

Using films to develop the critical thinking competence of the students at the Open University of Catalonia (UOC): Testing an audiovisual case methodology in a distance e-learning environment

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ABSTRACT

The aim of this paper is to set out a teaching innovation project that seeks to advance in the development and assessment one of the fundamental students' competencies from any Business Administration Degree, such as: critical thinking. We are going to adapt an audiovisual case methodology, developed and already proved in traditional universities, in order to help the students develop and boost one of the competencies required to improve the efficiency and efficacy of their daily activity in organizations, and which previously has been highlighted as fundamental by the academia when the European Higher Education Area (EHEA) was designed. This methodology uses short clips of films – usually, true stories- to help students to understand the practical implications of the theoretical concepts explained at class. We are going to evaluate the implementation of this methodology, and also its impact on the students' learning process in an Open University.

KEYWORDS: Audiovisual cases, Competencies, Critical thinking, E-learning, Open University

1. Introduction

Finding a way to develop and assess some fundamental students' competencies, such critical thinking, among others, has been a constant concern for academics and professionals since the EHEA demanded it. For conventional universities, its development is a challenge; but, for Open Universities, this fact becomes a great challenge.

In the academic field is a priority to develop methodologies to develop and effectively evaluate this type of skills among students. That is why the development of teaching innovation projects, conducive to this fact, is a constant in universities as the Open University of Catalonia (UOC). In this paper we are going to expose a teaching innovation project that we have defined in order to advance in the development and assessment of one of the competencies needed by our students according to the White Paper of Business and Economy of the National Agency for Quality Assessment and Accreditation (ANECA) in Spain ([Rodríguez, 2005](#)). We are referring, specifically, to the critical thinking competence.

With the aim of developing a teaching methodology to facilitate the development and assessment of the previous competencies in an online learning environment, we will take as a reference an experience that was previously successfully developed in a face-to-face learning environment. Based on the case study method, this experience was based on the use of audiovisual cases in order to identify and define organizational problems.

It is widely held that the courses' content in the Management field makes the case method very useful and relevant in the teaching-learning process. Its realistic character allows students to explore a topic in a real-world setting. Moreover, it gets the students closer to the enterprises' issues since it permits a better understanding of the complexity and multidimensionality of their real analysis, and the difficulty that manager's face when taking decisions. Pedagogically speaking, "Case Method refers to instruction that utilizes descriptions of actual situations to provide a basis for discussion among students and instructor. (. . .) The underlying intent of the case method is to narrow the gap between theory and practice by placing students in the midst of a real situation they are likely to encounter, then to press them to analyze the situation, make a decision regarding a course of action to take, and then defend that decision in the midst of their peers" ([Clawson, 2006](#); [Clawson and Hasking, 2006](#)). So, if we ask students to work by groups in order to solve the case we are going to help them develop their critical thinking competence, because we are thinking that, finally, as they have to perfectly understand the situation, analyze it and propose a solution we are appealing to their assimilation competency.

It should be noted that the aim of the methodology taken as starting point is different from the current goal. It had not been designed to assess any kind of competence as in this case. However, it is true that pursuant to its approach, it helped to develop students' critical reasoning. Since we find ourselves in an online environment, with a different profile of students, and a more ambitious objective (the development and evaluation of a specific competency) it seems obvious that the work methodology, the resources that we are going to use would be different (Clabaugh, Forbes, & Clabaugh, 1995) Works et to 1995; (Smith, 2003) show the success of the methodology of the case study as a basis for the development and measurement of critical competition thinking. But beyond this, the characteristics of our environment lead us to consider the use of new teaching resources adapted to the reality of the moment (Huitt, 1999, 2007). Traditionally, the most dominant form of cases available is the paper version, being Harvard Business School the largest single producer of business cases and its managers training programs in the beginning of last century where the origins of this methodology goes back to. However, undergraduates of today find difficult to work with such long written cases and, what is most important, to analyze and see its applicability. That is why, audiovisual means is so important today, and the reason for what some professors in our field start working with audiovisual resources (Gallardo, 2010).

