

## Improving Curriculum through the Systems Model for Distance Education

Ojat Darajat, Universitas Terbuka Indonesia, ojat@ut.ac.id  
Basuki Hardjojo, Universitas Terbuka Indonesia, basuki@ut.ac.id

### Abstract

This paper discusses how the systems model for distance education proposed by Moore and Kearsley (2012) may be adopted by open and distance learning (ODL) universities as the road to improve curriculum. Various theories that relate to the systems model and curriculum in the context of ODL are explored to show that the systems model could be considered as a reliable tool to ensure the improvement of curriculum in distance education. The interdependence of the six elements of the system: source of content, design of the courses, delivery modes, interaction, learning environment, and management of curriculum is essentially important and may be used as a platform for curriculum design and development.

**Keywords:** curriculum, a systems view, open and distance education

### Introduction

Open and distance learning (ODL) has become a major form of education and teaching around the world (Schlosser & Simonson, 2006). One of the main reasons is that ODL can cope with a wider variety of students. There are many ODL universities that offer various educational programs with greater flexibility which leads to a significant increase of the student pool. Universitas Terbuka (UT) Indonesia can be considered as one example. Whatever educational background students have, they have an opportunity to access higher education through UT with larger flexibility and cost efficiency. Because of the strong demands (UT, 2005), UT now is experiencing for having a large number of student body. Currently, there are more than five hundred thousand students studying at UT spread over four faculties (excluding postgraduate faculty) and residing at 34 provinces all over the country (UT, 2013).

In accordance with the significant increase of student participation rate, the current debate in ODL has shifted from the issues of equity or accessibility to quality (Belawati & Zuhairi, 2007; Jung & Latchem, 2007). The stress on quality is now being pushed to ODL institutions not only in Indonesia but also other Southeast Asian countries (Darajat, 2013). Respecting the role of ODL in the national educational development and the upcoming challenges of an educational competitive paradigm, it is crucial for ODL universities to address this issue especially with regard to the academic quality that seems to be a major concern of their students and other relevant stakeholders. In the context of ODL system “academic quality covers areas such as curriculum and course materials, instructional process, evaluation, and research and development” (Zuhairi & Suparman 2002, p. 257). The more inclusive meaning of a quality curriculum has also been addressed by Sullivan (1988), who contends that: “A quality curriculum clearly reflects relevance, equity of access, response to diversity, accountability, and achievement” (p. 79). How does an ODL provider develop curriculum in order to meet the needs of the clients, local and national government policies as well as other external stakeholders?

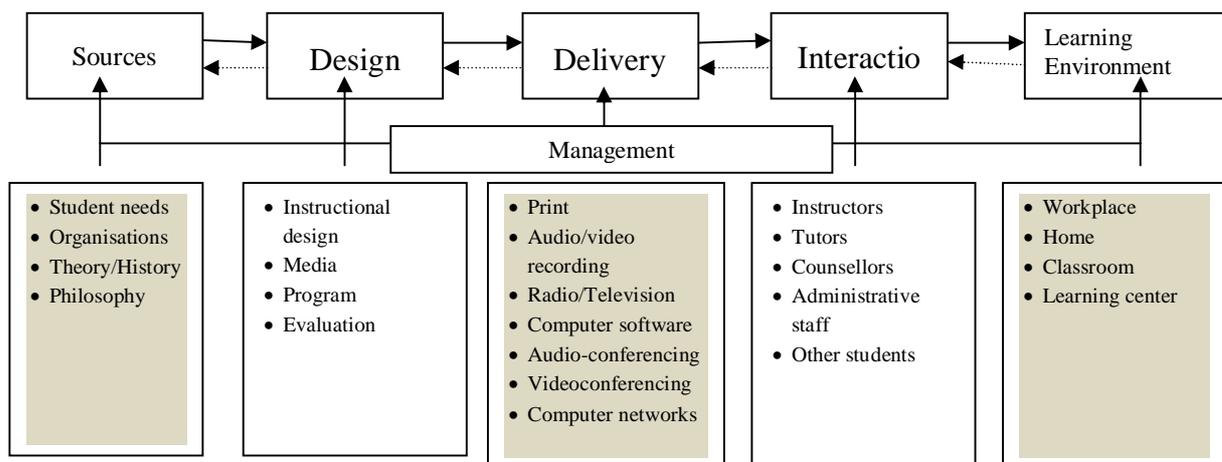
### Current Issues of curriculum in Distance Higher Education

