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DISTANCE, OPEN AND VIRTUAL LIFELONG LEARNING : SHAPING THE TRANSITION WITHIN A FRENCH UNIVERSITY.

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Rachel Panckhurst is a maître de conférences in computational linguistics at the University of Montpellier 3. She is also director of the Metice centre for open, distance and virtual education. Her current research interests include computer-mediated communication. She is co-author of an introductory book on ICT which was published in 2000.

The distance education centre within the Paul-Valéry Montpellier 3 University has existed for over 25 years. In 2000, the newly designed METICE (« Multimedia, enseignement, technologies de l'information et de la communication éducatives » — Multimedia, teaching, educational information and communication technologies) started up its online working environment for distance, open and virtual lifelong learning. Several (parts of) diplomas offered by our University are now operating in an ICT mode and more will be made available in 2002.

This paper addresses the processes involved, from technical aspects to pedagogical issues, including various difficulties and psychological barriers concerning the evolution of the traditional role of the university professor towards the trainer, teacher or tutor within an online mediated education environment. Computer-mediated communication (CMC) issues are of particular interest, especially in relation to linguistic and extra-linguistic aspects.

Based on corpora gathered during the implementation of a « virtual campus », the author conducted research on the ways in which *mediated electronic discourse* is shaped through usage of electronic mail and discussion groups, within the online distance, open and virtual learning environment. Following on from previous research [PAN 97-99], it is suggested that the computer has become a tool, a mediator which indirectly modifies our discourse within the CMC framework, thus creating yet other, new discourse « genres ».

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In 2000, the distance education component of the METICE service (« Multimedia, enseignement, technologies de l'information et de la communication éducatives » — Multimedia, teaching, educational information and communication technologies), Université Montpellier 3, started up its online working environment for distance, open and virtual lifelong learning. This paper addresses the various processes involved.

1 GENERAL CONTEXT : NATIONAL, LOCAL, INTERNATIONAL.

The French Ministry has been particularly active in recent months in the general distance, open and virtual lifelong learning sector. Three colloquiums were organised in Paris during 2000 by the « Direction de la technologie » : (1) 3rd and 18th April : « Enseigner, apprendre et communiquer les TIC » (« Teaching, learning and communicating with ICT ») ; (2) 15th June : « Les formations ouvertes et à distance dans l'enseignement supérieur : enjeux et perspectives » (« Distance and open training in higher education : goals and perspectives ») ; (3) 15th September : « Développement des ressources pédagogiques audiovisuelles et multimédias dans l'enseignement » (« Developing educational audiovisual and multimedia resources »). In September, the Ministry also collected national French projects in order to create resources for the virtual campus ; universities submitted various educational plans they had designed for the purpose with other higher education institutions within general consortiums. This general dynamism reflects the high priority the Ministry currently applies in developing this fundamental area.

Locally, in Montpellier, our centre organised an international colloquium in May 2000 : « Une pédagogie renouvelée par l'autoformation et l'autoévaluation » (« New teaching methods using self training and self evaluation »). This session was an ideal opportunity to bring together higher education instructors from different countries and various disciplines in order to confront theoretical and practical issues concerning new learning/teaching methods and the problems that arise in this new and complex environment (the proceedings are due to be published during 2001).

From an international perspective, May was also an important month, since the World Educational Market took place in Vancouver (WEM 2000, 24-27 May).

2 PREPARING THE TRANSITION

In the first half of 2000, the Metice designed its Web site (<http://metice.univ-montp3.fr>) and made major changes within the distance education centre in order to homogenise the graphics contained in the documents sent out to students. The distance education centre (EàD) has been running for over

25 years, and until this year professors have had total freedom in terms of the format of documents which are issued to students. Different colour codes for covers, differing shapes and sizes of documents meant that there was little harmony in terms of the overall products. We therefore employed a professional graphic-Web-designer who not only designed the Web site, but also made suggestions for major graphic changes to the paper documents. Covers became identical, except the logo used for each department or educational sector (appearing on the cover), thus allowing quick graphical identification by staff, useful when processing coursework to be sent off to students.

