George S. Ypsilandis and Katerina Zourou
Department of Italian Language and Literature, Aristotle University of Thessaloniki, Greece
Department of Foreign Language Teaching, Stendhal University, Grenoble III, France

Decoding the Monster: Exploiting Internet Resources for Language Education

ABSTRACT
Since its first appearance as a promising delivery mechanism, the Internet has established a new era in education and is now widely accepted both as an invaluable source of materials and as a medium for communication, shopping, translation, research etc. The aim of this paper is to decode and classify Internet materials, following a distinction between dedicated and possible non-dedicated language resources (Scholfield and Ypsilandis 1994) and discuss methods of classroom implementation. Due to limitations of space, this study concentrates on looking at the Internet as a source/host or supplier of information and therefore ignores instances of the Net purely as a medium or vehicle for education.
1.1 Introduction
In the field of foreign language learning and teaching, the Web seems to be maturing as THE delivery mechanism, as its capacity for multimedia and hypertext offers great potential both to teachers and learners. As a result, a considerable number of academic institutions, educational organisations and individuals are continuously creating sites for language learning and practice using the Net as a primary or supplementary mechanism for their courses. This surge of interest has led to major obstacles in using the medium, which relates, for the most part, to the quantity of the material on offer. The problem is ever-increasing as Internet sites are ever-expanding (Felix 1999) and it therefore becomes difficult for researchers to bring the desired site to the ‘surface’. As a result, teacher-clients may be distracted by the amount of information presented when they conduct a search and become discouraged by the additional pedagogical skills required to engage with and integrate the materials to match with and meet their own specific needs and circumstances. The aim of this paper is, therefore, to: a) present and adapt a possible classification of the different Internet materials available, based on a distinction suggested by Scholfield and Ypsilandis (1994) for Computer Assisted Language Learning software and b) discuss possible methods of classroom implementation.

1.2. The Internet and its growing potential
In the past twenty years the Internet has undergone various developments (Panciroli, 2001:15, traces its chronological development since 1957). From being simply a source of texts and a conduit for text transmission it has moved on to become a multimedia vehicle of information, education and communication. In education, the Net has so far been described as a resource bank, a classroom tool, or the perfect medium involved in the communication process. Using these characterizations it is possible to identify the three major areas of the Net’s contribution to education and language learning; namely, those of Source, Tool, and Medium. Although the above-mentioned areas are seemingly close, in reality they identify three different zones of contribution which we shall use as our initial framework to decipher the monster. By decoding or decy(i)phering we initiate a process which aims at offering a better understanding of the pedagogical principles behind the design and content of a web page, in order to make maximum use of its potential for language teaching purposes.
It should be clear that decoding does not involve evaluation as no questions or initial standpoints exist and there is no measurement of any kind.

The Net can be seen as a unique, almost living, organism (experienced surfers know that it has a temper) that is growing every minute and is being developed and exploited in new ways by individuals, companies, organizations and institutions. In addition, the Internet contains and offers the methods and means which enable individuals to publish on the Net by and for themselves. HTML editors (simple and more complex) can be found and are often freely provided, giving new surfers the opportunity to create and immediately present their own materials without requiring much expertise in surfing or in using computers in general. For language pedagogy the Net offers: (a) constantly renewed ready-made resources and devices that could be used for language teaching purposes, although not initially designed and created for this purpose (non-dedicated), (b) ready-made didactic and support materials designed for language learning purposes (dedicated), and (c) innovative opportunities for the creation of dedicated language teaching, learning and support materials. The term WELL (Web Enhanced Language Learning) has been formulated to denote and describe the role of the Internet organism for the purposes of language teaching and learning. This role has been widely discussed and described, primarily in two fields: a) as an excellent source of authentic language and of material for class projects, where learners who have Internet access can easily log on and get information, practising the target language indirectly, and b) as a channel of communication for learners to sustain meaningful practice in synchronous and asynchronous discussions using the target language in real and authentic cross-cultural situations. In addition, a considerable number of academic institutions, educational organisations and individuals are continuously publishing sites for on-line language learning and practice, using the Net as a delivery mechanism (Medium or Tool) for their courses. Most importantly, the Internet has been responsible for a new attitude prevailing among scholars around the world, in that they are now more ready to collaborate, communicate and even publish and share their curricula, syllabi, and course-content and data, all of which were considered undisclosable information in the recent past, with others unknown.