Actions to improve curriculum must build on knowledge about the learning experiences of individual students, or groups of students, and build on what takes place in the instructional process (Moore & Kearsley, 2005). In this context, “We ought to be providing environments that enable each youngster in our schools to find a place in the educational sun” (Eisner 2009, p. 333). Consequently, efforts to define quality and improve learning universities must be measured in large part by involving the whole components of curriculum, including course material and other support systems to improve learning processes. Curriculum should be developed to meet the interests of the students (Eisner, 2009; Slattery, 2006) and should be “carefully avoiding [the] banking varieties that separated mind from

body, thought from action, and social critique from transformative praxis” (McLaren 2002, p. 24). This paper supports Freire’s notion that any philosophical foundations, as well as curriculum design and development that will be employed, have to provide opportunities that enable students to make “connections between their own lived conditions and being and the making of reality that has occurred to date” (cited in McLaren 2002, p. 25).

The responsibility for providing academic quality and curriculum for successful learners is a big challenge that will involve various concerns and problems not only about the stakeholders’ interests but also the organisation vision and philosophy. These components will play a key role in curriculum areas, especially with regard to the distance teaching courses. Moore and Kearsley (2012) provide “A systems model for distance education” (p. 14) as a general picture for understanding distance education curriculum. The systems model for distance education is firstly introduced in 1996. In this first version, Moore and Kearsley (1996) argue that there are at least five common components that will contribute to distance education courses, namely, sources of knowledge, design of courses, delivery system, interactions among key players, and learning environment. Then, in the latest edition, Moore and Kearsley (2012) address the management of distance education courses and programs as an important component in ODL system. However, it is important to notes that it does not mean that in the first version Moore and Kearsley have neglected the management component. They have highlighted the administrative issue in the context of administration, management, and policy involving a number of activities such as planning, staffing, budgeting, and scheduling. Figure 1 illustrates those six component processes and elements in ODL providers.

**Figure 1: A Systems Model for Distance Education**



Source: Adapted from Moore & Kearsley (2012). *Distance education: A system view of online learning*. Belmont, CA: Wadsworth Publishing Company. p. 14.

Since the major problem that ODL universities have encountered is finding effective ways of reaching academic quality for successful learners, it seems that the systems model for distance education can considerably be used as a platform in the search of curriculum improvement. This paper will address why and how these six component processes and elements will have a significant impact on curriculum in ODL systems, arguing that this systems approach is more likely to produce a higher quality of ODL. It is presumable that a number of strategies could be employed and reviewed by ODL providers to show why source of knowledge, design of courses, instructional delivery, interactions, learning environment, and administration of curriculum become important for ODL universities in managing academic quality.

The discussion begins with the exploration of the sources of the curriculum including students’ needs and faculty in the light of the organisation’s educational mission and philosophy as well as the history of education in the country in which the ODL provider is located. The discussion continues to the design and delivery methods of curriculum addressing various issues such as instructional design, the

use of media and educational technologies for bridging the dialogue and interaction among instructors, students, and content. This paper will also explore the importance administration in managing learning environment and all aspects of the system model that contribute to the curriculum improvement. Finally, this paper focuses on how the systems model may be applied to UT, my workplace.

### Curriculum Sources

A quality curriculum is one of the important aspects in managing distance education as “A quality curriculum clearly reflects relevance, equity of access, response to diversity, accountability, and achievement” (Sullivan 1988, p. 79). To reach the expectation of a quality curriculum, the source of knowledge and skills that will be offered and learned should reflect at least these five characteristics. The curriculum should be relevant to the extent that it is valuable and meaningful for all students so that they can engage in the kind of learning they need in order to deal with problems outside of the classroom (Sullivan, 1988; Eisner, 2009). To be valuable, the source of curriculum that will be offered to students can be designed based on student needs (Moore & Kearsley, 2005) and must involve students in critical thinking and learners must be able to fully understand the usefulness for themselves (Sullivan, 1988). The problem then, can we widen and diversify opportunities in order to meet each student’s needs? This question is even more challenging in the context of ODL universities who serve thousands of students. Eisner (2009) argues that “The more we diversify those opportunities, the more equity we are going to have because we are going to provide wider opportunities for youngsters to find what it is that they are good at” (p. 333).

