New Pedagogical Approaches to
Improve Production of Materials in Distance Education

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Abstract

This work analyzes the problems involved in production of materials for distance education, a key topic for the development of this modality.

It raises some concerns about the traditional model of designing materials, questioning their rigid design, vertical communication, and lack of dialogue style, as well as its production methods, which are sometimes more appropriate to a publisher than to an institution of distance education.

It proposes to diminish the modality's distance through the production of materials that are not intended to be self-sufficient, that provide information for analysis and discussion, that consider the receiver as belonging to a group, that create space for participation, that provide two-way and multidirectional communication, and that require production, not reproduction, of answers.

It reflects on the need for research, within the method itself, in order to set aside the ritual and routine behaviours in preparing materials.

The proposed model recommends the inclusion of well-defined distinct moments or "strips" in the design.

Regarding the system of production, this work reviews the different available models and reflects on the reasons why some of them still survive.

Résumé

Ce travail analyse les problèmes que cause l'élaboration de matériels pour l'éducation à distance, un thème-clé pour le développement de cette discipline.

On observe le modèle traditionnel d'élaboration des matériels et on met en question son concept rigide, le style de communication verticale et anti-dialogue et ses modèles de production, qui relèvent plus d'un éditorial que d'une institution de l'éducation à distance.

On propose de relativiser la distance propre à la discipline grâce à la production de matériels, ne se prétendant pas uniques et suffisants, qui fournissent l'information pour l'analyse et la discussion, tout en tenant compte du fait que le destinataire appartient à un groupe, créent un espace suffisant pour inciter à la participation, proposent la communication dans plusieurs directions et requièrent la production et non la reproduction de réponses.

L'étude se penche sur la nécessité de faire des recherches, à partir de la pratique, pour abandonner les conduites rituelles et routinières de l'élaboration des matériels.

Le modèle proposé recommande d'inclure dans le projet des moments différents ou «franges».

Quant au système de production, on recense les différents modèles existants et on étudie les causes de la survivance de quelques-uns d'entre eux.

Introduction

The topic of materials is considered a key factor for the development of distance education by specialists, institutions, teachers, and students.

At the XV ICDE World Conference held in Caracas in 1990, it was one of the main topics. At the meeting, it was clear that specialists were concerned to find designs that meet today's educational needs and the operational resources to develop them so that they will be in line with theoretical principles and, at the same time, be efficient in practice.

On the other hand, there is no institution of distance education that has not made innumerable efforts to solve the problem materials present, either by their costly and necessary updating or by their form of presentation.

Finally, teachers and students express their concern about the materials, as is evident every time they contact somebody from the distance education discipline and exchange impressions with them.

The Faculty of Guided Studies of the Universidad de la Habana performed a study on "Abandoning Guided Education" and found that factors related to materials were the second and third causes of dropout. Such factors were lack of specialized materials and the unsuitability of the instructional material for the needs of the course (Seuret and Justiniani 1991).

The UNED of Spain made an evaluative study of the material used in distance education that also demonstrates the importance teachers and students assign to them, especially when the time comes to praise or criticize their technical-academic characteristics (Pérez Serrano 1991).

I could mention many other examples that show the importance of materials in our area, but I must also make clear that distance education cannot be reduced to or end with this point and that it is very difficult to isolate it from the rest of the elements of the system. I emphasize this because it happens that since materials are the most visible elements of a distance program, people devote all their attention and time to them, neglecting other aspects of equal importance, which, if they are not attended to with the same dedication, will cause an imbalance in the system and distort the process and the results. As an example, I have seen programs with diverse and luxurious materials but with a poor system for assisting the students.

I am convinced that the good functioning of a distance system depends on a balance of efficiency and appropriateness in each of its subsystems and that harmony and equilibrium should be its characteristic notes.

On this basis, to design materials for a given system implies integrating the theoretical lines logically with the different operational developments that are required. In other words, the model of materials' design that is used must be related to the anthropological, educational, and communicational models that support the program; and only in this way will the system function harmoniously and towards its original goals.

