

Smith's (1966) work remains one of the most distinctive efforts to apply a well-defined human factors/ergonomic perspective to education. Smith and his team evaluated a broad range of design factors such as *audiovisual techniques, textbook design, training programme design, programmed instruction methods, etc.*, that can be expected to influence learning and educational performance. Given that the publication of this work took place some three decades ago, it is timely to explore whether the educational process and educational systems today can benefit from the application of human factors/ergonomic principles as has been the case with many other human systems and areas of human performance. It is particularly important for the ODL segment to improve learning as it is becoming an important avenue and strategy to democratise education, making it much more accessible and flexible for learners everywhere in the world. The 24/7 modality certainly requires ODL systems to be effective and efficient with an increase in human performance where in the context of learners of tourism and hospitality- they are able to learn effectively through their programme, and with a combination of other factors may help them to complete their studies effectively. It is the improvement of various support to enhance learning that is closely assemble based on the learners profile that is hoped to ease and help the learners learn better. It is continuous progressive effort to offer better learning experiences. This is what learning ergonomics is and, its improvement logically can improve success rates of completion among learners.

This paper suggests learning ergonomics for the offering of ODL (online courses) for tourism and hospitality can be categorized into various categories that are important to learning performance. For the purpose of this chapter, the learning ergonomics is categorized to three types. These include the *physical, mindset* and *institutional ergonomics*. All three are pertinent to support learners within the ODL environment.

#### **Category 1: Physical Ergonomics**

*Physical ergonomics* is concerned with how the learning physical environment, learning centres and learning conditions affect students' performance. It also include the various approaches such as synchronous/asynchronous, group or individual, supported or unsupported etc. Institutions may vary in terms of services they provide. Some may be better than others. Some institutions are more contemporary and advanced in terms of technology adopted, while others may still be practice conventional approaches such as heavy reliance on modules, etc. "Physical" here relates to different the physical conditions and logistics that institutions provide to support learning. This may include the video conferencing facilities, the resource room; library facility; online resources; the learning space, the learning centers, the audio systems, lighting, heat, light, noise control, etc.

Evidently, there are students who value and enjoy teleconferencing or video conferencing as part of their learning and interaction activities. But, there are also students who oppose such technology or teaching methodology. This provides an ongoing challenge to various OFL stakeholders because learners could be homogeneous or heterogeneous. Physical ergonomics can be summarized as about understanding the effects of these environmental factors to learners and consequently, institutions should maximize learning by improving ergonomics physically.

### **Category 2: Institutional Ergonomics**

Institutional ergonomics relates to the optimization of institutional administrative and technical systems. These include: institutional structures, policies and processes. ODL programmes offerings and support at Universiti Utara Malaysia (UUM) for example may be similar or largely different with other ODL institutions across Malaysia and within the region. ODL institutions may be similar or greatly different from one to the other.

The pertinent areas in institutional ergonomics include ODL structures, teaching approaches, learning models, policies, organizational cultures, communication, institutional support mechanisms, work designs, learning times, teamwork, community ergonomics, cooperative work, new work paradigms, virtual organizations, telework and quality management. Category 2 helps in the organization of learners and effective learning.

Tutors or course instructors have important role to play. Tutors could create learning processes and opportunities that match course tasks and demands that match with the learners' backgrounds and abilities. The aim here is to ensure that the learners are able to learn and perform effectively by fully adapting the institutional ergonomics. Perhaps approaches such as case studies and problem solving could be considered to be much more suitable for learners who belong to industry such as tourism and hospitality as they could relate to their years of working experiences with learning of new skills and knowledge.

### **Category 3: Mindset Ergonomics**

Framing one's mind with the correct mindset or thinking is a prerequisite to success. It is equally true for ODL learners when pursuing their studies (Eisner, 1988; Goodyear, 2000). *Mindset ergonomics is about framing success.* It relates to the mental processes that are involved within the learners when embarking on their studies.

These processes include learning, thinking, analysing, perception, memory, reasoning, motor response, synthesizing and other processes as they affect the learning. Just as in conventional education, ODL requires students to think, share, comment, make decisions, interact, persuade, argue and take part in other cognitive activities as these may relate to the human-system design. Most important of all this ergonomic type relates to what institutions can offer to continuously instill positive thinking, a strong mind that encourages the students to complete what they started, and to finish their programmes successfully.