As the function of schooling is to enable students to do better in life, not just to do better in classroom or in school (Eisner, 2009), the knowledge and skills that will be experienced by students, then, could come from different, broader sources. Moore and Kearsley (1996; 2005) point out that from besides the student needs, the sources may also come from philosophy, theory and history, content experts, and the educational organisation. Regarding to this, the knowledge that will be considered and taken into curriculum should provide a great opportunity for equity of access to the benefit of all students. Since the ODL universities commonly operate with no time and geographical boundaries, the learners enrol and come to university from various backgrounds and circumstances. It is presumable that their cultural backgrounds and identities will have an impact on their opportunity to gain a benefit from the educational experience.

Moore and Kearsley (1996) argue that “There are many different ideas about learning and teaching, and before we can understand an educational organization or its courses, or analyze them or evaluate them, it is necessary to be clear about what particular philosophy is being emphasized or adhered to” (p. 9). The *philosophy* as a source of curriculum has been addressed by Ornstein and Hunkins (2009). Philosophy may provide an important role as “(1) the starting point in curriculum development” and “(2) a function interdependent with other functions in curriculum development” (p. 33). Philosophy will help the ODL providers in the way they conceptualise the curriculum and arrange its major components including subject matter or content, instructional methods and materials, as well as learner experiences and activities (Ornstein & Hunkins, 2009). The function of philosophy can be conceived as the beginning point in curriculum and the basis for all subsequent decision (Dewey, 1916; Goodlad, 1979). For Dewey, philosophy is a way of thinking that give meaning to our lives. Our philosophical ideas will provide a fundamental framework about the nature of human beings, how humans learn, and about what is valuable in a society. Furthermore, philosophy will provide a framework for “deciding what textbooks to use, how to use them, and how much homework to assign, how to test students and use the test results, and what courses or subject matter to emphasize” (Ornstein & Hunkins 2009, p. 32). Ideas here will also emerge out of a consideration of the *theories and histories* of educational thinking.

A quality of curriculum in the context of distance education system may also reflect a response to the *diversity of adult learners*. Thus, the source of curriculum can utilize the existing content experts, literature, contemporary practice and problems representing the heterogeneous nature and the diversity

of the country and those issues that are relevant to these diverse learners. In the context of the Indonesian educational landscape, UT may involve well-known professors from public and private universities from different islands, and invite practitioners who are well-informed with history and contemporary practices and problems in different regions, reflecting the remarkable diversity of Indonesia.

As well, curriculum content can emerge from the *history* of the nation and its socio-cultural development—the local and national, political, social, cultural, religious, economic, and ecological issues that have been and continue to be important to Indonesians as members of local communities, of a nation, and of a global society.

The *accountability* of a quality curriculum is rather difficult to define because various factors that influence the achievement are not under the control of the academic and administrative staff of ODL providers. However, the ODL universities and their faculty members have the major accountability in this matter; they have to demonstrate that the curriculum content is valuable for the students and for Indonesian society. The faculty is one of the key players of a quality curriculum. Faculty members have a responsibility for deciding what knowledge will be taught. They should fully understand the people who know their field, its literature, and theory (Moore & Kearsley, 2005). Besides, the faculty must also be accountable and responsible to appropriately determine the source of the content that will be put in the printed and non-printed materials. The students and public have the right to know decisions and actions were and were not taken, and what is likely the implication for students and general society.

As well, ODL providers are also accountable for learning outcomes, and need to be able to demonstrate that meaningful learning is occurring. Currently, the increasing focus on accountability has challenged higher education providers toward instructional processes that emphasize what students know and can actually do (Frye, 1999). It may be important for ODL providers to regularly monitor their curriculum in order to provide valuable learning experiences for their students.

The sources of knowledge and skills that will be experienced by students will have a significant impact on students' achievement. Students' achievement is not narrowly limited to test scores but rather to the broader students', institutional, and societal goals. The ODL providers should create an opportunity to help their learners to cultivate their potentials and capacity for their learning achievement. Theory, philosophy, and other sources of knowledge should be well organized and presented to gear all students in achieving their useful and meaningful learning for their future lives.

