

Online tutoring in Classics: a way of familiarizing the students with the use of technologies in learning activities

D. VLACHOPOULOS, L. GONZÁLEZ JULIÀ and P. GÓMEZ CARDÓ¹

*Autonomous University of Barcelona, University of Barcelona and
University of Barcelona*

Abstract: The aim of this paper is to describe the design of an online tutoring system for the ancient Greek language and present its preliminary results after a first pilot application at the University of Barcelona. The tutoring system we propose consists of consulting services 24/7, synchronous meetings between the online tutor and the students (individually or in groups) and asynchronous evaluation activities related to the face-to-face activities.

Keywords: Classics, online tutoring, new teaching methodologies, new teaching culture.

1. Introduction

In the last decades there is a growing interest among universities for the use of Internet in teaching and learning. In addition, the Information and Communication Technologies (ICT) have changed the nature of open and distance education by providing learning communities for teachers and students, where they can interact with each other even if they are situated in different geographical locations. The importance of interaction in forms of flexible, online and distance education have been researched and described at length — whether learners interacting with individualized computer programs or learner-to-teacher or learner-to-learner interaction that at a distance requires the mediation of technology². The actual research in classics³ shows

Texto recebido em 30.11.2009 e aceite em 19.03.2010.

¹ dimitrios.vlachopoulos@uab.cat, lluisgonzalezjulia@gmail.com, pgomez@ub.edu

² Moore, M. G., "Three types of interaction": *American Journal of Distance Education*, 3(2) (1989) 1-6; Garrison, D. R. & Anderson, T., "Learning in a networked world": C. Campbell-Gibson (Ed), *Distance learners in higher*

Ágora. Estudos Clássicos em Debate 12 (2010) 115-132 — ISSN: 0874-5498

that online learning in language university departments is used mostly in order to support the face-to-face teaching and learning and its application has offered some very important benefits to both instructors and students. Despite this situation, the current conditions in the departments of classics show that effective academic staff and ICT resources development for online teaching can be difficult to achieve. One reason is that there are often limited funds available. Another is that the diverse skills and knowledge required in order to participate with success in these new learning methods are not formally described⁴.

Studying the relevant literature, it is obvious that the effectiveness and success of online teaching and learning is disputed. When we are talking about online course delivery in departments of classics, the situation is even more complicated. A competent and successful online classics' instructor is challenged to develop and play new, different roles. These roles are interconnected and overlapping, with different emphasis at different times and in varying degrees throughout the life of the course. The most important roles of a successful online teacher have been outlined as⁵:

education: Institutional responses for quality outcomes. Madison, Atwood Publishing, 1998, 97-112.

³ Vlachopoulos, D., "The challenges of introducing New Technologies in Humanities: a case study of the perceptions of the academic staff of classics": *Ubiquitous Learning: An International Journal*, 1 (2) (2009) 50-60; Vlachopoulos, D., *Métodos de aprendizaje del griego antiguo en la Educación Superior y uso de las Nuevas Tecnologías: la construcción de una comunidad de aprendizaje virtual*. Universitat de Barcelona: Tesis Doctoral inédita, 2009.

⁴ Vintró, E., Gómez, P., Mestre, F., González, L. & Vlachopoulos, D., "B-learning per al grec clàssic: dinamització en l'aprenentatge de la morfosintaxis": *V Congreso Internacional de Docencia Universitaria e Innovación*, Lleida, 2008.

⁵ Goodyear, P., Salmon, G., Spector, J. M., Steeples, C. & Tickner, S., "Competencies for online teaching: A special report": *Educational Technology Research and Development*, 49(1) (2001) 65-72.

The role of *content facilitator*, trying directly to improve the learners' growing understanding of the courses. More analytically, the online instructor should provide the students with all the necessary information about the contents of his/her course and should make them understand that online course delivery offers new opportunities in learning.

The role of *technologist*, by making or helping make technological choices that improve the environment available to learners. In a department where the level of knowledge and use of ICT is not high, such as the departments of Classics⁶, the online instructor should focus on choosing the right and easiest technological options for his/her course delivery. With an adequate technological choice the students will dedicate more time to understand the content of the course by using the technologies proposed instead of "wasting" time in understanding how the technology provided works.