Daniel Trilnick (1992) agrees, adding, moreover, that common sense demands a minimum of cohesion between educational conception and planning the teaching system.

However, it sometimes happens that the declaration of principles of some important programs speak of the need to encourage active participation of writers and designers of the material in close commitment to this reality, but this does not occur in practice. Unfortunately, when the materials of these programs are analyzed, we find closed and rigid designs, self-sufficient and dogmatic structures, authoritarian and vertical messages, which the individual is forced to agree with.

In these cases fragmentation in the system that is produced by the existence of different theoretical lines guiding the action of the different subsystems is evident. The task is not an easy one since it implies reverting to historical tendencies towards educational-intuitive work done in isolation without conviction about the benefits of interdiciplinarity and without a previously agreed upon theoretical framework.

Armando Villaroel (1988) proposes to study or visualize the processes in a global manner through system analysis and in this way prevent fragmentation.

In Search of the Lost Paradigm

The previous paragraphs show the actual lack of direction in distance education. Today, we know that it is impossible to support certain regulations stemming from the old technological

paradigm seriously because actual developments have superseded them; but we have also proved in our daily work that it is not easy to replace them. The well-worn paths were familiar to us and the new ones are, in some cases, only draft plans.

Janet Jenkins (1990) is convinced that knowledge about the process of course preparation is partial and fragmented, that the routine often directs actions, and that dogmatism appears too frequently.

Perhaps we should make a brief reference to what traditionally has been done, to understand why actual orientations have created a crisis in the entire process of material development, why today we question what before seemed right, and why we are searching for the lost paradigm.

Main Questions About the Classic Approach

In previous works I developed, in some detail, the most notable criticisms to the theoretical model that distance education has supported for so long (Mena, 1987), and I also outlined some rules that try to understand, from our discipline's point of view, some of the most recent contributions of the new communicational, psychological, and educational paradigms (Mena 1990).

Without pretending to be exhaustive, and taking into account the limits of this work, I will synthesize the main concerns about the model of design and development of materials that we are trying to overcome:

- Rigid designs: Based on Educational Technology principles, with a behaviourist base, which implies following an ordered and linear sequence of procedures that tend to homogenize and to ease production. Designs that tried to anticipate everything and that established tight controls to avoid or redirect the diversions.
- Vertical and non-interactive communication styles: the objective of which was to produce absolutely unequivocal messages that tried to rise above the supposed imperfection of human communication, avoiding its natural complexity and at the same time reducing the valuation of the interactive capacity of the protagonists. This style led, many times, to the trivialization of the contents and to dogmatism.
- Production models more appropriate to a publishing company than to an institution of distance education, whose most important characteristics are: 1) to develop the contents lineally, without including spaces for the participation of the receiver, without truly guiding her/his learning, and without including other discussion sources, and 2) to work in isolation on the preparation of materials, with the participation of either only the content specialists or including an editor or an instructional designer, but with little or no contact between them.

The New Ways

Earlier I said that Distance Education was in search of the lost paradigm. I believe that this is difficult, complex, and not necessarily sustainable. We see that many people try. It shows in the vigour of new materials, which state that other approaches have started functioning and are the specialist's aim. Nevertheless, there is a long way to go, many questions to answer, and many answers and actions to verify.

Not all the changes made have necessarily been positive, nor will they keep pace with the program principles and objectives.

There is no need to change everything because in the process we can validate some practices. In the end, what it is important in this replanning is working like critics on the aspects identified and identifying other areas that should be reviewed to establish the possible perspectives and to harmonize future advances. All of this because, as educators, we want to reduce the distance inherent in the way in which we work, transforming our materials into a particular form of presentation that is at the same time provocative and motivating. To achieve this, I believe, we should be creative and imagine other design and production strategies that will lead us to obtain materials that

- do not try to be self-sufficient, but which integrate and refer to different information sources
- do not leave out information, but supply it as something that can be discussed and analyzed by the participants, and not as something that is an unarguable truth
- consider the receiver not as an isolated individual, but as a part of a group, which shares needs and expectations
- somehow allow the inclusion of participants' opinion, making them into co-authors
- propose communication pathways that integrate participants' contributions, socializing them so that all can enrich themselves by feedback from the others
- give more importance in the proposals for activities to production of autonomous answers than to reproduction of already elaborated ideas
- consider the assessment not as policing, but as a means of mutual verification of the resolution of the problems posed within the context of the program.