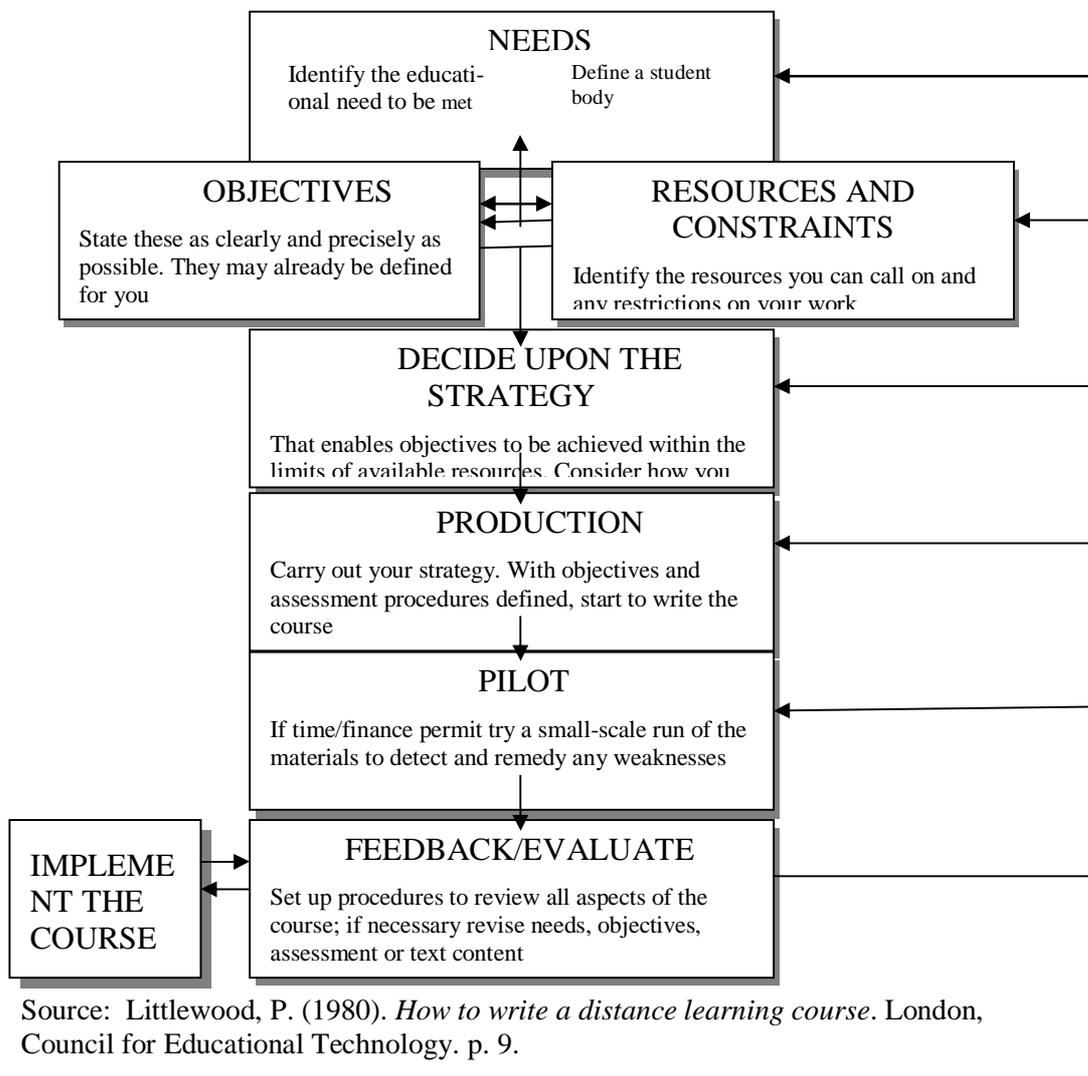
## Curriculum Design

There are many factors and decisions affecting the success of education courses taking place in a distance learning system. One of the important factors that will influence the success of the courses is that the course design (Moore & Kearsley, 2005). Mellon (2010) asserts that "Careful planning at the course design stage not only makes teaching easier and more enjoyable, it also facilitates student learning" (p. 1) that leads to improved student achievement. Based on this point of view, then, it is absolutely important for ODL institutions to involve various kinds of design expertise, not only content experts but also involving people who know media materials, instructional principles and techniques, graphics design and production, and other media specialists, as suggested by Moore and Kearsley (1996). They argue that "Because so many skills are needed to design a distance education course, one of the key characteristics of successful distance education courses is that they are designed by course teams in which many specialists work together" (p. 9).

Within the course teams, perhaps ODL academic staff's main responsibilities are to play the role of course managers who will coordinate the course teams consisting of a content expert, a media designer, and an instructional designer. They must provide a certain procedure of how steps and activities should be carried out by the course team to ensure the high quality of both content and

physical appearance of the materials, including printed materials, audio-video, or online programs. Since the design of courses and programs will also involve various existing media, it is important for the course team to consider the decision about "...which part of the instruction can most effectively be delivered by each particular medium" (Moore & Kearsley 1996, p. 9). It seems that this issue is also important as there is no single media fit for all purposes. The nature and characteristics of a certain subjects will have an influence on determining what kinds of media needed to reach "...good quality course materials and programs" (p. 9). Considering the printed materials as the most accessible medium to most ODL students, in designing the content of the course one might use the 'Systematic Approach' proposed by Littlewood (1980) as an example instructional design. This approach may help the course team to plan a whole course from the very beginning in designing a distance learning course as follows.

