

Quarterly Journal of Iranian Distance Education (IDEJ)
Year 1, No 1, Summer 2018 (P 21-28), Payame Noor University
**Analyzing the Textbook Concept in Open and Distance Universities Based
on the Hybrid Model: Proposing a New Model**

M. Mehrabi^{*1}, B. Zandi², A. Alipour³, M.R. Sarmadi⁴

1. Shiraz University of Medical Sciences, Shiraz, Iran
2. Professor of the Humanities, Faculty, PayameNoor University
3. Professor of the Humanities, Faculty, PayameNoor University
4. Professor of the Humanities, Faculty, PayameNoor University

Received: 12 Jun. 2016;

Accepted: 17 Apr. 2017

Abstract

Textbooks are the most important forms of media in open and distance universities. As a result, they should have features that enable the distance learners to attain in-depth learning without the presence of an instructor. This study aims to design a comprehensive model for open and distance university textbooks through analyzing the textbook concept using the hybrid model. In the initial stage, a review of literature up to 2011 was done (119 cases) using several databases. Then, a field study was carried out by assessing 2 textbooks from open universities of England. Finally, data collected from the two previous stages were analyzed and evaluated, using Strauss and Corbin's method, and a proper model was proposed for open and distance university textbooks.

Keywords

Open and Distance Universities, Textbooks, Desirable Textbook Models, Hybrid Model.

Introduction

Open and distance learning can be applied to educational programs, all or most parts of which are taught by a person who is distant from the learner with respect to time and place and a program with a wider, more flexible, and accessible learning facilities. In other words, open and distance education provides more accessibility to learners and therefore a wider range of learning opportunities (1). Textbooks are among the basic components of educational systems (2) which have a significant impact on students' learning experiences. Researchers studying learning strategies have come to the conclusion that textbooks are responsible for both students' learning and learning problems (3). In spite of the fact that there are books in Iran and around the world that are reached to the 10th or more editions, unfortunately, they are generally under criticism (4). What is obvious is that studies on textbooks are not relevant to the subject and require more in-depth and broader research (5). It seems that it is necessary to make effective efforts to strengthen the potentials and identify the weaknesses of existing textbooks in order to achieve optimal productivity in them and increase efficiency and effectiveness (6). The reference framework needs to be developed for writing and developing textbooks. A framework is, in fact, a model based on theories and principles of learning. Such a framework will not only help the author with the necessary criteria for selecting materials, but also provides the assessors with the necessary benchmarks to evaluate the textbooks (7). In summary, the concept of open and distance university textbooks is complex and despite the significance of textbooks as one of the main forms of media in universities, especially open and distance ones (2), and the results of some studies in this area, a comprehensive set of characteristics for a proper textbook has not yet been provided (8).

Therefore, the researchers have done this study to propose a desirable model for open and distance university textbooks in order to extract the criteria of this model based on concept analysis.

Experiment

The hybrid model is based on concept making, concept development, and theory advancement. There are three stages in this model: theoretical background (literature review), experiment (interview, observation, etc), and final analysis. The focus of the initial stage is on creating a foundation for deep content analysis. In this stage, literature review is carried out, the key elements of concepts are extracted, and an operational definition for the second stage is presented. The aim of the second stage is to observe the cases or interview with them to gather required information that might have been missed in the initial stage. Ultimately, the data collected from the previous two stages is analyzed in the third stage (9).

In the present study, in the first stage, the relevant literature was reviewed. Related keywords were selected after a preliminary review and then databases such as Ebsco, ERIC, ProQuest, and SID were searched. A complete Persian and English search was also done in Google Scholar search engine using 'textbook' as a keyword. Then, from all the available electronic articles, books, and theses, as well as all available books in Iran's market along with three purchased books from Amazon's website, all the samples that had published until 2012 that had one of the characteristics of a textbook or educational text were selected (in all 119 cases). The materials were then reviewed and the relevant characteristics were extracted. For the second stage, in order to compensate for any drawbacks or ignorance in the initial stage, a model case from England's Open University textbooks was closely assessed and its characteristics were carefully examined and extracted.