Of course, attaining these goals will require much from us. On the one hand, we have to overcome the feeling of insecurity that every revision produces; on the other, we should avoid the temptation to use those design and production models that are already well known and present themselves to us as methods with easy access and answers and apparent solutions to every problem.

Janet Jenkins (1990), in the work referred to, makes constant reference to the rituals present in the production of materials, which lead to making routine a job that should be highly creative and variable. She also doubts the efficacy of the methods employed and urges us to find, through research, new forms of production that are more flexible and that fit the real needs of the users.

I believe that is the route to choose: To search, but not just to remain as critics or outliners of new theories but also to elaborate concrete criteria to carry into the practice and to prove their efficiency in producing materials for our programs.

Some Proposals

The problem that always appears in practice, when we replan our frameworks, is the impossibility of stopping; we need to produce materials continuously, and that is, very often, the reason for the existence of routine actions and resistance to change. It is important to overcome this difficulty. We cannot hope that others will investigate and give us the results, so we can apply them, calmly believing them to be fundamental and proved propositions.

We have to be able to do research from our own practice, to use other strategies, to prove and test their pertinence and effectiveness. I believe that if we adopt this attitude, we will be able to move away from the rituals that, sometimes, inexplicably, we practice in our work.

Taking all of this into account, I will make some proposals and give my thoughts about the production of materials that I have been practising and assessing in specific programs.

1) I was saying earlier that our goal is to transform the materials, converting them into a particular form that is stimulating and motivating. How can we accomplish this from a distance?

Certainly, the answer will be far from certain models used that end up being a one-way delivery of content, very similar to textbooks. The role of materials in a distance program is to guide the learning, orienting the student to study independently. In the same way that we believe that learning happens only through active and engaged participation, we cannot convert the participant into a passive receiver of information. What we have to do, from my point of view, is to generate spaces in the materials because it is participation that makes it effective. Our concern should be to do this, and not to go on as if the centre of attention lay in elaborating singleminded messages that should be decodified in the same manner by all the receivers, and later accepted and reproduced during evaluation. That is to say, we should centre our efforts more in the processing than in the instructional design.

I believe that this tendency should be replaced by another in which the contents that are set out in the materials include lectures that open multiple possibilities for reflection and do not close topics or leave problems resolved with classic "certitudes," but instead promote knowledge spirals. They constitute proposals that stimulate research, grounding the data in reality, critical confrontation of the contents, elaboration of individual conclusions and the contrast with the opinions of the relevant group in such a way that the original hypotheses are redefined and validated or new ones are created to generate new materials.

For all this to be possible, the materials should not contain only information with some comprehension activities, but the ideal is to structure them taking into account, in their proposal, different strips or moments of:

- *Information*: Where data is provided to enlarge the understanding of the outlined problems and to contribute to their solutions.
- *Reflection*: Where the participant is asked to reflect, individually or in group, to help him or her relate the information to his or her reality or to deepen the knowledge of a specific aspect of it.
- *Exchange and discussion*: Which puts forth the confrontation of ideas within the pertinent group, leading to the contrast of one's own convictions with those of others, and producing in this way cooperative knowledge.
- *Data relevance*: Where the participant is asked to gather data from his or her reality that relate to the problem or topic being studied, so later the participant can work with them and not with other data that are unfamiliar to his/her experience.
- *Elaboration:* Where the elaboration - in a way that builds self-knowledge - of any study related to the conclusions at which he or she has arrived in his or her work is suggested.
- *Evaluation*: Which provides different means of evaluation, leading the participant to test the adequacy of his or her advances, with the possibility of solving the outlined problem effectively.

