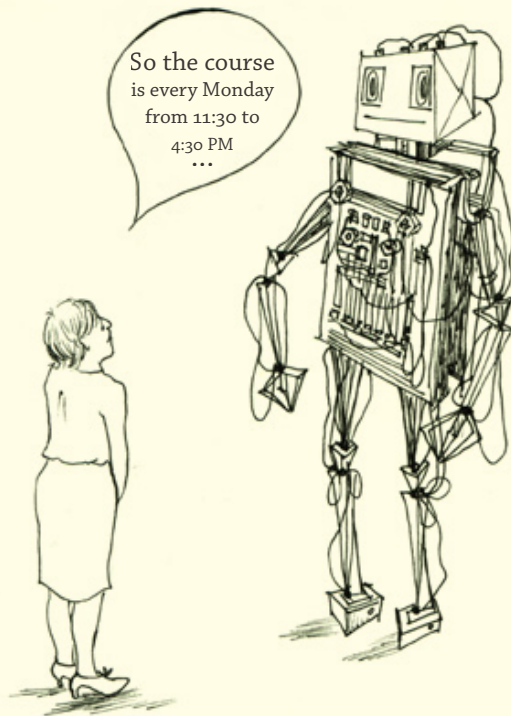


## CASE STUDY 10

# INTEGRATING TECHNOLOGY





## Case Characteristics

This professor (F) was mid-way in her career (M) and had decided to get involved in the course design process for personal reasons (P) (see Table 15). She didn't feel prepared to teach an online course before next year (3) but was relatively available to start the design work (2), which allowed for a higher number of sessions than the norm (7). She knew little about course design and had never taught an online course (1/1). Finally, her general objectives and specific objectives (GOs and SOs) were, on average, relatively more developed than those of the other professors (3).

Table 15: Characteristics of the subject matter expert

Gender	Rank	Reason	Time	Availability	No. of sessions	K/ Design	K/ DE	GO/ SO
F	ASC	P	3	2	7	1	1	3

**Gender:** female

**Profile:** ASC = associate

**Reason:** P = personal

**Time-to-delivery:** 3 = in over 4 months

**Availability:** 2 = 16 to 30 hours

**Number of sessions** = 7

**Knowledge of Design:** 1 = novice level

**Knowledge of DE/OL:** 1 = has never offered courses via DE or OL

**General Obj. /Specific Obj.:**

3 = GO + SO (SO in limited number)

Before our first meeting, she sent me a copy of her course syllabus and let me know she could free up one or two hours per week over the next four months to devote to course design.

I met with the new IDC assigned to this course to explain how I envisaged our collaborating on this project. Since it was the first time she's done this type of work, I provided her with a flowchart, outlining the activities to be completed, the time allotted for each, their sequence, and the *deliverables* expected from each activity. This time, I intended to keep the IDC up to speed to avoid any feelings of alienation which I felt had occurred in other cases (and for which I was feeling responsible).

*One day, during an earlier course, one of the IDCs with whom I had been working told me that he suddenly had too much work to do in the time he had left, after several weeks of non-production. It is true that sometimes*

*my work with professors didn't always quickly produce didactic material ready to be produced by the IDC. Objectives need to be defined, activities have to be designed, in short, the foundation of the 'house' has to be poured before we can start on the framework. It's always the image of an architect that comes to mind when I think about design, the architect who produces nothing but paper for weeks (or months) on end. But is not this paper essential for construction/production to begin? It is unfortunate that the IDCs are under the impression that they must sit around and wait for me to give them work to do. Once again, it seems to me that this is a human resources problem. Normally, the IDC should be in the process of completing one project while the ID is starting up another one. It seems that management fails to understand the instructional design process as a whole, which perpetuates misunderstandings. Moreover, as the sole senior designer (with a junior in training), I'm often rushed off my feet to get something to the IDCs who seem to have all of the time in the world to get their work done. A reallocation of resources, such as in another senior designer and maybe one less IDC, would go a long way to alleviating this problem.*

**Session 1:** I started by introducing myself and describing my role in the process and then asked the professor to tell me about her course, its position in the program, and so on.