The role of *designer*, concerned with designing worthwhile online learning tasks. The online instructor is the most adequate person to design the online learning tasks for his/her course. After analyzing the profile and the needs of the students, he/she should adjust the learning activities to them and to the needs of the course.

The role of *manager/administrator*, concerned with issues of learner registration, security, record keeping, etc. The security, the record keeping of the online course and the registration of the students should be a responsibility of the online instructor as an attempt to cut the additional costs.

The role of *process facilitator*, concerned with facilitating the range of online activities that are supportive of student learning.

⁶ Vlachopoulos, D., *Métodos de aprendizaje del griego antiguo en la Educación Superior y uso de las Nuevas Tecnologías: la construcción de una comunidad de aprendizaje virtual*. Universitat de Barcelona: Tesis Doctoral inédita, 2009.

The online instructor should explain with details the structure of the online course, its objectives and its learning activities in order to help the students feel more comfortable and confident using the new teaching method.

The role of *adviser/counselor*, concerned with offering advice or counseling to learners on an individual or private basis to help them get the most out of their engagement with the course. The online instructor has the same duties with the traditional teacher in the classroom concerning the students' counseling.

The role of *assessor*, concerned with providing grades, feedback, and validation of learners' work.

The role of *researcher*, concerned with engagement in production of new knowledge of relevance to the content areas being taught. The evolution in technology is very fast and the online instructor has to be informed about the new tendencies in online course delivery in order to provide to his/her students the most attractive teaching methods adjusting them to the content areas of his/her course.

2. Context of the study

The efforts in order to develop new methodologies in ancient Greek language courses meet, basically, two important obstacles: the lack of familiarization of both instructors and students with the use of technology (ICT) and the academic tradition. More analytically, the fact that until recently there were serious usability problems with the Greek fonts in the technological resources, in combination with the lack of training concerning the use of ICT in learning activities, have left classical studies and humanities "isolated" in the sector of teaching innovation. Apart from the technical difficulties, it is important to mention that a teaching system — with more than two thousand years of uninterrupted tradition — based on paper support and on an extensively repetitive memorization, such as the teaching system in the departments of Classics, is very difficult to change

and assume the new tendencies of didactics. In this context, the objective of the quality research group “Electra” of the Faculty of Philology at the University of Barcelona is to familiarize both students and instructors about the new reality in teaching methodologies with the use of ICT in learning activities. Of course, this objective does not mean that we intend to eliminate the existing traditional teaching methods, but to renew them with the opportunities that offer the new technologies and Internet. The product of our efforts was an online course for the study of ancient Greek grammar, which was applied in a group of 40 undergraduate students of classics at the University of Barcelona from September 2008 until February 2009. In spite of its optional character, the participation in our online course was very high. More analytically, 91% of the students who attended the face-to-face classes also joined the virtual community and participated in its activities. It is important to mention that more than 50% of the participating students were entering in the community more than once a week and did most of the activities offered, while the other half was entering approximately every 2 weeks and did a significant part of the activities. As we were analyzing the participation of the students in the different activities, we noticed that they used the course much more as a virtual place where they could solve their doubts from the face-to-face classes than as a virtual classroom where they could practice their knowledge and/or they could learn contents⁷. The numbers speak for themselves: we received 78 documents with exercises and 232 questions with doubts about the contents taught during the face-to-face classes.

In this context and after evaluating resistance of some instructors and students towards the use of ICT in learning

⁷ Vlachopoulos, D & Gómez, P., “B-learning in classics: a pilot online course for the study of the ancient Greek grammar”: *V International Conference on Multimedia and ICT in Education*. Lisbon, 2009.

activities, we decided to create an online tutoring system on *moodle* platform for the students who study the ancient Greek grammar at the University of Barcelona. We thought that this tutoring system could familiarize students and instructors with the use of technologies in teaching and learning, without the stress that an official online course can add to their performance. In addition, this system could be used as a training course for *moodle*, the platform used for online course delivery at the University of Barcelona. Finally, this tutoring system would introduce the instructors to some of the new roles (mentioned above) they are called to play in the European Space of Higher Education: the role of content facilitator, the role of designer of learning tasks, the role of process facilitator, the role of adviser and the role of assessor. The first (pilot) application of the online tutoring system took place during September 2009- January 2010.