In this way, according to my criteria, we are truly guiding the learning, setting the participant in a place to interact with the contents, relating him or her to his or her needs and context, and moreover leading him or her to imagine solutions or to elaborate hypotheses to explain or to solve the problems presented in the materials.

The experience that I have gained using this model is absolutely different from the one traditionally obtained. The relationship between participants and program is much more intense, whether by consulting, or by proposing other sources of information, or by bringing closer projects that are a product of their work with the materials.

Coordinators of different courses have been surprised on more than one occasion because the work presented or the proposals brought up largely exceed expectations and direct attention to aspects not previously taken into account or that the production team have not developed.

Moreover, the transference of learning to the everyday practice of the participants is more evident and testable because the same materials suggest to them a permanent application for the knowledge developed.

Beside these observations, the model is undoubtedly more consistent with the actual theoretical references that talk about the need for participation, the value of group work, and of learning within a context.

However, I believe that we should keep researching and adjusting the model, above all relative to group work because it is not always easy and/ or possible to carry it out. Sometimes the distances and the isolation of some zones make frequent meetings impossible. In these cases, coordinators should provide alternative activities to overcome this difficulty.

It is clear that in these cases we do not know for sure if the objectives are met. How can we effectively replace group work? What activities should we propose instead? These are some of the questions we ask ourselves.

2) Regarding the system of materials production, I believe that we should review the different possibilities for team structure and determine which is the most adapted for our framework and possibilities.

In "The Production Process of Distance Education Courses: Models, Systems and Planning," Carla Orozco (1987) gives an exhaustive account of models of production systems. She mentions five models, following the Mason and Goodenough scheme:

Model 1: Content specialist only Model 2: Content and editorial specialists

Model 3:

Content specialists and adaptor or designer

Model 4:

Instructional design - several specialists not working as a

team.

Model 5: Course team, interdisciplinary. Reading this list, everyone would identify him- or herself with one model or would detect the one used by the institution where he or she works.

All the models have points for and against them, although undoubtedly some of them would be more in line with our way of conceiving distance education and with our possibilities.

It is important to point out that the actual tendency of specialists is to value the constitution of interdisciplinary teams, because their job is most compatible with recent theoretical developments.

Peter Dirr (1992) talks about it:

Even though many find it harder to work together than independently, the experience has demonstrated that courses developed by teams tend to be better designed, to present topics from

a broader perspective, and to offer to the students a richer spectrum of learning opportunities than those performed by professors working in isolation.

However, this is far from being the reality in institutions of distance education, especially in Latin America. I believe that this has happened, basically, because of three main factors. First, the strong influence exercised in the 1960s and 1970s by Educational Technology, which imposed Instructional Design, which presents the apparent advantage of its ordered sequence and ease of application.

Another cause for the non-proliferation of interdisciplinary groups is the constant meagerness of budgets that limit the number of members and determine the selection of more economical alternatives. Closely joined with the latter is the lack of suitably trained personnel to take up the different roles of the interdisciplinary teams.

Finally, another determining factor is that in our society, which traditionally tended more to individualism and competition than to group and cooperative work, there is no history of using this work form.

John Daniel (1990) says that all these difficulties should not discourage developing countries but should be used as incentives to improve organization.

I believe that at this point we should make an effort to review these causes, to find out how far we are willing to modify our method of work, adapting it to the times, and building models for production of materials that are possible and coherent with our theoretical convictions. Also we should stay away from tradition, routine, and improvisation.

Final Reflections

I am persuaded that all those working in education share certain hopes that we constantly demonstrate and often ponder in our publications, meetings, and courses.

Teachers at distance, in particular, always dream of the possibility of having materials that provoke in our students an authentic rejoicing in knowledge. For this purpose, first we should stay away, definitively, from the habit of using materials that are rigidly structured, closed, where everything is stated, which prevent participation in the celebration that the joint construction of knowledge implies. Later, free from this heavy load, we should design by thinking more in terms of calls for action and reflection than for transmitting heavy messages.

It is a challenge for all of us to make this dream a reality.

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