Within the documents, we suggested usage of « style sheets ». This suggested use of a seemingly minor innovation actually provoked a mini revolution within the University. The idea was the following : after working with the graphic designer, we simplified the style sheets to be used by professors while creating their coursework (Normal, Bibliography, Quotations, Titles, Subtitles, etc., a special style for exercises with a light grey background and a style with a pop-up zone in the large right-hand margin for definitions, notes and remarks, etc.). These styles sheets were made available in July ; we had previously organised four training sessions (June 2000) on how to use style sheets. The style sheet (« StylesEAD.dot ») was to be downloaded from the Metice Web site, together with a file explaining the process involved (« Explication-styles »). The file containing the explanation was both in HTML and RTF formats, which meant that the professors could consult the file visually, then download it for later use, if necessary. Full instructions on the Web site about how to download a document were given. I also indicated the full process in an electronic message sent to the University discussion lists.

We then indicated to the professors that courses received (by September 1st) could be processed by the Metice team (final page layout and saving in portable document file (pdf) format) and made available on our Website.

2.1 SOME STATISTICS

Our distance, open and virtual lifelong learning centre covers (2000-2001) 429 teaching units (217 for the first semester, October-January ; 212 for the second semester, February-May). 153 professors are involved with the centre, i.e, they deliver at least one course by this means.

Although we requested all first semester courses to be in by 1/9/00 (which was later postponed until 15/9/00), this was rather optimistic, as most professors had been absent in August. My colleague Chantal Charnet (responsible for distance education issues) and I sent out a final request for courses to be in by 1/10/00. We explained that all courses not received by the beginning of October would only be inserted on the Website in pdf format, but not necessarily incorporating the stylesheet layouts.

By the 9th October we had received a total of 125 courses (both for first and second semesters) and by the end of November 199 of the 217 courses had been received, but only 45 of these contained corresponding disks. Several professors indicated their refusal to have coursework inserted on the Web (even though we had made it quite clear that coursework would only be accessible through password status). Fewer than 10 professors had used the style sheets we had proposed earlier, which was somewhat disappointing but not surprising, as we shall see in the following sections.

2.2 ENTHUSIASM & COMPLAINTS

As extracts from the following messages show, some professors were enthusiastic and encouraging, knowing that the Metice team would have to respond to criticism in this evolving higher education context.

[Extract 1] :

Chère collègue,

J'ai bien reçu votre message concernant les deux journées de formation pour le transfert de cours "papier" vers un format pdf, via la liste "I-chens". J'espère que vous aurez du monde. J'en doute un peu mais espérons que je me trompe.

De mon côté, je pense ne pas être vraiment concerné puisque j'arrive à me débrouiller...

(Dear colleague, I received your message concerning the two-day training course for paper to pdf transfers, through the I-chens electronic list. I hope many will attend. I doubt it, but let's hope I'm wrong. I don't think these sessions really concern me, since I can manage fairly well).

[Extract 2] :

FÉLICITATIONS À TOUTE L'ÉQUIPE

(Congratulations to the whole team)

Other professors, obviously concerned by the new changes, opposed any form of modification to their current documents. Amongst those specified, the following issues (from minor to more important) may be enumerated, along with quotes extracted from letters and electronic mail messages received:

1. Change of name of the subdivision of the Metice service concerned with distance education matters:
« La plupart [des enseignants] continuent, y compris dans leurs documents, de parler de Sesam » - Most teaching staff continue to refer to the Sesam [previous name of the distance education centre], even within their teaching resources;
2. Graphic format requirements (homogenisation of documents):
« Si je comprends votre souhait d'améliorer la présentation des cours, je ne vois pas en quoi cela passe nécessairement par une cohérence graphique imposée aux enseignants, qui peuvent fort bien, pour leur propre cours, ne pas la souhaiter. » (Even if I understand your wish to improve the general presentation of coursework, I do not see why this necessarily involves graphical consistency imposed upon teaching staff, who may not, for their own course work, wish to use it);
3. Request for coursework NOT to be made available on the Web:
« Je ne donne pas mon accord pour que [mes cours] soient disponibles sur le Web ». (I do not agree to my coursework being made available on the Web);
4. Lack of time for developing new Web designed coursework:
« Je passe trop de temps à tenter d'apporter à mon cours les modifications nécessaires pour le mettre sur le net. » (I've been spending too much time trying to adapt my coursework for the Net) ;
5. Concern about students using email to contact professors:
« Je ne donnerai pas [...] d'adresse électronique aux étudiants [de l'EàD] » (I won't make electronic addresses available to distance-education students) ;
6. Technical « weaknesses » ; lack of « know-how » in using computers for applying styles and transferring to pdf format :
« Ce n'est pas de la mauvaise volonté de ma part, mais de l'incompétence. » (The professor initially indicated problems concerning coursework transfer for the Web. « It isn't a question of unwillingness but rather of incompetence ») ;
7. « Technician » required for « any » computer problems arising during the pedagogical conception phase.
« J'avoue que je n'en peux plus de faire un travail de secrétariat ou de technicien » (I must admit that I'm fed up with doing a secretary's or a technician's job).