*Through experience, I have come to understand how important it is, from the very first meeting, to create a working climate that fosters several intangibles: a sense of confidentiality (this is why I carefully explain the instructional designer's ethics of professional conduct on confidentiality), a sense of belonging to the current project (as both of us are committed to a common-interest process), recognizing the professor's expertise on content while recognizing the designer's technical expertise in terms of faculty development and andragogy (the professors must trust the ID to support them), all of which emphasize the importance of having experienced IDs involved (ideally with a graduate degree in ID and university-level teaching experience). It seems to me that it is only when this type of climate has been established that the work can begin and continue in a productive manner.*

She began explaining to me that her course was one of the first courses undergraduate students take in their program. It is what might be called a *leveller*, a course that develops a solid foundation for the students in subsequent courses. It was also a course that this particular professor had been giving for at least ten years. She stated that she constantly changed the didactic resources she used. We then began reviewing her current course syllabus. I talked to her about the sequence of activities she had planned for each week. Her plan was relatively well constructed in that she had already identified, in some detail, course-related activities each week. But there were no specific objectives and her content was described in rather general themes. She explained that she liked to be able to change things quickly, and that if she prepared things too far in advance, she felt she might feel cornered by planning that was too rigid and not truly respectful of the students she had in class that term who certainly had particular and specific needs.

*It's not the first time I have heard this argument. A principle of constructivist pedagogy is indeed to give free rein (or at least some margin for manoeuvre) to students in defining their own learning activities. The principle is fine in itself and it indicates a certain level of caring on the part of professors who use this argument. But, by the same token, it could also be used as a pretext to avoid quite a bit of planning (which is admittedly tiresome). I must therefore try to think of a way of outflanking this argument if we are to get any work done...*

I answered her by asking a question: "Is the aim for all of the students to acquire a minimum number of competencies?" She answered in the affirmative, so I followed up by asking how, if all of the students were, in principle, to succeed in achieving the same level of competency, she intended to organize her course so that this would occur. She felt she could adapt her course to every group of students she met. This would mean that some students would be better prepared than others to take her course. It would also indicate that her course requirements would vary depending on the strengths of any particular group of students. The marks students would get would therefore likely reflect normative assessment rather than criterion-based assessment, something with which she said she had difficulty in her department. Consequently, I

suggested she build a basic course for all of her students and then add supplementary activities for those individuals who were stronger than the average, capable of going further into the subject matter, as well as compensatory exercises for the weaker students. This all boiled down to doing more design earlier on, instead of less. We finally agreed on creating a basic course and having a bank of resources which students could access depending on their specific needs. We ended our meeting with my presenting the HCP model.

*She did seem a bit upset with our discussion even though she said she was happy with the result of our session. I think that the emphasis on the pedagogical approach caught her off guard. Even though she was obviously a very experienced professor and deeply committed to her students, I got the impression that our exchanges left her feeling somewhat out of her league. I already found this in working with other faculty members. Instructional design seems to disrupt a lot of their thinking about teaching because the process generates a lot of questions and creates uncertainty in areas where certitude had reigned. I realize that this is difficult for some so I try to limit what I say to the bare essentials during our first session. However, certain realities are inescapable. During the first session, I often find myself guessing who will continue and who will drop out of the process. As for this professor, I have no doubts. Even though she is shaken (even stirred), she does want to pursue it further.*

**Session 2:** Our session began where we left off: reviewing her current course syllabus and transferring elements to the HCP. She recognized that she had not developed all of her general objectives, so we spent a good part of our time defining and allocating them—a relatively easy step in the process since she had already defined many. What was missing was their weekly distribution throughout the syllabus.