This paper adopts the following structure. Firstly, we proceed to define the concept of critical thinking, noting its importance in the field of business, and identifying some of the teaching practices that favor their correct learning by students. Then, in point three we are going to contextualize the teaching innovating project that we have defined in order to develop a methodology for the development and measurement of critical thinking competition. We conclude this point, exposing the conclusions that we think to obtain and the limitation that implies the experience we will take as a reference. We finish the work by establishing the references.

2. Setting in a context

2.1. The critical thinking competence

The term "critical thinking" has its roots in the mid-late 20th century, and during the past several decades, it has become a ubiquitous presence in educational programs at all levels of instruction. Perhaps this fact, together with the complexity of the concept, makes possible to find some definitions about what critical thinking means.

For instance, (Moore & Parker, 2006) argue that, "Critical thinking is simply the careful, deliberate determination of whether we should accept, reject, or suspend judgment about a claim and of the degree of confidence with which we accept or reject it". For these authors the ability to think critically is vitally important; in fact, our lives depend on it, because the way we conduct our lives depends on what we believe on what claims we accept. The more carefully we evaluate a claim, and the more fully we separate issues that are relevant to it from those that are not, the more critical is our thinking. In sync, (Siegel, 1990) defines critical thinking as a form of higher-order thinking-consciously controlled reflective thought that draws on, but can be distinguished from lower-order cognitive processes like perception, attention and memory. Likewise, (Cederblom & Paulsen, 2011; Ennis, 1991), define critical thinking as a "reasonably reflective thinking that is focused on deciding what to believe or do".

In general terms, critical thinking may be described as a higher-order thinking skill that consists of evaluating arguments or propositions, and making judgments that can guide the development of beliefs and taking action. It is a purposeful, self-regulatory judgment that results in interpretation, analysis, evaluation, and inference, as well as explanations of the evidential, conceptual, methodological, or contextual considerations upon which the judgment is based. This conceptualization is supported by Scriven and Paul (1992) and (Chaffee, 1992; Paul, 1989), who defined critical thinking as "an intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication as a guide to belief and action". In its exemplary form, critical thinking it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness. Moreover, these authors show two important features of this concept. On the one hand, critical thinking varies according to the motivation underlying it. When grounded in selfish motives, it is often manifested in the skillful manipulation of ideas in service of one's own, or one's groups', vested interest. As such it is typically intellectually flawed, however pragmatically successful it might be. When grounded in fair-mindedness and intellectual integrity, it is typically of a higher order intellectually, though subject to the charge of "idealism" by those habituated to its selfish use. On the other hand, any kind of critical thinking is never universal in each individual; everyone is subject to episodes of undisciplined or irrational thought. Therefore, its quality is typically a matter of degree and dependent on, among other things, the quality and depth of experience in a given domain of thinking or with respect to a particular class of questions.

2.2. Critical thinking in business area

If a competence is highly valued in the field of business, this is critical thinking. Critical effective thinking is key to management success, being implicated in virtually every task or function manager's performance (Smith, 2003). Indeed, thinking is especially important to management, an organizational role that requires incumbents to deal with exceptional cases, incidents that cannot be handled by established procedures and situations that necessitate deliberative, and often innovative, thought.

As (McEwen, 1994) shows, critical thinking in business may be defined as the capacity to make timely, effective and well reasoned decisions. It is absolutely essential for executive leadership and managerial success. Strong critical thinking, at every organizational level, results in accurate problem identification and sensible problem resolution that translate into better customer service, greater productivity, and a healthier bottom line.

Whether working in teams or individually, employees who are willing and able to analyze (interpret, explain, infer and evaluate) information, proposals, ideas, plans and options, are vital assets to their organizations. Without these talented people at every level, businesses flounder and fail.