On the other hand, the Internet is also described as ‘infosprawl’ a term which appears in Windeatt, Hardisty and Eastment (2000) due to the chaotic manner in which it is organized. Indeed, one of the major problems the Internet user may encounter today
relates, in fact, to the quantity of disorganized information on offer, as there is an infinite amount of materials and resources published without any kind of vetting procedure or assessment, which leads to the Internet deserving the term monster. Subject gateways, “doing for on-line information resources what librarians do for books” are constructed “to help users locate relevant and high quality resources on the Internet” (Site 1). Locating web sites is not, however, the only battle to be won, as “once you find them, you must know how to use them” (2). As a result, teacher-clients may be distracted by the amounts of disorganized information resulting from a search and may even become discouraged from integrating these materials to satisfy their own specific needs and circumstances and incorporate the organism in their teaching, a skill that clearly requires additional language pedagogy knowledge. Search engines used to be of service; however, nowadays it is getting harder to detect and classify findings as these engines do not include any instrument for scrutiny or evaluation in terms of what each site offers and how well the information is organised. Ypsilandis, Giouroglou and Economides (2002) offer such an example while underlining the fact that dedicated Internet materials for language learning do not always have a clear and sound methodological design and do not necessarily comply with the current pedagogical principles of language learning.

“One example could be that, using the terms “(English) language learning” as key words for an Internet search would reveal an extraordinarily huge amount of sites offering some sort of practice for language teaching. As a result it becomes very difficult for the average Internet oriented language teacher to detect, classify, evaluate, and integrate sites…”

1.3. Framing the study: preliminary delimitations

The purpose of this study is to discuss and provide a classification of the different possible language learning uses of the Internet and present examples of types of materials one may encounter surfing its pages. Furthermore, we discuss methods of classroom implementation. As indicated earlier, this categorization is limited to seeing the Internet only as a ‘host’ and in relation to the different types of materials that it offers its ‘guests’. Seen in this light, our categorization is not and could not possibly be exhaustive, since as already argued above, the Net is an organism which is continuously being enriched, both in terms of materials and devices. In this study, we do not consider the Internet as a vehicle for education or as a medium for communication, downloading of software or add-ins (such as Real Player, Acrobat

1 Numbers refer to websites listed as an appendix.
Reader), shopping etc., areas that we intend to investigate and pursue in future studies. However, we trust that this attempt can be of use: a) to those creating and offering language learning portals who may find in this proposal different modes of organizing and presenting information, b) to the language teacher who can find examples of different types of materials together with techniques and suggestions for possible practical applications, c) to the CALL researcher or creator of dedicated and non-dedicated CALL materials for the internet, who could be inspired by the suggested typology for the types of materials that s/he can construct.

2. Categorizing the net

Beyond the quite artificial distinction between teaching and learning resources, the Internet can be considered, first of all, as an infinite source of materials to be exploited for any purpose. The richness of all the types of materials available on the web allows us to consider it as a flexible living organism which, with the appropriate methodological or educational ‘shaping’, can provide answers to teaching aims and, as a result, fulfil learning needs. In this light, the Internet can be considered primarily as raw material (“matière brute” in the French bibliography), as a kind of deposit / warehouse/treasure-house without any prior FLT or FLL objectives. Many classifications typically focus on the value of the web for language teaching and learning purposes in the strictest sense and disregard this very aspect of the Internet. Consequently, we should not overlook the fact that the web primarily constitutes a self-sufficient and unlimited information repository (albeit “a heterogeneous and uncontrolled one”, techno-scepticists might add, see Turkle, 1997 and Queau, 1998) to be adapted and fitted to suit a specific learning context. Seen as an information repository, the Internet offers a large variety of free ready-made activities and learning tasks which can be selected to match the learner’s profile (native language, age, profession, technological skills etc.). Nevertheless, this same variety can be detracted from by the lack of interconnection between each activity. Apart from the integrative (a term suggested by Warschauer, 1996) e-learning or hybrid online courses, free activities on the Internet relate, for the large part, to distinctive “items” or “units” with little or no prior consideration given to their integration into the learning curriculum of specific circumstances or locations, unless initially constructed for this purpose. Explicit integration techniques need to be employed by a language
teacher to deliver the task i.e. to serve either individual or group learning needs and support the learning process.

In parallel with the widespread emergence of the Internet, attempts have been made by various enthusiastic scholars to present a list of activities with possible language learning benefits. It appears appropriate to recognise these endeavours. Among the first was Dave Sperling (1997:1) who sees the Internet as a resource, communication and publication ‘Information Highway’, which could be of interest to both students and teachers. Sperling claims that the Internet can provide

“an infinite number of resources for your students to improve their skills in reading, writing, grammar, listening, pronunciation, vocabulary, idioms, slang, Test of English as a Foreign Language, and even conversation” (while for teachers it can be) “an exhilarating tool for meeting and brainstorming with other teachers and students from around the world, locating and gathering class material, reading the latest journal articles and publications, accessing language learning software, and even finding a new teaching job”.