**Figure 2: A Systematic Approach to Designing a Distance Learning Course**



Source: Littlewood, P. (1980). *How to write a distance learning course*. London, Council for Educational Technology. p. 9.

A systems approach also places student 'needs' as a source of knowledge and skills for designing and preparing a distance education course. In this approach, discovering needs for the students is the first important step in designing a course. According to Aoki (2005) we assume that we can know all student needs beforehand viewed from "curriculum as plan." Curriculum as plan has been developed by selected teachers who are knowledgeable from the field. In this process, curriculum planners may assume students' needs. They determine all objectives and resources, and what teachers and students should do in their teaching learning process (Aoki, 2005). This first step of designing a learning course may involve "the selection of curriculum content and resources that will apparently cater for the

interests” (Sukhnandan cited in Martino, Ligard, & Mills 2004, p. 437) of male and female students. In addition, it is very likely important for a course team to define the student body accurately in order to know for example what the students are likely to know, what the student’s background is likely to be. After having determined the target audience, it seems important to set the objectives and to consider the resource and constraints, and how the whole learning experience will be set up; a blueprint may be needed in this step, and perhaps the needs will have to be re-assessed as the course progresses and objectives might change. Course design is one of the elements of curriculum planning that will also be concerned with “the overall blueprint from which a workable structure is derived” (Warwick 1975, p. 38). The blue print at least contains the general instructional objectives, specific instructional objectives, topics, sub-topics, reference, and the description of the courses. If the blueprint is not well planned, it might produce unstructured materials, or lesson materials which are not integrated well with the rest of the curriculum. If this happens, the students might not achieve the objectives of the course. Auger and Rich (2007) argue that objectives lie at the very heart of the planning process, whether one is planning a curriculum or a single classroom lesson.

Developing instructional objectives and writing course material is like we write who we are or what Palmer calls “we teach who we are” (Palmer, 1998). The process of writing course materials—including instructional objectives, lesson plans, and so on—emerges from our inwardness, reflecting our credo and philosophy of the subject under investigation. It truly involves our identity and integrity. The curriculum writing process calls for our “genetic makeup, the nature of man woman who give [our] life, [and] the culture in which [we were] raised...” (Palmer 1998, p. 74). Since the development of learning materials will involve course teams in which many specialists work together, it seems important that other team members also get to have input on course content. In this process, course team members have to get together to dialogue about their ideas and develop a collaborative, unified approach. Of course, this is very challenging and not so easy task. It is very likely more work to do but maybe crucial for better curriculum. Having the agreed blueprint in hand, the entire course team is likely ready to start and move to the next steps: deciding upon a strategy that enables objectives to be achieved and executing those strategies in the production steps.

It is important to note that the Systematic Approach stresses the importance of ‘piloting’ course materials to the group of students before sending them to all target audiences for at least two reasons. First is to detect various weaknesses such as material appearance, printing quality, misconceptions. Second is to review all weaknesses to reach a better quality of course materials. Third is to make sure the course content and design is relevant and accessible to the students. The procedure should be set up to review all components of the courses and revise them if it is necessary. Those activities will be carried out at the feedback and evaluation step.

Finally, evaluation is another important issue that appears in the design step of Systems Model for distance education. Moore and Kearsley (1996) assert that “...evaluation and research experts must plan how to evaluate individual student learning as well as the effectiveness of all aspects of distance education course to ensure that it works—that is, meets the needs of students and the teaching organisation and provides cost-effective instruction” (p. 9). Moore and Kearsley (1996) extended their insight that the course teams should not expect their work to be perfect. It might need improvement either for content or methods of course materials. With regards to the evaluation of individual student learning, it is important to be well designed in order to aid the students in their subsequent learning and to report on what they have already learned. Evaluation or assessment as opportunities for further learning maybe designed in ways that promote more learning.