ODL students would normally be given learning tools at the beginning of the course registration or semester. These may include a list of courses, course synopses, the LMS system, course assignments, information on tutors, notes, etc. that provide the learners with information which has to be understood in order for them to commence learning.

Course writers and designers would normally be looking at this cognitive process, then try to design the course, courseware, the learning system and the learning environment around the learners to allow learning to take place effectively. Balancing the learners' backgrounds with the optimal learning tasks and requirements in a particular course is pertinent to students' performance.

Such ergonomic consideration also includes a reasonable length of time to enable learners to work on and finish a particular task or assignment.

What is crucial here is to understand that learners from tourism industry too may also be heterogeneous. The ability to learn varies among learners and recognising this is crucial to the design of the learning ergonomics. Different groups of learners may require different support systems and types of assistance. Younger tour operator personnel versus a senior staff who registered for an academic programme for example may bring different personal experiences to their class discussion. Ability to tap upon one's working experience for sharing and learning purpose is priceless for communities learning attainment. Similarly, a group of tour guides who have been working long years in tourist attractions located in east Malaysia but want to be re-located to West Malaysia may need to be supported with sufficient updates and information on west Malaysia attractions. These include all types of information that relates to the people-custom-traditions-culture. A framework of the learning ergonomics discussed in the preceding paragraphs is presented below in Figure 1.

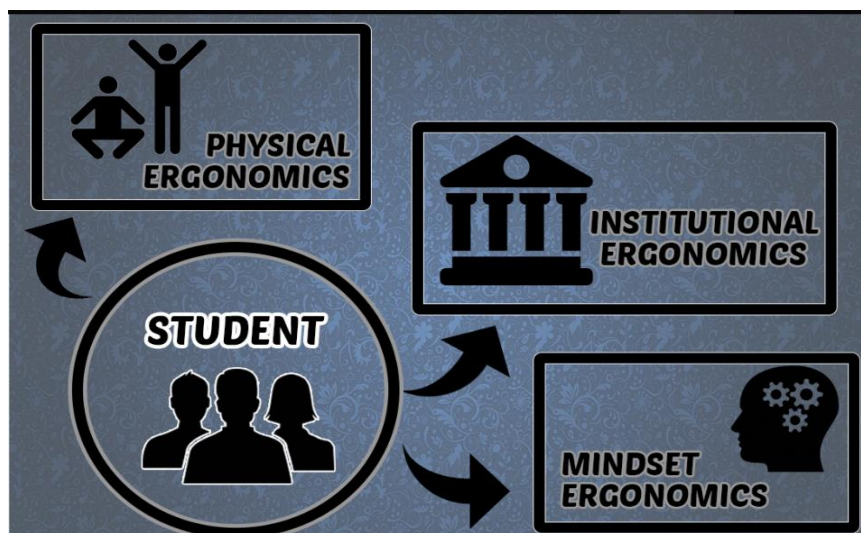


Figure 1.  
The Three Components of Open Distance Learning Ergonomics

## **PROFILING LEARNERS**

Many attempts have been taken to better understand the learners. Today, we know that ODL learners can be homogeneous and heterogeneous regardless of geographical locations, gender, age and other circumstances. The stakeholders in ODL (which include the learners, tutors, institutions, providers, programmes, supports, etc.) can also be very similar or different one from the other.

We also know that in the best interest of any group of learners and ODL institutions and providers, there is no "one-fit-for-all" solution or best practice that can be adopted to ensure ODL success. There is also a difficulty in suggesting improvements that would increase the learning support provided by the ODL institutions.

The authors propose that by understanding the learners' profiles, an ODL institution and its stakeholders (i.e., administrators, module writers, IT personnel, tutors and others) can effectively customise its programmes and deliverables to meet the learners' needs. Both the quantitative and qualitative data that are collected would yield certain attributes like ages and backgrounds while the qualitative information that is obtained from in-depth research and continuous reflection would yield a stronger student-centredness approach to ODL improvements. As iterated earlier on this chapter, profiling the learners through narratives potentially can help to improve the overall learning ergonomics where learners' aspects of learning will be considered to maximize learning of new skills and knowledge amongst students of tourism and hospitality.