3. Design and analysis of the tutoring system

The tutoring system offers basically four general activities: a) *Online tutor 24/7*. This means that the students could receive answers to their doubts/questions within 24 hours. In order to achieve this objective, two full time online tutors have been working in our system. These tutors are classical philologists with high knowledge of ICT and pedagogical course design. The communication with the tutors is made through emails or online messages. b) *Open public Forum*. More analytically, our tutoring system has a Forum where the participating students can exchange opinions about any topic of the ancient Greek grammar. This Forum is accessible — even though for reading and not participating — not only to the students at the University of Barcelona, but to everyone who is interested, as we wanted to give the maximum dissemination to this initiative. c) *Synchronous Chat sessions* between the online tutors and the students. The objectives of these sessions are to analyze the most difficult topics of the ancient Greek grammar and to discuss the final doubts before the

final exam of the face-to-face class. d) *Additional learning material data base*. The online tutors, after evaluating the needs of the students can recommend, from a constantly updated data base, some additional learning materials in order to improve their knowledge. The tutoring system can be found at <http://campusvirtual.ub.edu/course/view.php?id=2327> and it is hosted in Moodle learning platform, a free learning content management system (LCMS), provided by the University of Barcelona.

In continuation we present a more detailed description⁸ of the design of our tutoring system.

3.1 Modality of the tutoring system

Taking into consideration the three general modalities of the virtual learning contents⁹ we can say that the tutoring system itself *lacks of modality*, since it is based on internet and on message/email exchange. This means that it can be attended by students from different geographical locations, because it doesn't require face-to-face meetings. Nevertheless, this online tutoring has no meaning without the face-to-face course, so its participants need to attend the ancient Greek grammar classes at the University of Barcelona (face-to-face teaching and learning).

3.2 Integration of the tutoring system in the university curriculum

The online tutoring was integrated in the curriculum of the obligatory subject *Ancient Greek Grammar* (with code 204101),

⁸ Escofet, A., Guía para la descripción de entornos virtuales. Learning material of the subject "Learning theories in virtual environment" of the master's degree program "Teaching and Learning in Digital Environment", at the University of Barcelona. Internal non published Edition, 2009.

⁹ Fernández, S. & Ruza, E., "Los procesos de internacionalización y regionalización en la educación superior: un análisis de los países OCDE": *Revista de Educación*, 335 (2004), 385-414.

which is taught during the first year of the classical philology studies at the University of Barcelona. The pedagogical objectives of this subject are: a) recognize morphological structures of verbs and nouns in texts of ancient Greek prose, b) practice the theoretical knowledge given in the classroom by doing exercises of morphological analysis, transformation of various forms (eg. from singular to plural, from present tense to past, etc.) and production of grammatical forms from morphological indicators, declination of paradigms and verbs drilling (conjugation).

3.3 Typology and theoretical conception

According to the literature of educational multimedia¹⁰, our system is a *tutorial program*, which offers information to the students and proposes exercises and learning materials according to their needs. It applies the *behavioral perspective* in order to provide theoretical knowledge about the ancient Greek grammar, links of interest, where the students can find additional sources and explanations about all the important chapters of the ancient Greek morphology.

3.4 Area of knowledge

As it was described above, the area of knowledge of our online tutoring is the area of classical studies and, more specifically, the area of the ancient Greek grammar. It is important to mention that our tutoring system is not about ancient Greek language in general; it is just for grammar. The reason is that the high difficulty of the ancient Greek language requires the teaching of its three parts (grammar, syntax and text translation) separately.

¹⁰ Marqués, P., "Los espacios web multimedia: tipología, funciones, criterios de calidad": <http://dewey.uab.es/pmarques/tipoweb.htm>, 2007 (consulted on January, 2010).

3.5 Objectives of the online tutoring system

The tutoring system follows the same objectives with the face-to-face class. We can distinguish four general objectives and then 2 specific ones that derive from its virtual character. The general objectives are: a) study the morphology of the ancient Greek language and its attic dialect, b) recognize the morphological structures in ancient Greek texts, c) offer resources and complementary materials for the study of the ancient Greek, d) practice the theoretical knowledge provided during the course with various kinds of exercises. The specific objectives of the online tutoring are the following: a) Explain some theoretical y practical issues of the ancient Greek grammar to the students, who, for some reasons, didn't attend the face-to-face classes or they did attend but they still have unsolved doubts and b) prepare the students for the final exam of the subject "Ancient Greek Grammar" by providing the students with the necessary guidelines.