## Curriculum Delivery

Improving academic quality and curriculum of distance education in particular has been progressed in line with the advancement of technology. The delivery modes of instruction in distance education have been changed from the correspondence study and paper based processed to online learning. This area of delivery modes have attracted many people in the search to understand how various methods of

teaching deliveries have been conducted as an integral part of instructional process to enhance student learning. Moore and Kearsley (2005) disclose that distance education is much more complex than simply integrating technology in a conventional classroom. Koonts, Li, and Compura (2006) argue that “Careful planning and a systematic design approach...is essential to make sure that the needs of the students are continuously being met in an ever-changing environment” (p. 32). In the twenty first century, distance education delivery systems began to move away from correspondence study and broadcasting technologies turn to online learning as the preferred delivery methods (Anderson, 2004; Simonson, Smaldino, Albright, & Zvacek, 2003).

As information and communication technology such as computers has advanced in the twenty-first century, they have made online learning programs more attractive to both students and ODL providers. In the current years, the use of various virtual learning has enticed more ODL faculty members. The use of handy stuff such as a light note book, cellular phone, iphone, and iPad with Wi-Fi and other sophisticated technology has coloured the attractiveness of mobile learning in developed countries. Those kinds of technologies could be used for improving academic quality since these modern tools allow students with personalised instruction that seems to be more effective and efficient if compare to classroom teaching models. The technological advances in telecommunications have helped make the delivery modes of educational opportunities more diverse, accessible, and convenient for distance learners (Koonts, Li, & Compura, 2006).

In addition, audio and video conferencing could also be used as one of the current and interactive delivery mode at ODL universities for curriculum improvement. The use of video conferencing is very attractive as tutors and a number of learners at the same time and from different territories can be involved in sharing ideas and experience in the subject under question. It may be interesting enough when we can share our power point and other visual displays with the learners who attend the conference from a number of regional centers scattered all over the country. It is like giving every student being in the same room and keeping everyone focus on the topic being discussed. However, it seems that the cost and infrastructure for conducting this delivery mode is the biggest problem especially in a developing country as the infrastructure is inadequate. This situation has also been exacerbated by the computer literacy level that is relatively low. Besides, the issue of what technologies are available to all students is also another issue for ODL provider which operates in developing countries.

While the delivery modes of instruction seem to be evolved involving more advance technologies, the primary purpose of open and distance learning remains on the need to reach quality instruction for learners (Koonts, Li, & Compura, 2006). Therefore, it is necessary important that the use of delivery mode can ensure that instruction fits with the students’ interests. The innovation of online learning in Indonesia, for example, has proved daunting task simply because many students in remote areas do not have access to the internet. Although internet kiosks have been developed, access to the internet is relatively expensive and difficult for many students residing at rural part and remote regions of the country. Moreover, the lack of skill in information navigation as one of the critical factors to be involved in online program has also proved a big challenge not only for students but also for online instructors.

Therefore, the employment of instructional delivery should also consider the faculty member in charge as they will become key participants in the instructional quality. It is a fact that in the current years the effectiveness of instruction in distance education is highly dependent on how well the ODL faculty member can utilise the technology. Moore and Kearsley (2005) argue that it is important for people in distance teaching to understand not only the limitations and the potential of each part of technology but also comprehend the teaching technique related with the successful use of that technology. It seems also important to consider how the students will approach the technologies. Some might be intimidated and some may need to learn how to use them. Therefore, the ODL providers must provide an opportunity for not only faculty but also students to get some necessary training to adapt themselves to new technologies periodically.

## Interaction among Key Players

Interaction has also been placed as an important element in distance education context. According to Moore and Kearsley (2005), interaction in ‘A System Model for Distance Education’ can happen among various stakeholders such as instructors, tutors, counsellors, administrative staff, and other students. However, this paper will only focus on the interaction among students and tutors and instructors as a very important part in improving academic quality. Students should have enough opportunity to interact not only with their printed materials in their home or other environment setting but also with their tutors or instructors to get “an appropriate degree of exchange of ideas and information” (Moore & Kearsley 2005, p. 11). The kind of personal interaction between students and the institution especially with the instructors will promote an enjoyment of the study and motivation to work on academic pursuits. Enjoyment or happiness seems to be one of the strategic factors in student learning as it has been addressed by Noddings (2009) who challenges us “How shall we employ [happiness] in guiding what we do in constructing a curriculum, in classroom setting, in establishing interpersonal relationships...” (p. 427).