The use of students' narrative or profile to develop case stories offer a meaningful and rich perspectives of the respective learners (Richmond, 2002; Bruner, 1987, 1990;1994; Connelly & Clandinin, 1990). Profiling the learners provide meaning to the learners' own lives. Each contextualized narrative unfolds the self-presentation of the learners. Murray (1986) refers to this as "life construction" (p. 277) where the story may not represent "truth" or reality but is an attempt at information reduction, in which the large variety of life events is reduced to a set of narratives based on the conventions of the learners' experience in ODL. Such an approach also uses the story map or profile to present a meaningful cross-case comparison. The "case story" approach provides descriptive knowledge which must be understood in context(Richmond, 2002).

This becomes a way for learners to critically reflect on earlier or current perspectives of their own learning and experiences in order to construct or reconstruct meaning in their life within an ODL environment. The learners' ways of interacting with other humans and providers could certainly improve learners' impression of the services as a support system.

As iterated earlier on, there isn't sufficient research and efforts to present learners' voice or perspectives on many issues on learning that must be taken into account in designing and supporting them to learn better.

The stories of the learners are not works of art; but are important as they represent key stakeholders in education. Learners' stories reflect life stories which enables us to study how they (the learners) make meaning of their personal experiences by endlessly telling and sharing stories about their pursue of education (Connelly & Clandinin, 1990, p.14 in Richmond, 2002). Such understanding is paramount to the continuous improvement of ODL and complements other efforts to strengthen ODL offerings, systems and deliverables.

It must be reflected and use to improve our educational offerings to learners in the future. Such profiling organizes the learners' recounting of past and present experiences and future intentions under the rubric of character, setting, events, conflicts, incidents, themes and resolutions (or outcomes). It gives a shape to individual stories and allows for a more penetrating analysis in relation to the objectives of the research. The profile according to Davey (1983) and Rumelhart (1980) in Richmond (2002) taps a metacognitive response in those who tell the story and those who hear it. Such narration provides a meaningful way of organising thinking.

It is certainly useful for creating and improving learners' ODL experiences. It can help to improve learning ergonomics for a particular group of learners within a given ODL programme. Through their stories, providers and stake holder could improve the learning conditions and boost students' performance in ODL. Thus, the success rate of completion of studies will improve as students feel that students' learning is always care for by course providers or stakeholders.

Profiling the learners' profile is pertinent to the improvement of the learning ergonomics for tourism and hospitality students. This may produce a holistic insight into each learner. In general, this type of a profiling analysis provides meaningful and critical insights into the learners' profiles and background.

Richmond (2002) for example claimed that such understanding allows one to ascertain the learners' self-identities, their background and culture over a certain period of the learner's life. ODL may have varying affects on learners' experiences which may be good or bad. Understanding the learners' 'make-up' or profile may in fact be able to assist ODL providers to help them learn better by providing areas which may be lacking.

Understanding the learners' profile would help ODL institutions to understand their clients better. This according to Richmond (2002) would allow one understand how learners are affected by the communities within which they interact. Each learner can be very similar or very different than one another, and ability to understand their predicament would allow ODL institutions and tutors to continuously improve their offerings and teaching. As iterated by Richmond, such profiling provides stories or narration that consists of rich experiences that stakeholders in ODL can leverage to provide better services to them.

In addition, cross analysis on the individual learner's profile would provide particular group profile analysis.

The latter offers value and insightful information to improve ODL ergonomics. It helps to make learning much more meaningful, manageable and effective. Instructors can prepare a much meaningful lesson for various groups based on the group profile. In addition, it also help to increase the students' motivation to successfully complete their programmes. In order to illustrate what this chapter intended to present, below is a caption from Dzakiria et.al (2013) research to show the importance of developing and improving learning ergonomics to enhance and harness better learning experiences:

#### **DEVELOPING LEARNING ERGONOMICS: A Case Study Of Universiti Utara Malaysia**

The study sought knowledge to generate insights into *how, why, when* and *where* learners undertake their learning in particular ways. It was a single case study focussing on a small number of Malaysian distance learners in the northern state of Kedah and Perlis.

Eighteen learners were involved and selected on the basis of voluntary participation and their ability to share their distance learning experience and perspective with much openness. Different research techniques were used with the *interview* remains as the primary technique for data collection, supplemented by *students' journals* and *photographs*. The information needed for this study was *individual, detailed* and *contextual*. Finding out about the conducive circumstances under which the learners study, the practicalities of studying and getting into the mind frame of learners were important elements of this study. The research was based on the following three epistemological attitudes adopted from Segall (1990, 1998): 1. *metaphysical*:

What is the story?, exploring how the learners' address causality, intention, existence and truth about their distance learning; *historical*: a search to understand how learning barriers and challenges begin while embarking on their journey as open distance learners. How or what causes the learning barriers that learners face in their pursue of distance education?; and *pedagogical*: What can the institution do to improve the educational experience of distance learning and distance learners?