3.6 Contents

Our online tutoring system offers information and alternative learning feedback concerning the theoretical framework and exercises of all the topics taught during the face-to-face classes. More analytically, the students can use the online tutoring for the following chapters: a) the article and the accentuation, b) the first, second and third declination of nouns and adjectives, c) the verbal system in ancient Greece, d) the auxiliary verb "Εἰμι", e) the participle, f) the infinitives, g) the pronouns and h) the tenses.

3.7 Structure of the contents of the online tutoring

It is important to mention that the contents were structured and evaluated from the quality research group "Electra" of the department of Greek Philology of the University of Barcelona, whose responsibility is the organization of all Greek language subjects. The hierarchy of the contents was made in relation to the

structure of the face-to-face course in order to facilitate the students' learning. Finally, for the design of the exercises offered by the online tutoring, we consulted recognized exercise books.

3.8 Participants

The general characteristics¹¹ of the students who participated in the first (pilot) application of the online tutoring system appear in the table below:

Table 1. The general characteristics of the participating students.

Country/ Institution	Number of participants	Gender (M/F)	Age	ICT knowledge
Spain <u>University of Barcelona</u> Department of Greek Philology <u>1st year/ undergraduate studies</u>	46	24 male students (52%) 22 female students (48%)	90% of the participants between 18-23 years old	Basic ICT knowledge. All of them have personal computer and Internet access (at home or university). They use basic ICT applications such as email, Word documents and data bases.

¹¹ Vlachopoulos, D., "La actitud del alumnado de estudios clásicos frente al uso de las TIC en actividades de aprendizaje. Un estudio de casos": V Congreso Iberoamericano de Docencia Universitaria. Valencia, 2008.

3.9 Activities offered

As mentioned above, our online tutoring offers four basic activities. The *online tutor 24/7* gives the students the opportunity to receive quick feedback (within 24 hours) concerning any topic of the ancient Greek grammar. Since both online tutors have advanced knowledge of ICT they can provide information about the use of the learning platform (moodle) as well. In this way the students have more opportunities to solve their doubts — apart from the office hours of their instructor — and also they save time, since they can have the tutoring from their home during any time of the day. In the *Open Public Forum* the students can exchange opinions related to topics of common interest (exams, events during the face-to-face classes, calendar) and they can also organize debates, through messages, about specific grammatical phenomena. The *Open Public Forum* is coordinated by the online tutors, who participate in the debates and correct (if necessary) the students' posts. The synchronous chat sessions between the students and the online tutors have double objective. On the one hand they empower the cohesion of the virtual space by getting known better the participants and on the other hand they prepare the student for the final exam of the face-to-face class. These chat sessions take place, normally, at the beginning of the semester in order to know better who is who and during the last two weeks before the final exam, when the time available for face-to-face meetings is reduced. Finally these chat sessions help the students understand better the use of another function of the *moodle* learning platform. The *Additional learning material data base* offers alternative resources to the students who face problems with some grammatical topics or for those who want to go more deeply into the ancient Greek grammar. The selection of the materials provided to each one of the student is done after a needs assessment made by the online tutors in collaboration with the face-to-face instructor.

3.10 Cognitive activity that derives from the online tutoring system

The teaching of the ancient Greek language and, specially, the ancient Greek grammar has been based, for thousands of years, on memorization. This fact can be easily explained if we study the idiosyncrasy of the Greek grammar, which doesn't always follow concrete rules and presents a lot of exceptions. In this context, the explanations provided from our online tutoring concern all the basic grammar rules and their exceptions in order to facilitate their memorization. Apart from the cognitive activity¹² of memorization, the online tutoring offers to its students activities of comparative comprehension through the parallel presentation of the grammatical phenomena and the analysis of their significance and utility in the three language levels (morphology, syntax and phonetics). Finally, the online tutoring offers activities of analysis-synthesis, by asking the students to find the general from the specific and vice versa. For example, by offering a general accentuation rule the tutors ask the students to find examples, where this rule is applied and by offering a word with its accent they ask the students to write the general rule that is applied in this word.

