

# Multimedia-supported learning

## A typology based on intended instructional usage and implied resources

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### ABSTRACT

This classification, which takes into account several factors impacting all stakeholders, is designed to optimize our means and resources in order to offer teachers a range of possibilities as broad as possible in the service of the quality of their teaching.

On the one hand, multimedia-supported teaching and learning develops as a salient trend in higher education. This widespread adoption demands an increase in research on this topic. On the other hand, it also has an impact on the daily work of pedagogical advisors who must coach faculty in a quality design of this instructional material. This poster is rooted both in the call for more empirical investigation and in the need for concrete tools likely to frame the pedagogical dialogue with faculty.



### INTRODUCTION

The purpose of this research is to equip a team of techno-pedagogues with an illustrated classification scheme for multimedia production. The classification encompasses criteria related to the pedagogical production of the multimedia outputs as well as indications of the resources implied in their production. Taking both dimensions into account is essential to optimize material and human investment in the service of instructional quality and satisfaction of teachers and students.

As part of this work, all multimedia resources produced by our team were identified. We then focused on the resources produced over the last three years. Based on these resources, 3 researchers collected them in typological groups that have been refined through a series of discussions and exchanges. Once the specified groups were determined, a name has been selected for each of the types listed.

Once this work was accomplished, two researchers coded on a scale of 1 to 5 the degree of investment of every stakeholder (teacher, techno-pedagogical advisor and multimedia technician) in terms of necessary investment about time, level of preparation, production of the resource and production time. The coding of two researchers was verified via Cohen's Kappa which resulted in a 0.68 coefficient considered strong agreement.



### METHODOLOGY

## Typology

### 1. The Eco-Capture



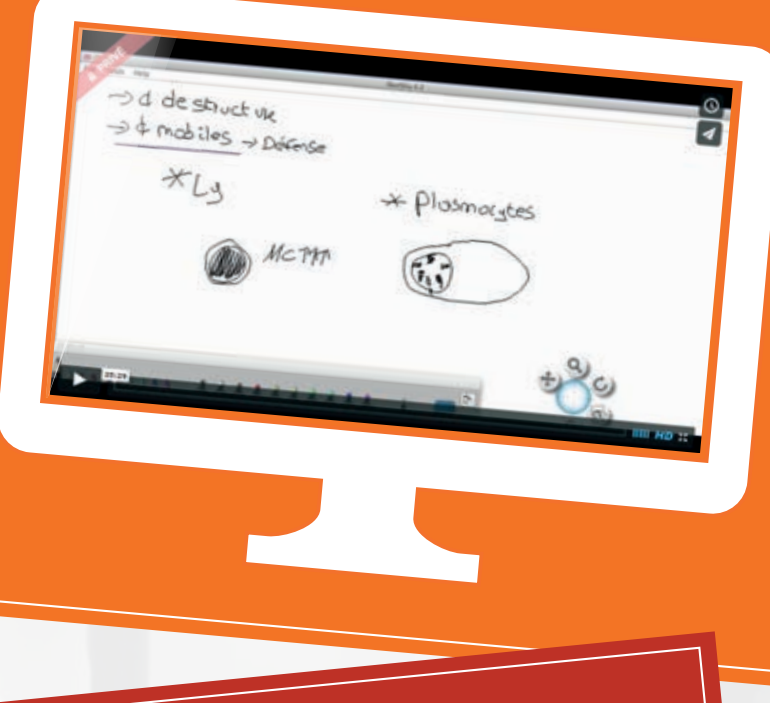
This capture is handled live at real time. After a preliminary work with the teacher mostly for sequencing the training materials, the capture is simultaneously filmed before being post-produced (Basic version). In its enhanced version, the capture may be decorated with attention markers and other supports to learning.

### 2. The Me, Myself and Board



In this mode, we offer to teachers to use our studio which is equipped with a large screen TV that will project their training content and next to which they can stand and explain their learning content (Course Module). This modality can also be applied to a «Conference keynote» type or the filming of a message to introduce a course (Welcome Message).

### 3. The Screencast



In their «Narrated Slides» version, the screencasts propose PPT sequences prepared and scripted prior to being narrated by teachers before being exported in a LMS compatible format. «The annotation» and «The correction» types are produced with the help of a graphic tablet on which the teacher enriches the content by commenting and writing onto the learning resource. All the process is recorded and edited in a film.