How can the institution make changes to the existing distance learning courses and programmes and assist learners in their endeavors based on feedback and knowledge generated from this study? The findings shared in this study can be seen as providing a holistic or conceptual framework for understanding student learning from the learners' perspective and how we can potentially increase their motivation and success.

The study elicits potential to improve learning ergonomics in open distance education. Its findings are applicable to learners in the field of tourism and hospitality. Vocational training in the field for example requires tourism professionals to continuously learn new skills and attain new knowledge. By understanding how institutions can improve the learning conditions of the learners, learning can be made more meaningful, and consequently could help the learners to complete their studies.

The challenge, however, is ensuring that ODL institutions are able to provide various learning ergonomics types to support students to learn better in a more conducive learning environment in the 21st century.

The interview data from the learners were thematically analysed and presented as multiple case stories offering meaningful perspectives on the learners' experiences of distance learning at the institution. Each contribution is then profiled in a unique way that represents a coherence story line based on the themes that had surfaced in the study.

This profile captured the learners' narration of their personal learning experiences in the most comprehensible, logical and systematic manner (Richmond, 2002). The profiling process began with a rearrangement of the data or discourse into sections with headings or themes. This helped to put the discourse in perspective and assisted in the construction of a particular story map of each and every learner who was involved in this study.

Various findings and conclusions can be drawn from this study as follows: Teaching and learning in ODL must be student-centered to increase students' success in ODL; transition is a challenge particularly when a learner moves from a face-to-face teaching environment (from mainstream education in primary and secondary) to an ODL environment (at tertiary level); learners can heterogeneous -they have various backgrounds and experiences, which may have been marginalized; learners value learning interactions and support in their learning process; learners come from a culturally induced passive learning environment. In the past, they went through an education system, which was largely teacher-centered, hence conditioning them to be "passive" in learning interaction, etc., and the northern states may be lacking in ICT infrastructure and support: availability of Wi-Fi services, internet-intranet, cyber-cafes, etc., compared to the facilities found in bigger cities in Peninsular Malaysia.

The above findings exemplify the learners' antecedent learning experiences and the relationship between these experiences, current experience as a learner in distance learning programmes and future intentions.

## **LEARNERS' PROFILE AND LEARNING ERGONOMICS**

The study illustrated above suggests that profiling of students provides descriptive knowledge which must be understood in particular context and moment (i.e. where, when, who is involved in the learning, and the cultural background and system that one belongs play a fundamental role in how one learn). Such narrative provides great opportunities to attain sufficient information of students' demography that could be used to help improve the learning ergonomics. Such approach according to Richmond (2002) focuses on three dimensions. These include *time*, *personal* and *empirical*. *The time* refers to past, present and future; *Personal* refers to a continuum from confusion to organization and clarity, and the *empirical* focuses on self, family, community, schooling and work. With particular reference to the above research, four suggestions were made to improve the learning ergonomics at Universiti Utara Malaysia (Dzakiria et.al., 2013).

These include: *Having clear and achievable expectations*. This is particularly important especially in the case of students who are from countries where the mainstream education has always been teacher-centred. Students must be accustomed to the absence of the teacher most of the time and must have reasonably good library and research skill abilities to function and learn effectively such in an environment. Then, institutions must continuously *strengthen personal support*. Institutions must be prompt in understanding their students' needs and requirements. Such sensitivity must be sustained throughout the continuous offerings of tourism and hospitality programmes and courses.

For example, if there is a digital immigrant (new to ICT) group or cohort that is lacking in IT skills and knowledge due to the age and digital divide, the stakeholders must plan and execute fundamental training to help these students to reach the level that enables them to function effectively as learners. Information technology, information communication technology, e-learning, learning management system (LMS) are essential tools and enablers to learning. These are the physical ergonomics that are essential for learning. But ensuring that learners can maximize the use of such tools for learning would be of great value for the students.

The thirdly, too according to Dzakiria, et.al. (2013) institutions must help to *maintain students' motivation and enhancing their staying power*. Students for that matter, must in principle understand that today's learning experience is quite different from past conventional programmes and offers different educational experiences and expectations while maintaining similar quality standards and contents. Students of tourism and hospitality programmes must be able to take full responsibility for their learning.