Most of the teaching staff were seriously concerned about « difficult » new technical requirements (i.e. applying style sheets and transferring to pdf format) and « yet another » thing to do, adding to their already long list of current items. From the Metice's perspective, we knew that trying to change attitudes in order to adapt to modern trends in education was an enormous challenge and that staff would need to be « coached », guided and supported. Unfortunately, in our University, the technical computer staff (CRIT) already have a huge mass of work, trying their best to cope in a « swollen » French university, with ever growing requirements, within an environment where everybody is overloaded. However, the work that we requested from the teaching staff was not major; nothing as dramatic as the changes a couple of decades ago from typewriter to computer, for instance!

We had decided to take things slowly, but, we thought, steadily. Our first commitment was to transfer coursework designed for paper, but emanating from a word processor, onto the Web using a simple pdf format and style sheets. We explain in the following section (§3) more detail of this first stage, before addressing further technological requirements (§4).

3 FROM PAPER TO PDF

We had decided to move from paper to pdf, as an initial step, because this seemed the most « gentle » approach in terms of removing psychological barriers — as little is required to transform a word processed document into an electronic pdf transparency — and also, because, teaching staff could then see that the original contents of their own documents had undergone no manipulation. This, we thought, would provide an initial starting block for the following step: transforming, redesigning coursework content to make it available and logical to read on a screen within the Web environment.

The pdf format also has other advantages, of course. Contrary to a text processed document, anybody downloading a pdf document may not intervene directly on the contents, since it is only accessible for reading on the screen or printing, but not for modifying.

As indicated in §2.1, 45 courses were to be entrusted to our new system for 2000-2001 (some professors having made it explicit that their paper coursework was not « up to standard » for transferring to the Web, and therefore only submitted their paper versions). However, this sample lot of courses provided an interesting challenge for the Metice team, as we shall see below.

I initially informed the university staff and my page-layout team (of five people working part-time : staff and students employed especially for the purpose) that we did not intend to replace the official desktop publishing service (« service des publications ») within the University, i.e., we would not modify the contents at all, not even for correcting spelling/grammatical mistakes. The professors submitting their coursework took full responsibility for this, while the Metice's work was solely to provide a file which had been processed to accord with style sheets and had undergone a pdf transfer. All files received on disks were of course printed out before any manipulation took place. It was important to maintain an archive with all originals.

One would imagine, therefore, that the work required by the Metice was to be very low key. This was not to be so. For various reasons, changes were very slow :

1. Inadequate section and paragraph numbering and lack of general organisation of the coursework ;
2. Use of photocopied documents ;
3. Usage of special fonts (for instance, phonetic) ;
4. Problems with spreadsheets and tables ;
5. Lack of page numbering ;
6. Absence of table of contents.

Points 1 and 6 go hand in hand. Had the professor generated a table of contents after having finished the coursework, (s)he would have realised that the numbering was inconsistent and thus the general structuring of the document illogical. I had specified to the team that they should not lose time trying to delve into the nature of the contents, but that it was crucial to understand a minimum of the contents in order to structure the document (sometimes very difficult when the coursework was in another language!). If the teaching staff had used the style sheet provided, the numbering of chapters, sections, subsections and paragraphs was automatic and this point would not have arisen. For 2001-2002 we will suggest that teaching staff not only use the style sheets provided, but that they generate a table of contents before submitting the course to our service.