Literature shows that critical thinking has both cognitive and attitudinal dimensions. Nevertheless, (Huitt, 1998) proposes an alternative model where there are affective, co-native and behavioral aspects that must be considered in addition to the cognitive process involved into critical thinking. Knowing dimension involves possession of certain skills (as for analyzing arguments) and related knowledge of strategies, methods, heuristics, concepts, and principles. The attitudinal side of critical thinking is referenced by

(Siegel, 1990) notion of the “critical spirit”. It also is expressed in claims that critical thinkers exhibit certain mental dispositions (Ennis, 1996) or “perfections of thought” (Moore & Parker, 2006), that move them to be reflective and evaluative. Taking into account this last idea, we can consider a great critical thinker is one who possesses rationality, self-awareness, honesty, open mindedness, discipline, and judgment. However, critical thinking encompasses only some of the knowledge about thinking that managers require. It does not address many important thinking tasks encountered in organizational (and everyday) life. Critical thinking’s neglect of creativity and the generative dimension of thought have been widely acknowledged (Bailin, 1999). Attention to elements of the problem-solving and decision-making process (e.g., problem identification and definition) is cursory at best. Other thinking tasks (e.g., diagnosis, design, and negotiation) often encountered in managerial affairs, are rarely seen in critical-thinking texts and courses.

2.3. A previous experience in a classroom environment: description of the teaching methodology

The use of case studies is widely used in College learning methodology. Particularly in Economics studies, its use is highly recommended because from its pedagogical guidance since it allows students to explore a topic in a real-world setting. Its realistic character makes of it a useful tool to get the students closer to the enterprises’ situation since it permits a better understanding of the complexity and multidimensionality of the real problems and the difficulty in their analysis and in the making of decisions (Gallardo, Aparicio, & Triadó, 2008; Roman, Gago, & Domene, 2005).

Despite the goodness of this kind of methodology, it is interesting to note that the case study method cannot be a substitute for theoretical classes, but it is a good complement as it works as an intermediate method between theoretical-traditional teaching and practical training in a business enterprise. As mentioned before, the most dominant form of cases available is the paper version. However, these written cases are sometimes difficult for the students, not only to understand, but also to analyze and to realize of its applicability. There is a lot the amount of information provided, and as well as being well organized, it is necessary that the case presents a good wording and a thread of course, to make reading easy and motivating. Thus, taking into account the existence of new and varied technological resources that are available to teachers, the questions that arise are, ‘What about other media cases?, Why the use of audiovisual resources as a case study?

One complementary option can be the audiovisual cases. Images can capture students’ attention so, to a certain extent, you can make them feel a “real situation”. Moreover, (Hobbs, 1998), proposed to use audiovisual resources with specifically designed activities to make the students analyze the content like a text, using reasoning and debates based on the questioning that can help the students view films or television with critical awareness. Thus, the usual attitude of students towards television is called into question, as it is seen as a media which requires little energy, little effort, not much reflection, and that watching television is a form of relaxation and entertainment.

In 2003, within the framework of a teaching innovation project at the Department of Business Administration in the University of Barcelona, a group of lecturers started using films to show an example of some theoretical concepts. According to (Clawson, 2006), “many films are able to make certain points or convey certain concepts much more powerfully than reading or listening to lectures. Films can also provide variety in the classroom, reinforce certain principles, convey the personalities of people, and heighten student involvement in a topic”. In fact, they wanted to make the students put themselves in the managers’ shoes. Students should feel the situation in order to understand it and find a solution for it. After this first teaching innovation project, the development of an audiovisual case methodology was a challenge for those lecturers.

After quite a few years and experiences, the use of short clips of films –usually, true stories- was to make the students learn how to detect and define an organizational problem. How was the experience? Being schematic (for more information see (Gallardo, 2010), the pedagogical sequence was like this: (1) Groups of 3–5 students were created by the teacher; (2) the theoretical content was explained; (3) the teacher announced that next class they were going to do an audiovisual case. This is a way to force the students to study since it is important that students have some managerial background before facing an audiovisual case; (4) once in class, the teacher should present briefly what is going to be seen and the rules of the activity; (5) after the showing of the clip, each group of students should work on the answer of two questions for about 30 min. The questions were: What is the organizational problem here? And how would you solve it? (Expound a plan of action). In order to play down the difficulty of doing the report and to speed it up, a form was given to them; (6) once the time has sold out, each group must hand in their report. (7) The lecturer exchanges the reports among the different groups in the classroom so they can assess themselves (inter-pairs assessment). For doing so, they will be given 20 min approximately. (8) Once the counter-report is done, the lecturer collects both reports and gives a general feedback.