Effective and intensive interaction among students and instructors are essential and beneficial for both institutions and the students. The interaction and dialogue will provide an opportunity for instructors to, what Sternberg and Lubart call, “creating creative mind” involving six resources: intelligence, knowledge, intellectual style, personality, motivation, and environmental context (Sternberg & Lubart, 2007). The positive interaction may contribute to student achievement and help institutions to gain credibility and institutional image from general audience as it is highlighted by Moore and Kearsley (2005) that the learner-instructor interaction will “stimulate or least maintain the students’ interest in the subject and their motivation to learn” (p. 130). They also add that interaction between students and instructors will provide an opportunity for instructors to “organize formal and informal testing and evaluation to ascertain if the learner is making progress...” (p. 130). The importance of interactions in the educational process has also been addressed by Aoki (2005) who argues that interaction will help develop the ‘curriculum-as-lived-experience’ (p. 160). For Aoki, by interactions, teachers will know the uniqueness of their students from having lived daily with them, and “from having experienced life with [their students], that there are immediate concerns [teachers] must address to keep the class alive and moving” (p. 161).

To establish intensive interaction and two-way communication, ODL providers may enhance their student support services and develop various modes of student learning delivery, including face to face tutorials and online learning delivery. Student support services could be performed in many forms, such as counselling services and advising services. Counselling services is educational services for students provided by university and focussing on personal rather than academic concerns (Gough, 1980) which allow the ODL providers to perform their caring to all students not only their academic difficulties but also their personal problems during study process. Caring will help distance learners to build their confidence and adjust to academic progress. Teaching themes of care has primarily been addressed by Nodding (2005) who asserts that: caring is not just a warm, fuzzy feeling that makes people kind and likeable. Caring implies a continuous search for competence. When we care, we want to do our very best for the objects of our care ... it demonstrates respect for the range of human talents” (p. 65).

Counselling services for student caring in the context of ODL system could be performed by administrative and faculty staff both at head office and at regional centres. Meanwhile, advising services is educational services for students provided focussing on academic rather than personal concern (Gough, 1980). This service is mostly performed by tutors or instructors. Those student support services are very important for all providers based on the assumption that distance learners are isolated and they lack information about what distance learning is and how to become an independent learners.

In distance teaching universities, counsellors and tutors are important to keep interact with students in order to provide a better academic quality (Holmberg, 1995; 2007). Learning center is a room where

students, tutors, and the staff of regional center who act as counsellor meet together to help students not only to overcome their personal and academic problems but also encourage and motivate them in such a way to reach personal progress and future personal development. Besides, the learning centre is also an appropriate place for self-study groups that promotes an equal learning opportunity to get better understanding of the course content. In this place, students have a great opportunity to actively participate in tutorial session, build relationship with other students. The learning centre is the real example for: learner-content interaction, learner-instructor interaction, and learner-learner interaction (Moore & Kearsley, 2005). In accordance with the use of current technology and UT's academic policies, instructors also have opportunity to create virtual learning centre for students who have access to this learning services to support these three kinds of interactions. These three types of interaction will have a significant impact on curriculum improvement.

The curriculum improvement could also be performed by the intensive learner-content interaction. ODL providers should provide various opportunities for interaction between students and all course materials that may include printed material, audio-video cassettes, web supplement, and other online learning programs representing the subject matter. Moore and Kearsley (1996) argue that “the most fundamental form of interaction in distance education courses is learner-content interaction in which the student becomes involved with the subject matter” (p. 129). Moreover, the ODL universities should also provide diverse strategies to ensure that tutor-learner interaction as well as learner-learner interaction takes in place. It may employ face to face tutorial mode, e-mail and online student forum, audio-video conferencing, and other instructional setting.

### **Curriculum Learning Environments**

Learning environment is one of the important aspects that can affect the academic quality and leads to the student achievement, as stated by Wetzel (2009), who points out that “positive learning environments are key to success” (p. 1). In the context of distance education, learning environment is more flexible than that at campus-based universities. Distance learners may study in different setting such as workplace, home, classroom, and learning center (Moore & Kearsley, 2005). Respecting the diversity of distant learners' environment, it is important for ODL universities to provide knowledge and skills needed so the students know how to deal with various obstacles and destructions coming from their learning environment. Moore and Kearsley (1996) state that distance teaching institutions must provide the students with the necessary “skill and habits of being effective distant learners” (p. 12) such as by training them to have the necessary reading skills or by educating them about how to “find their own times and places where they can study comfortably” (p. 12).

The ODL universities must create various strategies that promote positive learning environments such as establishing learning centres near students' home or workplace, and encouraging student to build study group. With regards to the students demand for face to face tutorials on the one hand and respecting the need to improve academic quality on the other hand, it is urgent for ODL universities to establish and manage learning centers in such a way to provide a constructive learning environment for student growth. For this concern, regional centers should invite students to be involved in the discussion in developing and designing learning centers. This forum seems to be important to ensure that students have a space for their own voice in decision making to create a positive learning environment based on their perspectives and needs.