Use of photocopied materials was another problem. In some cases, these resources corresponded to articles written by the professors themselves, but the final published versions needed to be scanned, and, I insisted that the editor be contacted to agree to this in the first place. For some courses, such as translation, this was a major problem.

Phonetic and other fonts were not a major problem as such ; the important factor was, once again, to homogenise the fonts used within the university and our service.

Most of the problems occurring with tables and spreadsheets were provoked by teaching staff who were unfamiliar with the software and had tried to design tables and other computer office tools as best they could. The Metice team sometimes had to redo whole tables which couldn't be adapted to the new style sheets we had designed.

The page numbering was a minor problem which only appeared in a few cases and was quickly remedied once the team accessed the computer file on the disk.

Finally, some professors would have been interested in submitting coursework for which they no longer had the disks (sic) and wondered if the team could either scan or retype the coursework!

All of the 45 courses were made available on the Metice Web site during November 2000. 28 students initially agreed to connect to the Metice Web site and download their coursework. Discussions were also proposed (cf. § 5) and e-mail contacts provided. Students were eager to try out this new method, even before it was ready:

« Je suis très intéressée par votre « campus virtuel » et je vous saurais gré de ne pas hésiter à m'informer des progrès dans la mise en place de celui-ci ».

(I am very interested by your « virtual campus » and I would be very grateful if you could inform me about the progress related to setting it up.)

A (former student) journalist also contacted the service for an interview on the virtual campus initiative.

In order for the process to be « smoother » in 2001, we planned to provide teaching staff with more detailed training sessions to « dedramatise » the style sheet usage and try and provide the support and guidance that is necessary for this sort of important change.

4 THE NEXT STEP

4.1 OPEN EDUCATION PLATFORMS

The pdf format was just the first step. We then chose an open education platform, and the one we initially chose was WebCT. The first course, which was up and running from November 2000, was a bachelor's degree course over a two year period for further education students (« formation continue » — students who are in a professional situation returning to university studies) in information and communication sciences. Other courses are currently being inserted into the WebCT environment (Natural language processing, Chinese, French as a foreign language...). Further training sessions for teaching staff in order to learn how to use them are essential. These training sessions are due to be offered during 2001.

The students seem to be enjoying the new methods involved, judging by remarks sent to the discussion groups.

« Salut, c'est super cool. Je suis super contente. Et vous ? »

Hi, this is cool. I'm really pleased. What about you ?

« Je pense qu'après quelques tâtonnements, le forum peut encourager la discussion. J'ai l'impression qu'on commence à dialoguer entre nous, c'est chouette ! »

I think that after a few adjustments, the discussion group will encourage discussion. I get the impression that we're starting to converse, it's great !

(Students discovering discussion groups for the first time)

4.2 ANALYSIS OF DISCOURSE IN COMMUNICATION TOOLS

I analysed two discussion groups in December 2000. The first (group A) corresponded to an on-campus course and the second (group B) to a further education course. Unfortunately the textual data for group B hasn't been made available for natural language processing in time to meet the deadline of this paper as the distance education course only started during November. Therefore, relevant information is only provided below for group A. However, from manual analysis I predict similar results of data between groups A and B.

4.2.1 STATISTICS FOR GROUP A

236 messages were extracted for the period running from 6/10/00 to 19/10/00. These messages originated from two sub groups corresponding to separate, but conceptually linked, courses. The first sub group had 45 users, of which 33 students participated. 5.33 messages were sent per person, for a total of 176 messages. In the second sub group there were only 13 users, for a total of 60 messages. One student didn't post any messages, thus each user sent an average of 5 messages. In the following I analyse both sub groups as combined corpora. The size of the resulting corpus is as follows (Word 98): pages: 19, words: 3998, characters (no spacing): 19844, characters (spacing): 23634, paragraphs : 582, lines : 1129.

4.2.2 RESULTS OF CORPUS

As I mentioned in earlier publications (Panckhurst 1997, 1998, 1999), mediated electronic discourse is shaped in a particular way when one is using the computer. I suggest that the computer has become a tool, a mediator which indirectly modifies our discourse within the computer-mediated communication environment, thus creating yet other, new discourse « genres ». To illustrate this, I have processed the data from the discussion groups with a natural language processing tool for French: Cordial (version 5). I do not go into detailed analysis here; results are merely indicative of tendencies (cf. Panckhurst 1999).