This methodology was tested in many different groups of students from different degrees and nationalities. Students’ assessment of the methodology was extremely positive. They believe that this methodology has helped them to put into practice their managerial knowledge and to realize about the importance of detecting problems. Likewise, they posit that this kind of activity helped them to improve their analytical skills and critical thinking ability.

It should be said that this group of teachers tried to implement this methodology in the Virtual Campus of the UB but they have not yet solid results. So, it will be a very good opportunity for us to adapt their experience into the UOC campus.

3. Designing a teaching innovation project in the UOC

3.1. The Open University of Catalonia (UOC)

In the current socio-economic and technological environment, with persistent questions about the competitiveness of productive systems, higher education attains special relevance as a strategic and adaptive option. European universities, including those in Spain, are undergoing a process of deep renovation, especially under the influence of the European Higher Education Area (EHEA). Nowadays, an intensive Information and Communication Technologies (ICT) use by educational institutions is quite common; in addition to the uses that the current generation of students makes of ICT, other entities value it as a way to develop the learning process. For example, the need to continue learning throughout a person’s career and life has introduced a new type of nontraditional student to the university: older than 30 years and often forced to take up again those studies they might have

abandoned years ago. For these students, technological ignorance can add further difficulties to their learning process, especially in e-learning environments. However, the possibility of developing specialized coursework asynchronously (allowing them to combine work with studies and having a family) may encourage these students to choose virtual classes.

But virtual learning must go beyond posting courses online. So, as (Salinas, 2002) shows the intensive use of ICT by teachers and students, not only facilitates teaching and learning processes but also, it is changing how they are done. Nevertheless, when facing similar situations, each educational center may show different levels of ICT use. In such cases, as (Roberts et al., 2000) point out, this affects the educational model proposed and consequently students and teachers' role, as well as the technological applications used. For example, one new method replaces the professor with the student as the core of the educational process, as the EHEA requires.

The reform of higher education systems initiated from Bologna Declaration in 1999, aims to harmonize the national degree systems within the European Union but also, this reform looks forward to provide students with certain competencies they will need in their professional life. Therefore, universities must alter their curricula and their teaching material. The redesign of the curricula according to the competencies required by students in the professional world attempts to provide students with not only theoretical knowledge, but also with the abilities, skills, procedures, and techniques that they will need to acquire and keep a job.

3.2. An educational model based on the intensive use of ICT

ICT use has changed the role played by universities in the educational process. Universities have become one of the nodes of the network where the user (student) moves in a more flexible way through cyberspace. Moreover, Internet facilitates the elimination of time and space barriers, which in turn, makes it necessary to create new educational organizations (constituted as partnerships or networks of institutions and educational systems) characterized by modularity and interconnection. Simply put, in order to respond effectively to the challenge of the intensive use of ICT, higher education institutions should review their existing educational models and promote innovative experiences of teaching and learning. In this sense, the change in the instructor's teaching methods and the use of different types of educational resources (video and audio materials, chat, wiki, etc.) will be essential to this process of educational innovation (Salinas, 2002).

Nowadays, at Spanish universities there are many experiences of implementing 'virtual learning', 'virtual classrooms', i.e. right now the higher education system tends towards a blended learning system. Despite the interest on this kind of e-learning experiences, sometimes these experiences are isolated from the general dynamics of the institution itself, and respond to particular initiatives. Moreover, in some cases it can be difficult to extrapolate them, since they are not considered as a global project of an organization (Pavón & Casanova, 2000).

Nevertheless, some universities, as the Open University of Catalunya, have opted for an educational model entirely based on ICT, i.e. it is based on a distance e-learning system. It breaks with the traditional conception of the Spanish higher education system. The UOC has changed the concept of attendance to class for the entrance in the virtual class. The virtual class area (or "virtual space") is a platform where students and teachers interact and interchange educational resources and practices. This way, students who are enrolled in one subject can learn from interacting with other students in this virtual class area. Likewise, they not only have a teacher who is acting as a guide, adviser and facilitator, but also, they can use and consult through this web a vast amount of existing resources.