*That is one of the things that frustrate me the most in this type of work: current course syllabus models do not require that professors situate or contextualize their objectives. Consequently, most professors simply content themselves with drafting a few, often a mix of GOs and SOs, and adding them at the beginning of their syllabus. I often see a whole list of specific objectives without any reference to any particular activity... Just a*

*list of objectives, one after the other, reminding me of the folksong, “Little Boxes.”*

We then took a look at the course’s fifteen weeks, taking out the first week during which she presents her course syllabus, then removing Spring or Fall Break (called “Reading Week” in French Canada...how much reading actually gets done?), and then the final week, for a course synthesis or a final exam. Thus, we end with twelve weeks of actual learning time, for which objectives must be set and instructional activities planned. So we started to develop general objectives and distribute them vertically over this twelve-week period, from the second week (save break week) to the fourteenth. Next, we moved along to the specific objectives of Week 2. And, as usual, I questioned the professor about the activities she expected her students to complete outside of class between Weeks 1 and 2. She was not planning to have them work in teams at the beginning, preferring to wait until Week 3 or 4 while the class stabilizes (as “course shoppers” come and go). I felt that was a wise decision and made a note-to-self. Despite the musical chairs, she expected her students to do the required readings before coming to class. Based on her explanations, I proposed the following objectives:

- From the required reading, define the subject area’s key concepts.
- Identify the logical sequence of concepts.
- Explain the reasoning behind concept linkages.

She said she was satisfied with her objectives in that she felt they reflected the individual assignment that the students would have to complete in preparation for the Week 2 plenary. We continued in the same manner for Week 3: determining the week’s specific objectives, elaborating on the resources needed to achieve them, and writing out individual activities (supported by existing resources). We repeated the process for Weeks 4 and 5 and then started writing up team activities—a laborious task because this professor had never before developed this type of activity.

*Just like most of the professors involved in this development research project, summative evaluation had always been the norm for her as well as*

*individual student performance evaluation. She did have her students work together in class as teams but it was so that they could prepare to complete the course requirements individually. I explained the constructivist philosophy rationale, adding that, according to this approach, working in teams is considered to be much more than a means to an end. It is, for the learners, a way to build and develop knowledge. I usually stop talking about constructivism when I begin to see a professor's eyes rolling, as if to say, that's all well and good, but I have other fish to fry... (i.e. better things to do than develop team activities).*

**Session 3:** We continued planning, working from her own syllabus and going back and forth between it and the HCP. She said she really liked the model's precision, but found that we spent a lot of time planning, too much time which, in her opinion, could have been better spent actually producing tools such as multimedia presentations. I explained that identifying her objectives was the most useful thing to do because these objectives would guide the development of everything else. We couldn't have an effect without a cause. Hence, writing up objectives was an essential step, for we would never know *what* to produce if we didn't first know what it was intended to achieve.

*I now have a vague impression that I'm like the one who pours the concrete for the foundation of the house. The owner, who drives by his house, only sees a pile of dirt and a big hole. The foundation, while essential, doesn't have as much glamour as the finished house—the pretty little windows and the hardwood floors—and, to make matters worse, concrete takes its good old time drying.*

*Getting back to the role of the ID and to the metaphor of the architect, the latter must often get the feeling that, in spite of his erudition, everything he produces is no more than ideas on paper, anything but concrete. The professor, however, continues to follow the design model that I am proposing, in the spirit of a leap of faith, but I can see that her patience is wearing thin and that she'd rather we move on to something more "concrete"!*

It was at this point that I saw that a substantial part of her course could be done by her students working on their own and that a large number

of the objectives could be reached using over-the-counter software. I now started thinking about how I could break it to her gently. I explained that, in almost every subject area, there was now specialized software to assist students in attaining the more elementary objectives in courses autonomously. Generally unfamiliar with computers, even less so with software, she was not aware of any software that would apply to her course. So we did some online research, looking at similar course syllabi in other universities and at the resources available to students. We also searched for learning support programs. In no time at all, we found inexpensive software (roughly \$50) that would enable students to practice certain skills as often as they liked. She placed an order directly online for a sample demonstration. Now that's concrete!