### 4. The interview



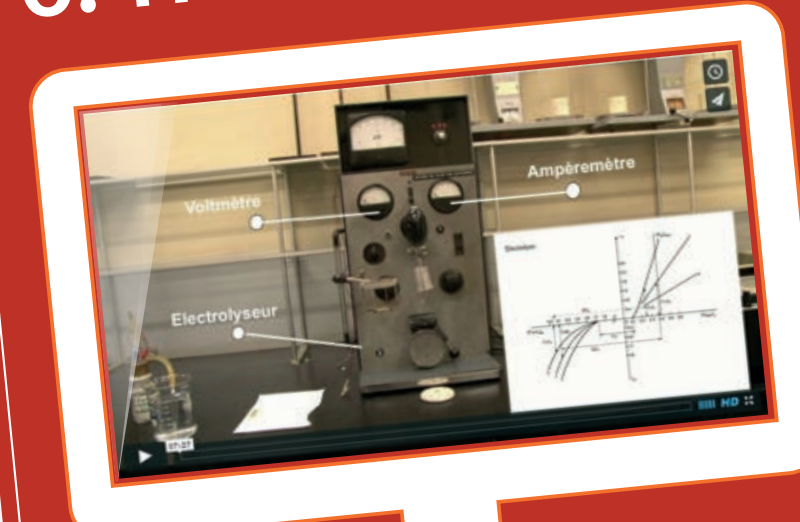
In this mode, the information is presented in the form of an interview, a dynamic exchange with an expert. In its «classic version», the story is structured on questions and answers. In its «expanded version», visual elements or other types of attention markers are added in post-production to facilitate the processing and the understanding of the information.

### 5. The illustrated narrative



The illustrated narrative is a process that starts from a speech, a speaking teacher recorded on an audio track. We then apply a screenplay treatment on this narration by combining the narration with the visual referents which illustrates the concepts presented.

### 6. The experiment



This type of multimedia resource is essentially showing manipulations, experiments in various fields. For this kind of production, meticulous scenario must be established before the shooting. After the shooting of all the necessary sequences, we add voices, comments and attention markers in post-synchronization.