Moreover, study groups seem to be considerably important to improve academic quality in distance education context (Simonson, Smaldino, Albright & Zvacek, 2003). Students who live in urban areas might be encouraged to set up study groups for their own benefits. The study group can create regular study times at their convenience and invite tutors on their own if it is necessary. Along with the encouragement, regional centers should have an important role in organizing an initial gathering for existing and especially new students so that they have an opportunity to meet their peers and set up the study group.

## Curriculum Administration

Administration will play a key component in managing the whole process of improving curriculum. It will support all five other components starting from selecting the sources of curriculum, designing program and instructional delivery, and managing interaction and learning environment that promote meaningful learning for both students and faculty. Since ODL system involving complicated process and various stakeholders, administrators must manage all existing resources including people, funds, and time in such a way to support organisation programs and strategies. Administrators must ensure that personnel, fund, and time are managed effectively and efficiently and numerous works fit together.

From the whole discussion, it seems that the ‘System Model for Distance Education’ proposed by Moore and Kearsley (2005) could be considerably used as one of the strategic models to promote academic quality and provide a platform for curriculum planning and teaching in the context of distance education. It seems to me that the six elements of the system (sources, design, delivery, interaction, learning environment, and administration) are closely related with a curriculum development and design. “Curriculum design refers to the way we conceptualize the curriculum and arrange its major components (subject matter or content, instructional methods and materials, learner experiences or activities) to provide direction and guidance as we develop the curriculum” (Ornstein & Hunkins 2009, p. 16). All components of the system are interdependent with each other. For example, the instructional design would be depended on the source of knowledge and skills, content of subject matter, students’ needs, and learning environment. The mode of instructional delivery and interaction might be influenced by the nature of the content, learning design, and the existing learning environment. The changes in a certain element of the system will have a significant impact on the others. Therefore, evaluation and ‘feedback’ are necessary in this system approach. The importance to set up feedback and review procedure in this system approach is derived by the rapid advancement of distance educational technologies and the unpredictable changing of socio-cultural and general environment that will have a significant impact on the curriculum content and on how we deliver curriculum to our distant learners. Thus, one of the implications is that certainly the course/program head and then all team players have to be aware of and agree to this systems approach and the importance of interacting together.

However, there are some challenges for adopting this systems approach. First, there is a lack of comprehensive explanation how six components of the system should be carried out. The authors intend that each chapter should provide an introduction only and serve as the basis for discussion and further study. Therefore, further detailed investigation should be conducted to comprehend and gain potential benefits of this model. Secondly, this system view is written in the context of American education landscape. It seems that this book is more appropriate for American educators who have more often use advanced technologies in their instructional practices. Therefore, further studies are needed to know how this systems model may be adapted by ODL providers which operate in developing countries.

### How the System Model for Distance Education Could Apply to ODL providers in developing countries?

To survive and prosper ODL providers in developing countries could considerably explore, understand, and employ this system model as one of the alternative ways in improving its curriculum. The need for analysing advantages of this system on one hand as well as its weaknesses on the other hand may be a critical issue to be considered before designing a curriculum and formulating and implementing a quality curriculum framework. It seems likely an issue how ODL providers may create curriculum frameworks that fit with its local demand and universally acceptable. Such a framework will be useful to ensure sustainability of ODL programs offered by all ODL players in this global world.

The ODL providers may considerably need to apply the system model for distance education as a strategic way to reach the quality of the courses (content and design of courses). Based on the availability and accessibility of different kind of technologies, this system will also help ODL institutions in employing delivery modes suitable for different characteristics of their students (from those of having access to higher technology such as computers and the internet to those of not having access to online services). Moreover, the system may also guide these institutions in designing learning support services that promote interaction and optimistic learning environments.

This paper recommends that the system model for distance education might be applied at ODL providers in developing countries in order to improve their curriculum. Using the work of Moore and Kearsley (2012), this paper has considered how the six components and processes of the system including source of the knowledge and skills, design of courses, delivery modes, interaction and learning environment, as well as administration will provide a platform for distance teaching universities in developing its quality curriculum framework. This paper also suggests that when adopting 'the system model' concept, ODL providers may operate as a total system rather than as an assortment of separate parts. It means that a distance teaching universities' academic quality framework should be linked to the overall activities within the organisation to create value for the universities on their way to reach quality of education.

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