In the third stage, the two previous stages were analyzed using Strauss and Corbin's method and a new model was designed, i.e. the information units (characteristics) were compared in order to find iterations. Some information units were put in the same category regarding the iterations, and interpretive, and semantic similarities. Based on the contents of the category, a name was assigned to it (Open Coding). The process of data analysis continued through description and interpretation, deduction and induction, and concrete and abstract concepts until the categories could not be further integrated or submerged (Axial Coding). Ultimately, the categories were divided into groups and subgroups (Selective Coding). This method of data analysis in basic theoretical studies is known as the Strauss and Corbin's method (10).

Results and Discussion

The findings of the study, with the aim of designing a model for open and distance university textbooks based on concept analysis, using the hybrid model, were categorized into two sets: the first set included 104 characteristics obtained from the theoretical studies, and the second set included 34 characteristics obtained from the two case studies. Therefore, 136 characteristics were obtained based on Strauss and Corbin's method through open coding. In the axial coding stage, 94 characteristics were obtained which could not be further integrated. In the selective coding stage the characteristics were also divided into factors and sets and finally the desired university textbook model was designed (figure 1).

Based on this model, the textbooks of open and distance universities are under the influence of two general levels. The first level consists of external elements that indirectly affect textbooks, but these elements are so intertwined in one another that they cannot be distinguished separately. These elements are related to general decisions made on educational programs and are related to each other and generally form overall policies related to designing and writing textbooks. These elements are balanced by national and institutional policies on the one hand, and the viewpoints of writers, organizations, and publishers on the other hand. Although writers and publishers are obliged to work within a predetermined framework, their opinions cannot be disregarded. Therefore, the outer boundaries are sometimes changed based on the organization and publishers' preferences. All these

elements are balanced and harmonic in the desirable textbook model. The second level of the suggested model consists of internal elements. These elements are directly related to designing university textbooks and are taken into account from the planning stage to the completion phase. They can be seen or determined in the textbooks.

These two levels form the foundations of university textbooks and consist of general or specific elements themselves. General elements are all considerations that should be taken into account before, during, and after compiling the textbook so that the learner can be guided according to the determined aims. The specific and main elements are the existing observable and measurable elements in a textbook which communicate with the learner (Table 1).

There are four criteria for data accuracy in qualitative studies: credibility, dependability, confirmability, and transferability. Credibility refers to the accuracy of the information. The following are used to enhance credibility: researcher credibility, long-term involvement and continuous observation, integration, and external supervision and revision (10). In order to increase credibility, we have used 1) long-term involvement and continuous observation, 2) persistence in data collection, 3) triangulation methodology, and 4) maximum sample variety.

Dependability is the consistency of data throughout time and under similar conditions. This is achieved through a step-by-step repetition and accurate assessment of data by an external supervisor (10). We extensively explained all the stages of our study to an external supervisor in order for him to evaluate the data more carefully.

Confirmability refers to the objectivity and neutrality of data confirmed by two or more independent experts (10). We used the opinions of an expert panel to increase the confirmability of the results. Transferability shows whether the obtained results can be generalized to other contexts and groups (10). Therefore, we arranged a discussion session with four external experts for this purpose. The results of the study were explained and their compatibility with the experts' experiences was assessed. A high correlation was found.

The open textbook concept concentrates on the method of presentation and level of accessibility without any change in the content.

The presented model in our study is not the only possible model. It had been categorized and compiled based on the authors' personal experiences and impressions. The authors' aim was to find factors that could improve and enhance the students' learning process in this connection.

Previous studies mainly focused on one aspect of university textbooks. Some researchers believed that a proper textbook was a book with good content presentation (11), while others stated that if the preparation and designing a textbook was based on critical thinking and self-directed learning, then the product would be desirable (12). Moreover, some researchers maintain that the effectiveness of learning and student and teacher satisfaction would increase textbook quality (13).