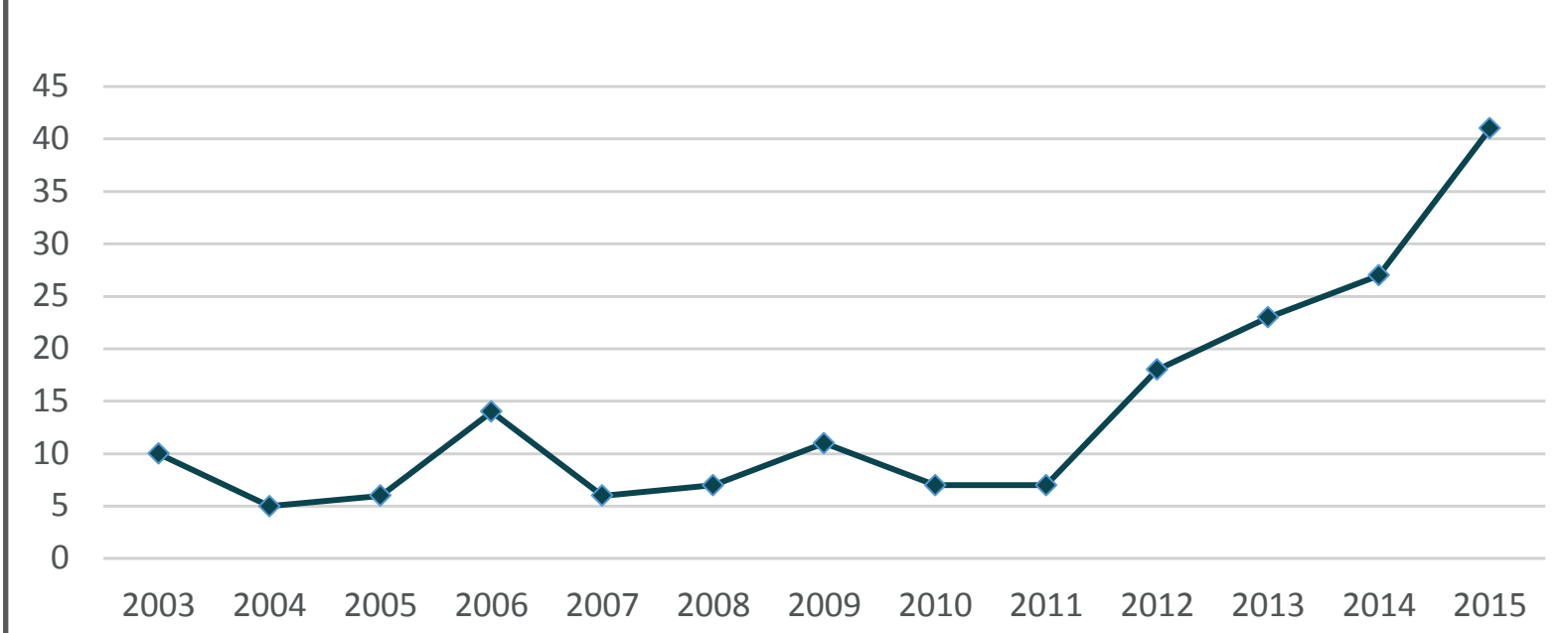
### 7. The film



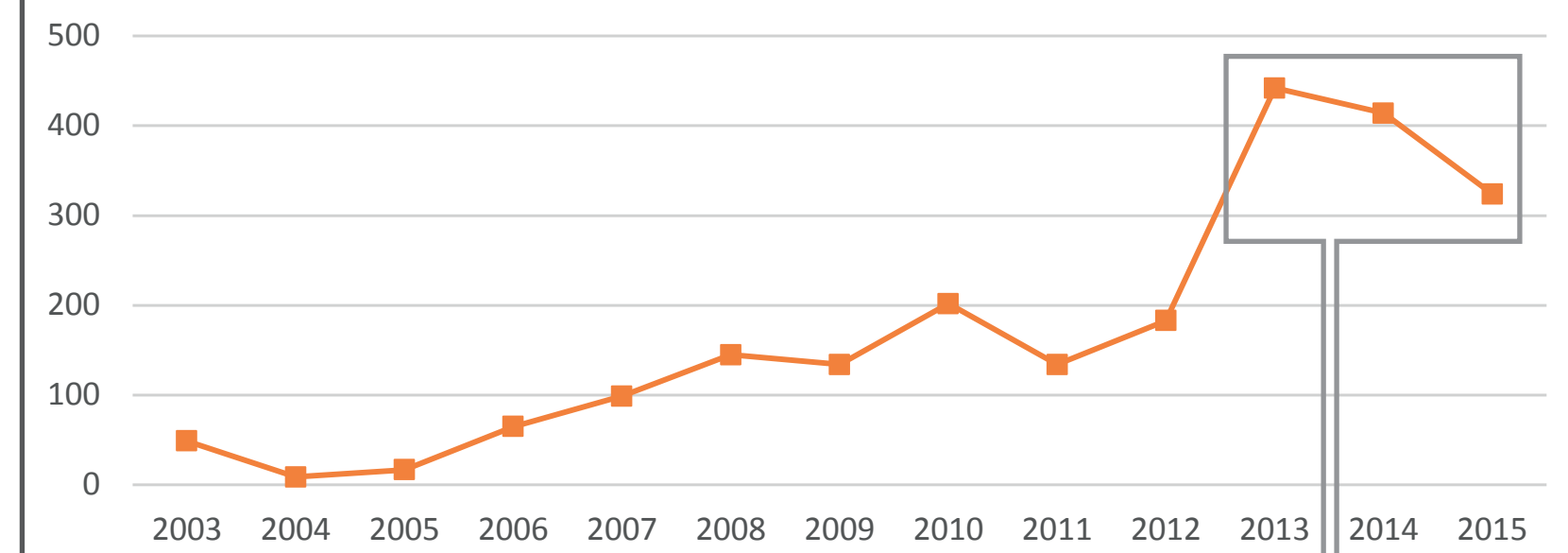
This mode is the most complex and time consuming. It is based primarily on an enormous work of scripting and is distinguished from other forms by aspects «played» shooting a large number of sequences from multiple angles and multiple takes.