They need to be more independent and be able to organize their learning within their busy life to undertake their study and other responsibilities. Students must be aware of the short-term and long-term learning objectives. Last but not least, institutions must also continuously *remove unnecessary hurdles*. Adult learners have more learning barriers compared to younger learners.

If we could support their learning by minimizing cost, time and specifically, time away from family due to traveling that would even be better as it helps to minimize unnecessary hurdles. For example, offering courses via face-to-face meetings (f2f) at the students' workplace with a minimum number of students enrolled in a particular programme would certainly provide support to them. Institutions must help their students by increasing the effectiveness and efficiency off today's teaching systems and help students to sustain their motivation throughout their programmes.

## **CONCLUSION**

Tourism and hospitality students like any other students are an important stakeholder in higher education. Helping them to their pursue knowledge and completing their programmes successfully is part of institutional objectives.



Helping them is also helping the government's initiatives in democratising education for all to support lifelong learning. Improving the learning ergonomics in open distance education to support the students learning is pertinent and this chapter believes that with good support, completion rate among the students can also be improved. Profiling the students and using their narratives and experiences present potentially a powerful approach with a deep and multi-layered understanding of the learners. Such personal responses can be described as implicit and subtle.

There appears to be a relationship between the developments of an individual's voice as an essential component in the development of their sense of self (Brown, 2011; Jung, 2009; Yoder, 2006). The learners' narratives can reflect a process of self-discovery. Students' narrative promotes the the learners' voice and self through critical reflection on their life experiences and the circumstances of their life as learners

This in turn offers the institution and all the prominent stakeholders an opportunity to reflect and suggest improvements for better services for their learners. The information and knowledge provided from such research enables the institution, in particular, to customize and bring about changes to ODL that would promote student-centeredness. But most important of all, the learners' profile is apt to improve the learning experiences that would support study completion.

This is true for all fields of studies that include vocational training on tourism and hospitality. Improvements to the institutional, physical and mindset ergonomics will be the way forward for an improved, balanced and enriching ODL experience.

#### **BIODATA and CONTACT ADDRESSES of the AUTHORS**



**Dr. Azilah KASIM** is a Professor of Tourism at the Universiti Utara Malaysia, Malaysia. Presently she is the Director of Tourism and Hospitality Centre of Excellence UUM. She served as member of the editorial board for various international journals and is still active in reviewing manuscripts for a number of international journals including *Annals of Tourism*, *ASEAN Tourism Journal*, *Journal of Sustainability in Tourism* and *Anatolia: An International Journal of Tourism and Hospitality Research*. Azilah has researched and published a number of journal articles in the area of business social responsibility and tourism marketing. She has also written a number of books on tourism, recreation and qualitative research. Besides research and writing, she also participates actively in training and consultation projects. Her past training topics were Tourism Management, Destination Management, Tourism Marketing, English in Tourism, and Creative Management. Her past consultation projects include Product Marketing, Museum Marketing and Destination Marketing.

Prof. Dr. Azilah BINTI KASIM  
Universiti Utara Malaysia, Sintok, MALAYSIA  
Emails: [azilah@uum.edu.my](mailto:azilah@uum.edu.my) or [azikasim@gmail.com](mailto:azikasim@gmail.com)



**Dr. Hisham DZAKIRIA** is an associate professor at School of Language, Civilisation and Philosophy at Universiti Utara Malaysia. He pursued a double degree in Applied Linguistics and Education from Brock University Canada and Masters of Arts degree in Linguistics (with a minor in Communications) from Michigan State University. Dr.Hisham obtained his doctoral degree (PhD) from the University of East Anglia specializing in professional development and life-long learning and training. During his postdoctoral, he work closely with Commonwealth of Learning (COL) and was based in Vancouver, Canada. He has completed many research, and published extensively in his research area. Dr.Hisham is also a Neuro Linguistic Programme (NLP) Certified Coach and consuved various NLP training. Over the years, he has also conducted UNHCR/UNAIDS & WHO evaluation projects with the Commonwealth of Learning (COL) based in Vancouver between 2002-2003 with a team of experts from University of East Anglia, United Kingdom.