In the proposed model in this study, we attempted to consider and point out all the internal and external elements in textbooks that somehow affect the learning process. In this model the elements were initially divided into two categories: 1) external elements that are subject to factors such as the viewpoints of organizations, publishers, and authors and so displayed by two-way arrows, and 2) internal elements which have two general and main categories. The general elements are those shared in all textbooks before, during, and after compiling. The main elements are the elements that are visible and can be objectively determined in textbooks. Using this model does not restrict the author's creativity because the general features have been mentioned in the model, and the application of details or main elements can vary from one author to another.

References

1. Lentell H. Framing policy for open and distance learning. *Policy for Open and Distance Learning World review of distance education and open learning*. 2004;4:249-59.

2. Woudstra A, Adria M. Issues in organizing for the new network and virtual forms of distance education. *Handbook of distance education*. 2003:531-48.
3. Behar LS. A study of domains and subsystems in the most influential textbooks in the field of curriculum, 1970-1990. 1993.
4. Lepionka ME. *Writing and developing your college textbook: a comprehensive guide to textbook authorship and higher education publishing*: Atlantic Path Publishing; 2008.
5. Schissler H, Soysal YN. *The nation, Europe, and the world: Textbooks and curricula in transition*: Berghahn Books; 2005.
6. Olson MH. *An introduction to theories of learning*: Psychology Press; 2015.
7. Riazi AM. What do textbook evaluation schemes tell us? A study of the textbook evaluation schemes of three decades. *ANTHOLOGY SERIES-SEAMEO REGIONAL LANGUAGE CENTRE*. 2003:52-69.
8. Rodés V, Rodríguez-Solano C, Maturana J, Bielukas YH, Cuadros-Vargas E, Podetti M. Strategies for Implementing the Adoption of Open Textbooks Initiatives: State of the Art Review. *International Journal of e-Education, e-Business, e-Management and e-Learning*. 2013;3(1):51.
9. Schwartz-Barcott D. An expansion and elaboration of the hybrid model of concept development. *Concept Development in Nursing Foundations, Techniques, and Applications*. 2000:129-59.
10. Polit-O'Hara D, Beck CT. *Essentials of nursing research: Methods, appraisal, and utilization*: Lippincott Williams & Wilkins; 2006.
11. Gibson CC. Learners and learning: The need for theory. *Handbook of distance education*. 2003:147-60.
12. Ford CL, Yore LD. Toward convergence of critical thinking, metacognition, and reflection: Illustrations from natural and social sciences, teacher education, and classroom practice. *Metacognition in science education*: Springer; 2012. p. 251-71.
13. Pingel F. *UNESCO guidebook on textbook research and textbook revision*: Unesco; 2010.