3.3. A brief description of the Open University of Catalunya's model

In the last two decades the demand of higher education has been increasing. Probably, because traditional university models (those that require the attendance of the student at class in a certain hour) is not appropriate for those students that try to combine their jobs, having a family and/or studies. More and more, the demand for this type of education of people between 30 and 50 years, who work during the day, may live far from the university and have some family responsibilities. In order to face this growing need, the Government of Catalonia (Spain) created the Open University of Catalonia (UOC) in 1995. It is an institution created in the midst of the digital society, with the purpose of supporting lifelong education. The UOC is endowed with a flexible structure and supports its educational model with the intensive use of ITC.

Without any kind of doubt, the success of UOC came from its pioneering use of a new university concept (at least in Spain): students were taking on major importance since they turned into the fundamental element of the learning process (Duart & Sangrà, 2000). In this sense, both its virtual presence and its focus on the student align UOC with the use of the Internet, including its strong communicative and information access potential. The UOC organizational structure and its learning model were designed specifically for working in line with this formative approach. The UOC model also recognizes the central position of lecturers, which play a key role as facilitators of the learning process.

A key element in this e-learning process is the virtual campus, where all the elements combine and interrelate. The life of the university community takes place in the virtual campus, a community made up of students, teachers, researchers, collaborators, and administrators. The student has access to all their virtual class-rooms (those subjects that he/she has enrolled in) through the virtual campus. The classrooms themselves can be seen as learning spaces that host information, tools, spaces, and functionalities to enable formative action and organize the set of agents and elements. Each class corresponds to a student group, though the same subject can have more than one classroom, because all classrooms are managed by a teaching plan. The virtual classroom also offers access to other spaces, such as teaching materials (usually in pdf and txt formats), statistical software (e.g., Minitab), and/or library materials (databases of journals and books). Moreover, students can consult their continuous assessment exercises, handing in them and consult their grades, their academic records and registration.

Beyond virtual classrooms, the UOC depends on technology overall. So, for this institution maintaining a solid and modern technological infrastructure has always been a strategic goal. This effort includes hardware and software assets that support the various services UOC offers to conduct teaching, research, and internal administration. The hardware includes air conditioning and current stabilizers in data centers, sensors, cameras, large-scale computers that act as applications servers, network elements (e.g., routers, firewalls), personal computers, printers, telephones, and so on. The software ranges from operating systems (i.e., computer programs designed to perform basic functions essential for the administration of the equipment) to systems software (i.e., general

purpose applications needed for the specific computer applications of the services to work, such as databases, application servers, and office automation tools).

3.4. *Our teaching innovation project: the research design*

Next, we are going to expose how this teaching innovation project was developed.

3.4.1. *Definition and implementation of the methodology*

During the second semester of 2011–2012, and as mentioned before, we are going to implement an audiovisual case methodology to help us improve our teaching and also our students' performance especially in the Management Accounting course of the Business Administration Degree at the Open University of Catalonia (UOC); A course in which we consider fundamental to help students to develop their critical thinking competence. Of course, we will try to assess this students' critical thinking competence development. In order to do so, we are going to create some audiovisual clips suitable for our teaching goals: To help the students to understand and assimilate dynamically theoretical concepts. We consider that the resolution of these kinds of cases should be by groups of students, this way we also foster teamwork.

Since we are in an e-learning environment, it is very important to define and create these groups of students in the very beginning of the semester. Likewise, establishing the rules of functioning and interaction is going to be another vital point (6).

Due to our previous experience with audiovisual cases, we are going to use them for two different purposes, apart from using them to develop their critical thinking competence: (a) to show and explain some theoretical -and quite abstract- topics of the course mentioned above, in order to help students to assimilate them enjoying the experience; and (b) to help the students to learn how to detect and solve organizational problems.