But with discovery came disillusionment. She feared that an important part of her course, even her entire course, risked being cancelled with the introduction of software. On a positive note, I impressed upon her that even their using instructional software would still only allow them to meet some of the objectives—namely the lower order objectives—of her course. So this simply meant re-engineering her course to factor in an important resource, one that her students would likely continue to use after their studies were completed. More and more it appeared, employers expected graduates, the workers of the future, to be computer science savvy in whatever field they worked. This launched a long discussion about the relevance of introducing students to tools that are universal and applicable to almost any context versus the relevance of simply teaching discipline-related principles with limited application. What indeed is the mandate of universities? We concluded that universities should aim at doing two things: generally developing critical thinking and judgment among students as well as properly equipping them with marketable skills so they might enter the job market with confidence.

**Session 4:** We moved forward with the software trial, assessed our findings on its usefulness and began integrating it into her course syllabus. That was it! There was nothing more to say. We made a few adjustments, especially during the first weeks of the course, making sure students had the instructions they would need to use the software. Using most of her current activities from her existing syllabus, we tweaked her individual exercises, adapted some of them to the software and succeeded, one

by one, in completing the first five weeks of her course. We finished by setting out all of our GOs and SOs. We were on a roll!

**Sessions 5-6-7:** Work on the assignments continued, the routine was set. We moved along methodically, week by week. We added resources from her documentary bank (mostly texts), and finished adjusting the Individual Assignments as well as completing a Team Assignment for every two weeks of class. She still had doubts about developing these team activities but a lot fewer than when we began meeting.

**Session 8:** The HCS was now complete, the objectives designed, the didactic materials gathered, the individual and team activities finished. We started planning the weekly plenary sessions and carefully prepared the steps for the very first plenary (the most important one). The professor decided to focus on student motivation in taking the course, showing the relevance, utility and importance of this field of study. She is thinking of using an educational game she found online to break the ice, so to speak. Apparently, the shift to the cyber world has taken hold.

**Sessions 9-10:** We carried on with planning the plenary sessions and associated activities. We adopted the hourglass approach as introduced in Case 7; that is, every week, she would review the week's assignments (both individual and team), targeting the main problems encountered, answering individual and team questions as they came up and then introducing next week's themes and activities.

This was where my development research project ended, with this case study. I believed I had finally found a model that effectively guided subject matter experts (professors) to using instructional design principles to create online courses within a reasonable timeframe and while expending a reasonable amount of effort. The result was promising. Hopefully, future studies will critique, elaborate upon and develop some of the practices developed in this book.

### **Ex Post Facto Interview**

On motivation to explore DE: "When I started thinking about distance education, I said to myself: "I am ready to explore things a bit without giving it my 100 percent. So we started the sessions and I enjoyed them.

I realized that it was possible to do the things I had always wanted to do, but for which I had never made time.”

On analyzing her course syllabus: “I really liked the way we started the process. We looked at my course syllabus together and you showed me the HCS model. I could see where I could improve on my current syllabus—it was all very relaxed; there was no criticism of what was already there. I found that really positive.”

On writing objectives: “Obviously, writing instructional objectives has always been my pet peeve. They are difficult to write. It seems as though we never get to write out everything we actually do in class. Sometimes I get the impression that the objectives are too minute, too small if you will, even insignificant, and are not representative of everything my students achieve or produce in a class. But I believe it is a worthwhile exercise, even if is hard to do. It makes us focus on the essentials and leave behind the rest. It’s a good exercise that requires discipline.”

On the horizontal course syllabus: “I like dividing the course into separate parts, one week at a time. In my usual course syllabus, there are certain divisions and I have a pretty good idea of what I am going to do every week, but the horizontal plan allowed me to be clearer and more precise. So I think this was a big advantage for my students. And by relying on my syllabus, I know where I am in my subject matter. The only thing that bothered me was how crazy it was getting it designed. Heck, it’s OK now... I’m just glad now that it’s over and done.”