Hisham DZAKIRIA  
Universiti Utara Malaysia, Sintok, MALAYSIA  
Emails: [hisham@uum.edu.my](mailto:hisham@uum.edu.my) or [drhishamdzakiria@yahoo.com](mailto:drhishamdzakiria@yahoo.com)

## REFERENCES

- Anuar, A. N. A., Ahmad, H., Jusoh, H., & Hussain, M. Y. (2012). Understanding the factors influencing formation of tourist friendly destination concept. *Journal of Management and Sustainability*, 2(1), 106-114.<http://dx.doi.org/10.5539/jms.v2n1p106>
- Berliner, D. C. & Biddle, B. J. (1995). *The manufactured crisis. Myth, fraud, and the Attack on America's Public Schools*. Reading, MA: Addison-Wesley.
- Belenky, M. F, Clinchy, B., Goldberger, N. & Tarule, J. (1986). *Women's ways of knowing: The development of self, voice, and mind*. New York: Basic Books.
- Bogdan, R. C., & Biklen, S. K. (1982). *Qualitative research for education: An introduction to theory and methods*. Toronto, ON: Allyn Bacon, Inc.
- Brown, R. (2011). Community-college students perform worse online than face to face. *The Chronicle of Higher Education*. Retrieved from
- Bruner, J. (1987). Life as narrative. *Social Research*, 54(1), 11-32.
- Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.
- Bruner. J. (1994). From communicating to talking. In B. Stierer & J. Maybin (Eds.), *Language literacy and learning in educational practice* (pp.59-73). Bristol, PA: Multilingual Matters Ltd.

Cercone, K. (2008). Characteristics of adult learners with implications for online learning design. *AACE Journal*, 16(2), 137-159. Retrieved from Ed/ITLib Digital Library. (24286)

Connelly, F. M. & Clandinin, D. J. (2000). *Narrative inquiry*. San Francisco: Jossey-Bass Inc.

Davey, B. (1983). Think aloud -- Modeling the cognitive processes of reading comprehension. *Journal of Reading*, October, 45-47.

Dzakiria, H., Kasim, A., Mohamed, A.H. & Christopher, A. A. (2013), Effective Learning Interaction as a Prerequisite to Successful Open Distance Learning (ODL) Experience in Malaysia, *Turkish Online Journal of Distance Education (TOJDE)*.

Dzakiria, H. & Idrus, R. (2003). Teacher-Learner Interactions in Distance Education: A case of Two Malaysia Universities, *Turkish Online Journal of Distance Education*, 4(3).

Dzakiria, H. (2004). "The Teacher is Always there, but isn't..."Distance Learners' Experiences & Perspectives on Distance Learning at Universiti Utara Malaysia. Unpublished thesis.

Dzakiria, H., Mustafa C.S. & Bakar, H.A. (2006), Moving Forward with Blended Learning (BL) as a Pedagogical Alternative to Traditional Classroom Learning, *Malaysian Online Journal of Instructional Technology (MOJIT)*, Vol. 3, No.1, pp. 11-18.

Eisner, E. W. (1988). Aesthetic modes of knowing. In E. W. Eisner (Ed.), *Learning and teaching and the ways of knowing* (pp.23-36). 84th Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press.

Gagne, R. & Golas, K. (2005). Principles of instructional design. Belmont, CA: Wadsworth/Thomson learning.

Garaway, G. (1996). The case-study model: An organizational strategy for cross-cultural evaluation. *Evaluation*, 2(2), 201-211.

Goodyear, P. (2000). Environments for lifelong learning: ergonomics, architecture and educational design. In *Integrated and holistic perspectives on learning, instruction and technology: Understanding complexity*. ed. J. M. Spector ; T. M.Anderson. Dordrecht : Kluwer Academic Publishers, p. 1-18.

Golas, K. (2000). *Guidelines for designing online learning*. Proceedings of the Interservice Industry training and evaluation systems conference. Orlando, F1.

Harold, H. & Russum, J. (2000). Factors influencing attrition rates in corporate distance education program. *Education at a Distance Journal*, 14(11).

Hara, N., & Kling, R. (2001). Student distress in web-based distance education. *Educause Quarterly*, 3, 68-69.