## Analytics

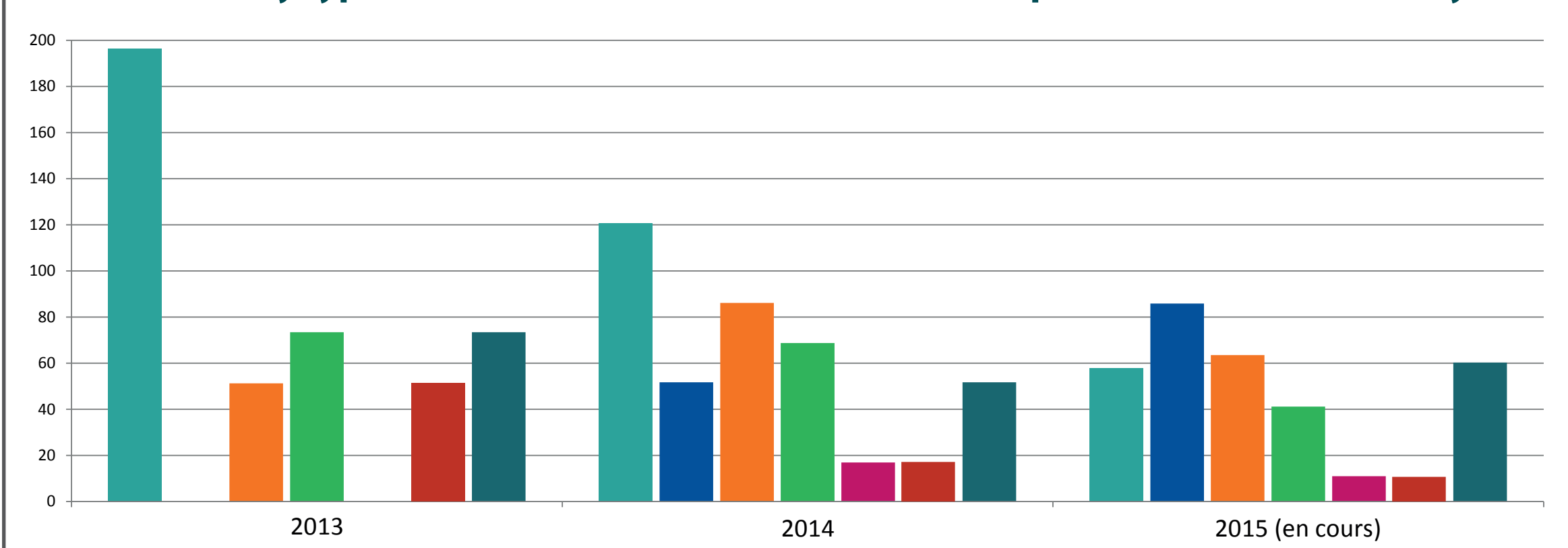
Evolution of number of projects over the past 12 years



Evolution of the amount of multimedia resources produced over the past 12 years



Distribution by type of the different multimedia resources produced over the last 3 years



Characterisation of the resources implied from stakeholders in each type of production

	Time invested	Storyboarding	Production	Delay
1. The Eco-Capture				
A Basic version	1	4	2	1
B Enhanced version	2	3	4	3
2. The Me, Myself and Board				
A Course Module	2	2	3	2
B Welcome Message	1	2	2	2
C Conference keynote	2	1	3	2
3. The Screencast				
A Narrated Slides	2	2	1	1
B The annotation	3	3	3	2
C The correction	4	3	4	3
4. The interview				
A Classic version	2	3	3	2
B Expanded version	3	4	4	3
5. The illustrated narrative	2	5	5	5
6. The experiment	5	4	4	4
7. The film				
A Storyboarded	5	5	5	5
B Panel	3	4	4	4

Time invested  
Storyboarding  
Production  
Delay

Teachers  
Pedagogical adviser  
Technical adviser

0 1 2 3 4 5  
Low investment Strong investment

## Conclusions

It is possible and profitable for a staff development unit to facilitate faculty coaching and dialogue about multimedia resources through a well-illustrated list of possible options. The result of this work is firstly meant to help local techno-pedagogical advisors and teachers. However, its relevance goes beyond this narrow context. The reflection upon this classification scheme can be of interest for any teaching and learning center facing an increase of the demand for multimedia-supported practice. The work gives also an insight into a ratio "investment-pedagogical benefits" which is an important aspect of any multimedia production initiative.

## References

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