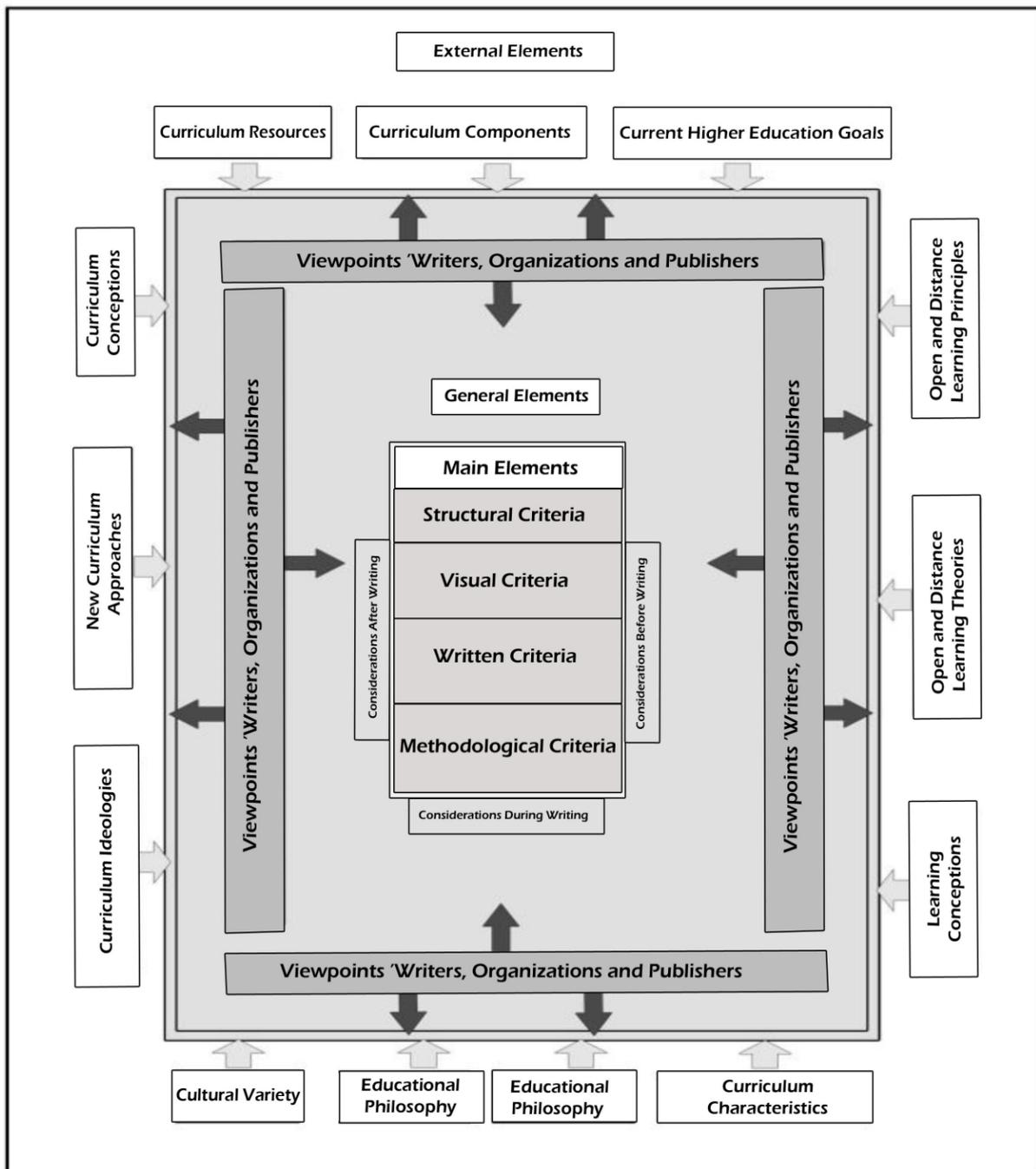


Figure 1. The desirable model for open and distance university textbooks

Table 1. preferable elements and characteristics of desirable model for open and distance university textbooks

External Elements
The book considers all the current higher education objectives and goals.
The book observes all open and distance learning principles.
The book considers all open and distance learning theories.
The book considers new viewpoints in learning.
The book considers the characteristics of a desirable learning program.
The book considers the dominant social philosophy.
The book considers an educational philosophy consistent with the social philosophy.
The book, alongside globalization, takes cultural variety into account.
The book considers educational program ideologies, consistent with the social philosophy.
The book considers modern approaches to educational programs.
The book considers all four views of educational programs at the right points.
The book pays considers all three sources of educational programs.
The book considers all elements of an educational program alongside the content.
Internal elements: general
<i>Considerations before writing</i>
The author has proper and necessary credentials.
In compiling the book, the author has benefitted from views of other professors in the same field.
Writing the book is based on an organized plan.
<i>Considerations during writing</i>
Teacher's manual has been prepared.
There are manuals for both the printed version and the electronic one.
There are supplementary materials for the book.
The materials have been evaluated formatively by the learners.
Modern technology has been used to prepare the book.
The materials match the teaching/learning methods concerned.
Content organization principles have been considered.
Proper writing processing is used.
A proper writing style is used.
Psychological principles are considered.
Different learning styles and interests are considered.
The content has been edited and proofread.
In designing visual elements, graphical principles have been considered
Chapters contain proper titles.
The materials are up-to-date.
A proper educational method has been used.
The content of the book correlates other related topics.
Ethical issues and proper reference in quoting a topic are considered.
The topics are documented
<i>Considerations after writing</i>
Modern technology has been used in the publication of the book.
The price of the book is reasonable.
The book contains suitable cover and binding or is presented in a good package.
The size of the book is convenient.
The page size matches the book size.