- Haslam, R. A. (2002). Targeting ergonomics interventions-learning from health promotion, *Applied Ergonomics*, 33(3), 241-249.
- Hughes, J. A. (2004). Supporting the online learner. In T.Anderson and F.Elloumi (Eds.), *Theory and Practice of Online Learning* (pp.367-384), Athabasca Canada.
- Jenkins, R. (2012). Online classes and college completion. *The Chronicle of Higher Education*. <http://www.chronicle.com/article/article-content/131133/>
- Jung, I. (2009). Changing faces of open and distance learning in Asia [Editorial]. *The International Review of Research in Open and Distance Learning*, 8(1). Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/418/773>
- International Ergonomics Association (IEA). Ergonomics: Human-centered design Retrieved from <http://www.iea.cc>
- Keller, J. & Burkman, E. (1993). Motivation principles. In M. Fleming & W. H. Levie (Eds.), *Instructional message design: principles from behavioural and cognitive sciences* (2<sup>nd</sup> ed). Englewood Cliffs, NJ: Educational Technology Publications.
- Kember, D. (1989). An illustration with case studies of a linear-process model of drop-out from distance education, *Distance Education*, 10(2), 196-211.
- Korkmaz, S. V & Sommerich, C.M (2009). Facilitating student learning about ergonomics and healthy computing skills via participatory ergonomics, *Work: A Journal of Prevention Assessment and Rehabilitation*, 34(4), 439-448.
- Lai, C. T. (2012). Proactive Intervention Strategies for Improving Online Student Retention in a Malaysian Distance Education Institution. *MERLOT Journal of Online Learning and Teaching*, 8(4), 312-323.
- MacKercher, D. (1996). *Making sense of adult learning*. Toronto: Culture Concepts Inc.
- Marshall, C., & Rossman, G. B. (1995). *Designing qualitative research* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Mannan, M.A.(2007). Student attrition and academic, and social integration: Application of Tinto's Model at the University of Papua New Guinea, *Higher Education*, 53, 147-165.
- Mohamed, N. H. & Zulkipli, N. Z (2014). Factors Influencing Attrition Among Learners: Faculty Of Applied Social Sciences In Oum, *Seminar Kebangsaan Pembelajaran Sepanjang Hayat 2014*, 376-383.
- Merriam, S. B. (1988). *Case study research in education: a qualitative approach*. San Francisco: Jossey-Bass.
- Mishler, E. (1986). The analysis of interview-narratives. In T. Sarbin (Ed.), *Narrative psychology: The storied nature of human conducts* (pp. 233-255). New York, NY: Praeger.
- Nagel, D. (2009). Most college students to take classes online by 2014. *Campus Technology*.

<http://www.campustechnology.com/articles/2009/10/28/most-college-students-to-take-classes-online-by-2014.aspx>.

Richmond, H. J. (2002). Learners' Lives: A Narrative Analysis, *The Qualitative Report*, 7(3). Retrieved from <http://nsuworks.nova.edu/tqr/vol7/iss3/4>

Rumelhart, D. W. (1980). Schemata: *The building blocks of cognition*. In R. J. Spiro, B. C.

Serwatka, J. A. (2005). Improving retention in distance learning classes. *International Journal of Instructional Technology and Distance Learning*, 4(1), 1-9.

Siegel, M. A. & Kirkley, S. (1997) Moving toward the digital learning environment: The future of web-based instruction. In B.H. Khan (Ed.), *Web-based instruction*. Englewood Cliffs, NJ: Educational technology Publication.

Simpson, O. (2003). *Student retention in online, open and distance learning*. London, UK

Smith, K. U. & Smith, M.F. (1966). *Cybernetic principles of learning and educational design*. New York: Holt, Rinehart and Winston.

Smith, T. J. (2007). The ergonomics of learning: Educational design and learning performance. *Ergonomics*, 50(10), 530-46

Sweet, R. (1986). Student dropout in distance education: An application of Tinto's Model, *Distance Education*, 7(2), 201-213.

Taib, H. I. (2010). Human capital the will and commitment to upgrade. *Malaysian Business*.

Tung, L. C. (2012) Proactive Intervention Strategies for Improving Online Student Retention in a Malaysian Distance Education Institution, *MERLOT Journal of Online Learning and Teaching*, 8(4), 312-323.

Wickersham, L.E. and Dooley, K.E. (2001). Attrition rate in a Swine Continuing Education Course Delivered Asynchronously, *Journal of Southern Agricultural Education Research*, 51(1), 289-303.

Yoder, M. B. (2005). Supporting online students: Strategies for 100% retention. In *Proceedings of the 19th Annual Conference on Distance Teaching and Learning*. Madison, WI: The Board of Regents of the University of Wisconsin [http://www.uwex.edu/disted/conference/Resource\\_library/proceedings/03\\_87.pdf](http://www.uwex.edu/disted/conference/Resource_library/proceedings/03_87.pdf)