	Cordial
	Tokens
Verbs	17.9 %
Nouns	42.8 %
Adjectives	11.5 %
Adverbs	10.5 %
Articles	5.2 %
Pronouns	5.4 %
Prepositions	3.3 %
Conjunctions	3.4 %
Total	100 %

Fig. 1 : token results by category

Token results as shown in fig. 1 coincide with hypotheses appearing in Panckhurst (1999) for electronic mail. In mediated electronic discourse (MED), the percentage of verbs (already much lower in comparison to verb usage in oral discourse) is much lower than in written language of other forms (more than 25 % on average). Discussion groups seem to confirm this (cf. fig. 1 : 17.9 % ; as shown in Panckhurst 1999, verbs represented only 11 % of overall tokens within a large corpus of electronic mail), but the results in fig. 1 need to be subsequently confronted with larger corpora. Nouns are highly used (as is the case in electronic mail also), representing 42.8 % of overall tokens. In previous analyses concerning electronic mail (cf. Panckhurst 1999), nouns also represented over 40 % of overall tokens. Gadet (1996) compared usage of nouns and verbs in oral and written contexts for French and concluded that verbs are used less widely than nouns in written texts, whereas the contrary is true for oral discourse. Haliday (1989) suggested that written language is lexically « dense » and oral language is lexically « sparse » but grammatically rich. Grammatical words (including determiners, pronouns, most prepositions, conjunctions, certain classes of adverbs and inflected verbs) are thus used less in written than in spoken language. Gadet's and Haliday's conclusions can apply to electronic mediated discourse within discussion groups (excepting maybe pronouns — see below), i.e., lower rates of verbs and higher rates of nouns than is apparent in oral usage.

	Cordial
	% of all verbs
être (be)	17.6 %
avoir (have)	11.6 %
pouvoir (can)	5.8 %
vouloir (want)	1.2 %
devoir (must)	1.0 %
savoir (know)	0.9 %
croire (believe)	0.5 %
sembler (seem)	0.3 %
Total	38.9 %

Fig. 2 : percentage results of 8 frequent verbs

Of the 186 distinct verbs in the corpus, the above 8 verbs represent almost 40 % of the overall verbs. This also coincides with results for email analysis in previous research (in Panckhurst 1999, the

verbs indicated above represent over 30 % of overall verb usage). The present tense is predominantly used (85.4% in our discussion group, as opposed to 2.3% (imperfect/past), 3.2% (future), 3.4%, (conditional), 5.7% (imperative)), a result which agrees with previous email analyses.

Pronoun, interrogative and exclamative forms were also of interest. In Fig. 3 below, our discussion group is confronted with statistical results from other forms of written text appearing in the Cordial data base we used (journalistic, literary, technical and law data).

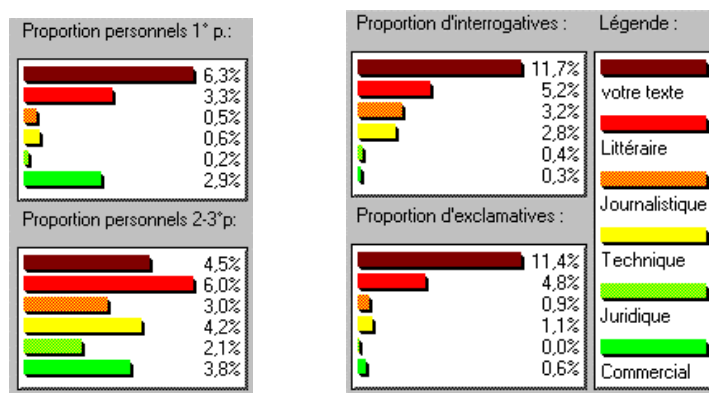


Fig. 3 : results for pronouns, interrogatives, exclamatives

It is clear that 1st person pronouns (6.3%) feature much more prominently in online communication, compared with results ranging from 0.2% to 3.3% for other written forms. When discussion takes place online, students often put forward personal pedagogical ideas which favour 1st person pronoun usage :

« J'ai effectivement simplifié au maximum pour arriver à une définition de plus en plus fine mais le résultat devrait être le même étant donné que **je** définis chacun des éléments de ma grammaire ».