3.11 Interactivity level

Our online tutoring system offers, basically, two kinds of interaction¹³: a) between the students, for example by exchanging messages in the Forum or in the Chat room, b) between the students and the online tutors, in the Forum, in the Chat room or via personal emails. In some cases the online tutors, in order to help the students understand some grammatical phenomena, offer

¹² Marqués, P., "Clasificación de los materiales didácticos multimedia": <http://www.peremarques.net/funcion.htm>, 2007 (consulted on January, 2010).

¹³ Irons, L., "Interactivity in Distance Learning: The Digital Divide and Student Satisfaction": *Educational Technology & Society*, 5(3) (2002) 175-188.

some self-evaluated online exercises. In that case we have a third kind of interaction between the students and the learning platform.

3.12 Possibility of control of the online system's sequence by the students

One of our main objectives, when we were designing this online tutoring was its personalization according to the students' needs. In this context the students are free to ask for different kind of guidance, additional activities, etc. In collaboration with the face-to-face instructor they can also control the rhythm of the teaching by asking more time for the teaching of a concrete grammatical topic, which provoked many difficulties to the majority of the group.

3.13 Functionality and ease of use

From the beginning of this project we wanted to create an attractive virtual space, with informal context and vocabulary of communication in order to motivate the students to participate. The online tutoring was designed with colors, images of ancient Greece and the atmosphere in the Chat room and in the Forum is rather friendly and informal. The activities provided require very basic knowledge and resources of ICT, such as internet connection, personal computer, and use of word documents. Nevertheless, at the beginning of the course we provided the students with a quick guide, where they could find all the necessary information about the use of the virtual learning platform (Moodle) and the activities that offers.

4. Preliminary results of the pilot application of tutoring system

In spite of its optional character, the participation in our online course was very high. More analytically, 95% of the students who attended the face-to-face classes also joined the

online tutoring and participated in its activities. It is important to mention that more than 65% of the participating students were entering in the virtual space more than once a week, while the other 35% was entering approximately every 2 weeks.

More analytically, we consider very high the participation of the students in the Forum and in the Chat room. As far as the Forum is concerned, thirty-two topics were opened and a total of 201 answers were posted. Moreover, to these thirty-two topics we should add another 41 emails with similar content and characteristics that were sent to the online tutors through email by some students, who either didn't feel comfortable with the use of the Forum or they didn't want their messages to be seen by the other members of the virtual community. Finally, we consider important to mention that all the students (100%) participated in the Forum by sending at least two messages. As far as the Chat sessions are concerned, the participation of the students was also high. More analytically, 60% of the students were met five times synchronically in the virtual learning platform and exchanged opinions in order to improve their knowledge for the final exam of the subject. This satisfactory level of participation was achieved also because of the high involvement of the face-to-face instructor, who was attracted by the online course and participated in all its activities (Forum, Chat, email exchange) and gave to it more importance and "official" character.

Finally, it is important to mention that the participation was increasing as the time was passing. During the first two months (mid September — mid November 2009) only the 24% of the Forum activity was realized (8 open topics with 37 answers), while in the last half of the semester (mid November 2009 — mid January 2010) 24 new topics were opened with 164 new answers. On the other hand all the chat sessions (one at the beginning of the classes, two before the midterm exams and two before the final exams) had more or less the same level of participation (65% - 55% - 62% respectively).

Our first attempt to find out whether the online tutoring contributed to the improvement of the students' knowledge will be made through the organization of focus groups with the participation of the face-to-face instructor, the online tutors and some of the students after the second year of the online tutoring application (academic year 2010-2011), since the limited number of students in the department of Greek Philology at the University of Barcelona doesn't permit us have a sufficient number of participants from the first year of its application. Nevertheless, we have collected the students' proposals from improvement and we will take them into consideration for the second application of the online tutorial next year.

5. Conclusions

After the results' analysis of pilot application, a general conclusion is that the departments of classics and their members — even if they are considered more “conservative” concerning the use of ICT in learning activities than other sciences — have shown the necessary knowledge to follow these new tendencies in teaching methodologies. We didn't notice any usability problems especially after the training session at the beginning of the course, where almost all technical doubts were solved. It is very important to make clear the fact that, because of their tradition, these departments need additional information, training and resources in order to be able to follow the rest of the sciences in this growing interest concerning the use of ICT in teaching and learning. This study does open a window for facing this issue, but this is an area that needs further research.