In his book, which is one of the first on the subject specifically for language learning, Sperling offers a detailed listing of different resources/materials of value to both teachers and students without, however, providing any activities these could be matched up with, a missing part he satisfied with his Internetactivity Workbook, published in 1999. An attempt to satisfy this missing link is also made by:

1. Dudeney (2000:30) who proposes several on-line integrative activities organised at different levels in which the net is seen not only as a resource centre, but also as a tool for classroom role-plays and projects, placing the students “in touch with other students of the same language around the world, taking part in collaborative projects on a global scale, to sending their homework to their teacher by email”.

2. Windeatt, Hardisty and Eastment (2000), who offer internet activities divided into three areas: a) those focussing on language, b) those focussing on the four skills, and c) one focussing on integrated and translation skills. Similarly to Dudeney (2000) all activities offered by Windeatt, Hardisty and Eastment (2000) are customised according to level of language proficiency and in addition they also present different methods of communication through the net, such as e-mail, discussion lists, text-conferencing, MOOs, audio-and video-conferencing, and bulletin boards.

Another Internet related textbook, created for the teaching of English, was prepared by Gitsaki and Taylor (2000) providing students with “direction and motivation to complete specific tasks, have fun, improve their second/foreign language skills” and increase learner autonomy, while Crystal (2001) wrote a book about the impact of the
Internet on (the English) language. Chappelle (2001) mainly concentrates on Computer Mediated Communication and the cross-cultural aspect in synchronous and asynchronous communication. Nevertheless, Chappelle (2001) poses the question to CALL researchers of “how are applied linguists to evaluate the extent to which technology is being exploited in a manner that is beneficial to learners and to the profession?” and further claims that although this fundamental question has been raised in the past two decades, attention has been devoted to practice (i.e. learning new technologies and developing new applications).

Typing in the keywords classifying the net in Google.com (March 2005) revealed 347,000 relevant sites. It seems appropriate to highlight three selected undertakings which relate to education in general or language education in particular. Sites 3 and 4 offer an initial three-category classification of Internet materials in relation to education or classroom activities:

a) *background information that could be useful for curriculum development;*

b) *curriculum outlines, materials or instructions addressed to teachers;*

c) *learning sequences or instructions intended for students to read.*

Examples of these suggested classifications, using the formats provided on Sites 3 and 4 are provided on Site 5. Site 2 offers a more detailed classification, which relates to an article by Tom March (1995) who sees three major categories: (a) Tools, described as being able to “help the user create something original or accomplish a task”, (b) Resources, references and hotlists designed to “provide information”, and (c) Lessons, activities, tutorials, and projects which typically “provide an active, online learning experience which can be used right in the classroom”. Typical examples based on these classifications are offered on Site 2. For the French-speaking community, Mangenot (1998) establishes his own classification, based on the distinction between teaching and learning materials, or materials for teachers and learners, a distinction also followed by the *englishclub.com/* and the Bell English On-Line at *bellenglish.com/resources/default.asp.*

3. The categories

This classification follows a distinction based on the purposes which underlie the design of specific online materials and is related to Scholfield and Ypsilandis’ (1994)
definition of dedicated and non-dedicated materials used for Computer Assisted Language software. Thus, ‘non-dedicated’ is any type of website which could be used for language teaching/learning purposes, although not specifically designed for that purpose, while ‘dedicated’ is the webpage that could be used straightforward by language teachers and does not usually require high-level integration techniques as its use is transparent from its design. The following diagram presents dedicated and non-dedicated Web on-line resources, looking at the organism only as a supplier of information.

3.1 Dedicated on-line resources
In this section we identify four major categories:

(A) Integrative are websites offering complete courses of general, specific or academic language, which combine a variety of skills using a variety of methods with
authentic material (Warschauer, 1996). These can be further divided into All-On-Line and Part-On-Line. The former are those in which all the materials are on-line and have the structure of a *self-contained course* usually constructed by institutions offering complete distance language courses which are free or paid for. These courses are typically organized in steps or units for different levels with relevant communicative speech acts or in some cases are related to well-known language certificates (e.g. University of Cambridge FCE, CAE, and CPE). Such courses typically follow the Presentation – Practice – Production paradigm in language teaching and include texts, audio and video for on-line activities, exercises and drills to suit all three (P - P - P) stages. The courses are designed to be used autonomously by the learner; however, frequently they offer a contact email for questions. An example of integrative materials is the BBC languages site at bbc.co.uk/languages, which offers short introductory courses for beginners in many foreign languages, such as French, German, Italian, Spanish, Greek, Portuguese and Chinese (9) or other languages spoken in the British Isles, such as Welsh or Gaelic. Materials in these languages are aimed mainly at individual learners wishing to acquire some basic oral skills. In addition, the Greek Institute for Language Speech and Processing has worked for many years to produce free online courses in the Greek language based on a multimodal approach, combining video, image, text and Internet links. (10). All these sites provide exercises as well. Courses of this type are transparent as to their usage and can be integrated straightforwardly, either by accepting the entire syllabus as has been provided by the designer/author or by using part of the content where this fits the syllabus followed by the teacher. The teacher here might direct the learners to its pages for autonomous language study during class time and offer extra feedback upon request. Nevertheless, it remains up to the teacher to prepare and offer controlled and free communicative role-plays or tasks in the classroom (or through the Net in the form of Computer-Mediated Communication). Clearly the provision of orientation training is prerequisite to learners’ engagement with such materials, a component that is often included on such sites.