Firstly, we are going to explain the lesson (or lessons involves in that clip) as usual. At the UOC, students normally have a text- course material that has been sent to them before the start of the semester. However, lecturers use to give them some extra information. Secondly, we will advice them that they are going to work with an audiovisual clip in which they have to detect and define an organizational problem, and also give a solution for it. We are going to present the case and give the group of students some questions and a deadline when they will have to deliver the solution of the case. Obviously, this audiovisual case is going to be uploaded at their virtual classroom. So, the group will be able to visualize it as many times as they consider necessary to answer the questions. It is interesting to highlight that students are going to be visualizing the clip thinking of the questions they should answer (What is the organizational problem here? What is the best solution for it?). Once they have answered these questions, they are going to send their resolution via virtual campus to the lecturer. Once, the lecturer has all the solutions, he/she will send back to each group the answer of another group of students in order to make them do a peer-review. This way the students will have opportunity to value the solution given by another group and to value if their answers are them corrects or not and why. Students will be given another 10 days in order to return both documents. After that, the lecturer will discuss with the class the results and give a general feedback by means of the forum of the class.

3.4.2. *Create the audiovisual case database*

We want to create an audiovisual case database in order to have some clips that focus on different theoretical concepts of this subject. We are going to edit some films (preferably, based on real facts) to get a clip of 20 min (maximum). The length of the showing should not be longer than 20 min, due to people's attention capacity (Amat & Pineda, 1996). The films will be edited through Quick-Time software (by Apple Inc.). It is difficult to us, right now, to give an exact number of cases that we are going to create as it will depend on the topics and the films we manage to find related to those topics.

3.4.3. *Development of the students' competence*

Students are going to work by groups of 5–7 people, trying to get a solution for an audiovisual case. Probably, they are going to use some tools at the virtual platform, such as wikis. Some authors that analyze the ability and willingness to cooperate suggest that ITs increase teamwork integration in two ways: firstly, facilitating and speeding the knowledge (both tacit and explicit) transfer process; and secondly, reinforcing the levels of trust and confidence that normally develop in face to face meetings (Guitert, Romeu, & Pérez, 2007; Serradell-López, Jiménez-Zarco, & Martínez-Ruiz, 2009). In fact, with the widespread use of ITs, global or virtual teams have become a reality. So, in the end, we are going to train them to the daily and habitual use of technology in organizations. With this kind of students' work we are going to evaluate the critical thinking competence because, they are going to study in an analytical way the case, and link the theory explained to the situation presented in there. Moreover, they should make timely, effective and well reasoned decisions. Since, strong critical thinking results in accurate problem identification and sensible problem resolution we can say that we are going to be able to help students to develop this competency.

3.4.4. *Evaluation of the students' perception*

We want to evaluate their perceptions, reactions, and suggestions about the implementation and use of this methodology. In order to evaluate it, we distinguish between two types of tests: training tests (formative assessment) and evaluative tests (summative assessment). The final version of the test would be a mixture between training and evaluative, and it will contain 30 questions with multiple answers. Only one answer is going to be correct for each question, although, it is possible that the correct answer is: "all of the above" or "none of the above".

The assessment has been designed to evaluate the work done during the whole course. That is why the questionnaire is going to be distributed at the end of the semester. It is interesting to note, that by means of the questionnaire students are going to do a self-evaluation and also an assessment of their colleagues of group. Given that we are in a distance e-learning environment the test is going to be distributed through the virtual platform of the institution (which assured the absence of errors in transcribing data). At the same time, we are going to ask for automatic calculation of the time spent by each student on completing the assigned test. We believe that the use of electronic test can mean an advantage for its realization.

4. Conclusions and limitations

The aim of this project is to obtain one methodology that help the students develop their critical thinking competence. This competence is highly valued in the field of business since it means to make timely, effective and well-reasoned decisions in order to solve exceptional cases (the usual ones in any kind of organization). Moreover, we are going to have some results on the measure that we have defined to assess the development of this competency by our students. Despite we ground our project on a previous experience with audiovisual cases that not only took place in a traditional university but also was not used for the same purpose. So, although it got excellent results we need to adapt it into an e-learning environment, and validate the questionnaire design to assess this methodology. In fact, this project means a step forward. We are going to deal with another handicap that is that students are going to work in virtual teams, since they are studying in an Open University. Despite the goodness imputed to IT, sometimes, it can make more difficult the assessment of students' competencies development. We cannot show any conclusion till the moment, apart from the fact that we have defined the methodology we are going to use, and the way we are going to implement it. We are really looking forward for the comments and suggestions that can arise in the conference discussion.

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