Good quality paper is used for the printed version.
The cover design is attractive and to the point.
The page layout is good enough.
Electronic publication standards are considered.
Internal or main elements
<i>Structural criteria</i>
The book contains the general or detailed table of contents. (The general table of contents consists of the title of chapters and the detailed table contains the subtitles, as well.)
A list of visual elements (figures, tables, diagrams, etc.) is available.
The book contains a preface. (General discussion on the book, how it has been written, acknowledgements, etc.)
The book contains an introduction. (author's viewpoints, introducing the content, and the significance and application)
The book contains a section to introduce the author(s) (their fields of study, viewpoints, and other relevant information).
The book contains the goals and objectives.
The book contains an alphabetical index of keywords or topics.
The book contains a glossary (specialized and technical terms, compound expressions, etc.).
There are some sections such as subject indices, end notes and appendices at the end of the book.
The book contains learner feedback forms.
The book contains supplementary sources and the references at the end of the book or each chapter.
<i>Visual criteria</i>
Simple visual clues are used to find different parts (such as titles, summaries, major and minor titles, numerical codes, color, etc.)
Each page contains specific locations for headers and footers, text, reader notes, questions and exercises, and note on research findings (These are written in separate boxes or with different colors.)
Non-textual elements such as figures, tables, and diagrams are used for better understanding.
Non-textual elements are of high quality (they are clearly visible and the captions are easily eligible).
Non-textual elements are in the focal points (usually in the center of the page).
There are references for non-textual elements.
There are caption references for non-textual elements within the text.
There is color contrast between visual elements and their background.
The white margins (both horizontal and vertical) are properly aligned.
The beginning of every paragraph is marked, either with Indentation, double space or both.
Fonts type, font size, number of lines, etc, are designed properly.
The location of visual elements is close to their related subject in the text.
<i>Writing criteria</i>
Paragraphs and sentences are not too long. (Sentences with less than 20 words are suitable.)
The content of the chapters is consistent with the students' learning level and learning objectives.
The difficulty of the content matches the age of the learners.
Keywords have been highlighted using color, size and font type.
Minor points are used less and presented in specific places.
The book contains in-text citations reference.
<i>Methodology criteria</i>
There are warm-ups for each chapter: e.g. what the goals are, what the chapter contains, or the summary of the chapter. (the pre-chapter summary could be in the form of a diagram)
The initial self-evaluation or pre-test provides the students with some information about the gap between their background knowledge and what they are going to learn.
There are some points to connect the content with the students' previous knowledge (key concepts)
The learning objectives are presented at the beginning of each chapter (using suitable verbs,

including all learning levels, matching general goals)
There is a summary of the materials at the end of each chapter (one fifth of the main content, pointing to the key concepts in a logical order)
There are review, evaluation, and practice sections in consistent with the volume of the content in each part or chapter.
There are answer sheets (including suitable feedback with supplementary activities).
There are supplementary materials and resources (relevant sites, articles, images, bibliography, compact disks, videos, etc.)
There is a reader manual for the book.
The book contains final exam items.
The time needed to study the materials is stated and is consistent with the book's volume.
The content of each chapter is divided into sections with learning units.
There are proper models for information presentation (linear, thematic network, conceptual framework, hierarchical, or map concepts)
The test items are made based on test standards. (10 sample items are without any drawbacks.)
At the end of each chapter, there is a space where the learner can categorize the content (such as summarizing, writing keywords, designing, etc.)
The problem solving model is used In writing the book (considering aims ad content organization, presentation, revision, evaluation)
Mental processing is emphasis through metacognitive strategies, using mental visualization, summarizing, re-organization with tables, pre-planned questions, analysis, comparison, categorization, prediction, etc.)
Critical thinking strategies are encouraged. (encouraging direct observation and personal experience, designing new and open-ended questions, referring to the findings of previous studies in the book)
Interaction is encouraged through feedbacks and group projects.
There are inter-chapter references and nonlinear processes to study the book and the electronic version is rich with internal links.
The book contains a final summary.