I did actually radically simplify [the grammar] in order to obtain a finer definition but the results should be the same since I have defined each item of the grammar.

(Student responding to a question on hierarchy of grammars in natural language processing)

Interrogatives and exclamatives are also very high in comparison to other textual types. Manual verification showed that this is partially caused by a double or triple usage of question or exclamation marks in the text :

« C'est qui « ANONYME » ? ? ? ? ? »

Who is « anonymous » ?

(Student requesting anonymous to identify him/herself).

« C'est génial ! ! ! ! ! »

It's great ! ! ! ! !

(Student discovering the discussion group for the first time).

However, questions and answers are an essential part of the pedagogical discussion online, therefore this result is very natural. In previous research I also stipulated that although one may conclude that electronic mediated discourse is similar in relation to other written forms for certain usages and similar to oral (or para/non verbal) forms for other usages (concise nature of text, repetition of characters for simulating intonation, smileys, words in capitals suggesting anger...) , interrogation is an aspect which tends strictly towards written forms, even in informal discussion groups (negation is another aspect, but I chose not to analyse it here). In oral French, interrogative forms are often solely indicated through intonation variations, and interrogative elements (*où, quoi, quand...*) or inverted forms (*Viens-tu ?, Que fait le directeur ?...*) are more rarely used. Initially I thought this intonation feature would probably appear within online communication environments, but interestingly, this doesn't seem to be the case. In the current discussion group results, 80.4% of interrogative forms used are either interrogative elements or inverted forms. Only 19.6% are indicated only by the question mark, but this usage only appears in the following restricted situations :

- The student avoids the pedagogical discussion or engages a « private » discussion with another person in the group: « Alors, tu as passé un bon weekend ? » So, did you have a good weekend? ; « Vous avez vu qu'il fait beau dehors ? », Have you noticed that it's fine outside ?
- The interrogative form is very concise, or idiomatic : « C'est ça ? » Is that right ?, « Ça va ? » How's it going ?

These results for intonation within interrogative forms are somewhat higher than previous results (11% in the Panckhurst 1999 email analysis). It may well be that discussion groups differ (linguistically) in some ways in relation to traditional electronic mail situations. Further analyses of more significant corpora now need to be undertaken in order to verify these hypotheses.

5 CONCLUSION

The Metice has played an important part in reorganising coursework distribution and making communication tools accessible, thus shaping the transition to future learning. Not only does the Metice now offer pdf files on its Web site to be downloaded by distance education students, but students present on campus can also access servers for relevant additional coursework, discussion groups, etc. The WebCT platform currently includes further education students (who are in a professional situation returning to university studies), but any student, whether on campus, or at a (virtual) distance should have access to coursework on the platform in the near future. As a result, traditional barriers will be removed. Students learning in the future will not necessarily have to be « categorised » as either « on campus » (« présentiel »), « distance » (« à distance »), or « further education » (« formation continue ») since these barriers will no longer really exist.

One of the crucial roles now to be addressed is in relation to the « new teacher » and what part (s)he needs to play. How do we help the teaching staff evolve? How do we design a course for the Web ? What evaluation tools are provided? As education increasingly (unfortunately!) becomes a commercial service, and generates increased competition between higher education establishments, the team efforts between teachers providing contents for new coursework in a virtual era and technical staff providing the implementation skills (Web page design and implementation, video clips, etc.) are absolutely fundamental. As Tony Bates (Director Distance Education and Technology, University of British Columbia) put it at the SURF education day in Rotterdam recently (28 November 2000), seminars need to be organised, desires need to be identified, and the following questions answered: What would you want to be doing as a teacher in 5 years time? Where do learning technologies fit in to this? What changes are required in order to make this possible?

Computer-mediated communication in higher education also needs to be researched further. Comparative analysis between electronic mail and discussion groups within differing educational contexts will provide important information on how new discourse « genres » are developed within « electronic mediated discourse » during this era of information and communication technology.

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