On how the course is organized: “As for course content, I had in the past kept things rather loose, in case I came upon something I wanted to add to the course at the last minute. Often, right in the middle of a term, I would find an article, a chapter or a copy of something that I wanted to share with my students. As you know, we’re always searching for something new to show our students but, now that my course is designed, I can see the usefulness of planning, but also of enriching and improving it along the way. [Having the course designed], that is something one can at least be sure of. And I also realized I would have to limit the number of readings and assignments I was asking of my students. Having my course

spread out before me on a grid made me understand that not everything was essential. So the exercise of seeing the entire course in a grid allowed me to remove some of the documents and activities. Seeing that I didn't have any objectives linked to this or that reading made me ask myself, "Now, why would I ask them to do that?"

On working in teams vs. working individually: "Individual assignments have always been the focal point of my course. I never had any really good experiences having students work in teams. It's as though there were always complaints to deal with about the students who did not work well with others. It was heavy and tiring. I admit that it is just less complicated having them work individually but, after talking it over and considering the constructivist learning approach, etc., I started reconsidering my position. It just might be worthwhile."

On individual assignments and team assignments: "Together, we reviewed my material and we saw that a lot of the exercises that the students worked on individually could be done in teams. I also liked the idea of drafting questions based on the readings, something I never had time to do before. And having them compare their answers to the Individual Assignments within their teams before coming to class, I think was a good idea since it made them focus more on the subject matter. That worked and the students seem to understand the readings better. This year, in any case, I noticed a difference. We discussed themes more in class and the students seemed more prepared. The results for this term aren't in yet, but I wouldn't be surprised if they were better."

On having her documents on the Web: "I know that students like working like that. Many have told me that if they forget something, they can always get to my site and find it. It's also fun because I always forget to tell them something in class. I get home and then I remember what it was. So now, all I have to do is add it to the bulletin board on my website. I really like that!"

On changing her pedagogy: "My classes have also changed. I have more time in class to discuss things with my students. At first, I wondered what I would do in class now that they have all the resources they need,

documents to read, exercises and the rest. I was a little concerned...I was thinking about it a lot. I was in the habit of talking, talking, talking during my classes. I'm like that. There is so much material to cover in any case, but it's worked out well. We now have time to go into details. For some students, it's always the same thing. They come to class and expect me to talk for 3 hours. They probably made me the lecturer I am. I am aware of that. I think you need to know how to use silence as a pedagogical tool. It can sometimes get uncomfortable, but it takes time and patience to change routines, theirs as well as ours. So, I think that with all the resources that I've put on my website, I will become less of a lecturer in my teaching. At least, I hope so."

On the lack of time: "My course now is just about where I want it to be, but it took two terms to get it there. And it's only one of my courses. It's true that some of the texts that I posted on the asynchronous platform can also be used in other courses. That's still to be seen. I would like to know more about using the asynchronous platform. For the moment, the team uploads my files to it but I feel handicapped. I want to be autonomous, but I find it complicated. I am not a computer whiz so it takes me a while to master new applications. Time is what's missing. If I had more time, I would do it."

On the future: "I am quite sure that I will continue to develop material to post on the asynchronous platform. It's so practical—I don't have to get documents photocopied and distributed. The students like it too. They all have computers or come to the lab whenever they want."

On teaching face-to-face: "In terms of leaving my face-to-face classes, I don't feel quite ready yet. I want to explore doing parts of my course online using the synchronous platform. I find it easy enough to use and I think that my students will like using it. The trials that I did were quite interesting but I don't see myself using it as long as my students can get to campus. If we want to attract out-of-town enrolments, it would certainly be a means. For now though, we haven't discussed it in my department."... "But I would find it difficult not to see my students. I like seeing them and discussing with them. It's hard to replace face-to-face

teaching. If we don't have a choice, we can get organized, but it remains to be seen how it will work out in the long term."