More analytically, one of the most important parameters for a successful application of an innovative teaching ICT project in classics is the need to convince the instructor of its efficiency.

As stated by Bates¹⁴, “because of the central role that the faculty members play in the work of the Universities, any change in core activities such as teaching and research, is completely dependent on their support.” In this context, the administration and the project designers should begin a dialogue with the teaching staff¹⁵ about a) the project’s advantage (does the innovation indicate an advantage over current ways of teaching?); b) the project’s compatibility (is the innovation compatible with existing needs and expectations?); c) the project’s complexity (does the innovation make life simpler or at least not contribute more complexity to their teaching duties?); d) the project’s trialability (can the innovation be tried without a commitment to completely change the current practices?); and, finally, e) the project’s observability (is the innovation visible to potential adopters?).

Another important issue is the need for technology training, not only for the teaching staff, but for the students as well. It is obvious that the majority of the instructors in departments of classics do not have the necessary knowledge of ICT. Accredited training courses should be used for the teaching staff as vehicle for diffusion of staff development in ICT. Until now, there are no reported official courses for classics instructors, but it is proven from other science specialties¹⁶ that the majority of the instructors and students make a significant improvement in understanding

¹⁴ Bates, A.W., *Managing Technological Change: Strategies for College and University Leaders*. San Francisco: Jossey-Bass, 2000.

¹⁵ Wilson, G. and Stacey, E., “Online interaction impacts on learning: Teaching the teachers to teach online”: *Australasian Journal of Educational Technology*, 20(1) (2004) 33-48.

¹⁶ Edwards, H., Webb, G., & Murphy, D., “Modelling practice-Academic development for flexible learning”: *The International Journal for Academic Development*, 5(2) (2000) 149-155; Littlejohn, A., “New lessons from past experiences: Recommendations for improving continuing professional development in the use of ICT”: *Journal of Computer Assisted Learning*, 18(2) (2002) 166-174.

and managing the New Technologies while attending these courses.

Finally, it has to be made clear that the online activities do not attempt to replace the face-to-face teaching and learning. The majority of the instructors in the departments of classics believe that these innovative teaching methods will eliminate the role of the teacher as physical presence and the tradition of the departments of classics, which is based, until now, on the instructor's transmission of knowledge to the students through face-to-face teaching. In this context, it should be clear that the main objective of the ICT activities is to empower the traditional teaching methods and to provide the students with easier and more attractive ways of learning. So, an emphasis on innovation rather than the technology should be adopted by explaining to the instructors that the new learning environments created are an opportunity for them to try new teaching methods without requiring a high level of ICT knowledge.

* * * * *

Resumo: O objectivo deste texto é descrever o *design* de um sistema tutorial *online* para a língua grega e apresentar os resultados preliminares após a experiência piloto realizada na Universidade de Barcelona. O sistema tutorial que propomos consiste em serviços de consulta 24/7, encontros síncronos entre o tutor e os estudantes (individualmente ou em grupo) e actividades assíncronas de avaliação relacionadas com actividades presenciais.

Palavras-chave: Línguas Clássicas, orientação tutorial online, novas tecnologias de ensino, nova cultura de ensino.

Resumen: Este trabajo tiene como objetivo la descripción del diseño de un sistema tutorial *on-line* para el griego antiguo y la presentación de sus resultados provisionales tras una experiencia piloto realizada en la Universidad de Barcelona. El sistema tutorial que proponemos consiste en servicios de consulta las 24 horas, encuentros sincronizados entre el tutor *on-line* y los estudiantes (de forma individual o en grupos) y actividades de evaluación no sincronizadas relacionadas con las actividades presenciales.

Palabras clave: Estudios Clásicos, actividad tutorial *on-line*, nuevas tecnologías en la enseñanza, nueva cultura de enseñanza.

Resumé: L'objectif de ce texte est de décrire le *design* d'un système tutorial *online* pour la langue grecque et de présenter les résultats préliminaires obtenus après l'expérience pilote réalisée à l'Université de Barcelone. Le système tutorial que nous proposons consiste en des services de consultation 24/7, des rencontres synchrones entre le tuteur et ses étudiants (individuellement ou en groupe) et des activités asynchrones d'évaluation liées à des activités présentiels.

Mots-clé: langues classiques, orientation tutoriale *online*, nouvelles technologies, nouvelle culture d'enseignement.