In the case of part-on-line courses, on the other hand, only part of a language course is offered on-line, while there is material that is covered by the teacher in class. These websites are typically constructed by individuals or institutions offering general, specific, or academic language courses and include a supplementary Net component,
often consisting of tasks, exercises, drills and projects that the teacher does not have the time to cover in class during teaching hours. They differ from the discrete courses described below as these constitute only part of a complete course. Unlike all-on-line courses, integration is not straightforward here as one has to initially accept the syllabus designed by the author and further invent and offer the missing part i.e. the part offered by the teacher in class. Specific materials from these websites can be adopted as they appear and can be useful for directing students to extra activities, only if they meet the explicit syllabus used in a specific situation; that is, only for those particular teaching subjects or topics that meet with the specific syllabus designed and followed in a given situation. One example is the Goethe Institute website which offers different types of online exercises, with correct answers, for practice in German (11).

(B) Discrete websites offer activities, tasks and projects or exercises and drills on one aspect of the language e.g. one or more of the four skills, grammar or vocabulary. One example of a discrete portal is englishclub.com/ which provides a wide variety of tasks, exercises and drills of different types. These discrete and distinctive activities may lack connectivity, although they can easily be integrated into a language syllabus, as they are transparent with regard to what they have been designed for. Teachers can easily direct their students to a Self or Open Access Centre (SAC, OAC) for further practice in relation to the material or topic covered in class or by considering learners’ interests and needs. Projects can be adopted as they are or they can be adapted to meet the specific needs of a particular class. However, considerable attention should be paid to the content of these materials as there are sites containing errors.

(C) Support
Support sites are those providing valuable reference tools such as bilingual and multilingual language dictionaries, with thesauri; counselling / advising on learning and autonomy to assist learners in becoming more successful in the learning process and enhance the quality of learning; grammar reference sites (http://travlang.com/) which provide the theoretical grammatical background, occasionally with exercises and drills similarly to grammar books, offered through the HOT POTATOES (http://web.uvic.ca/hrd/halfbaked/) environment, for those independent learners who wish to locate a grammatical rule quickly and inexpensively and engage in cloze completion practice. Teachers can guide their students to these sites at the beginning of a course to increase learner autonomy and help students to organize their learning,
and, finally, find lexical and grammatical support whenever they need it. Examples of on-line dictionaries can be found at yourdictionary.com. The On Line English Language Grammar by Anthony Hughes at edufind.com/english/grammar/ provides short grammatical rules with examples, while excellent advice on independent language learning, together with learning tips, is provided by the universities of:

- Newcastle at ncl.ac.uk/langcen/Openacxs/oacindanglelearn.html, and
- Manchester at http://langcent.man.ac.uk/ill/ill.htm, and by
- Lingua Learn (an Internet provider) at lingualearn.co.uk/learners/advice.htm

(D) Galleries

Galleries are websites usually offering free dedicated audio and written texts with ready-made didactic exercises (with keys provided) to be used either by independent learners who wish to further their learning through exposure to more didactic materials or by teachers who may wish to find ready-made materials to adopt and use in their classes (this aspect of the Internet for personal and professional teacher development will be analysed in a future study). These sites are ideal locations for materials offered in SACs or OACs where learners can study autonomously or with the guidance of a language advisor. An example is yourenglishsolution.com, a website presenting ready-made listening, grammar and vocabulary exercises that learners can use autonomously. In addition, a learner can find there free downloadable English grammar notes offering comprehensive explanations, paper exercises and drills.

3.2 Non-dedicated online resources

“Raw” and heterogeneous Internet resources are classified in this category: from websites on travel, sports to e-zines, news channels etc. Although it is difficult to define clear-cut groups, we attempt to roughly sketch certain subcategories and give examples of implementation to language educators. As opposed to dedicated ready-made websites, non-dedicated online resources are not transparent as to their potential for language learning and need to be carefully adapted and integrated. Nunan (1995) suggests that this “adaptation” has to follow a task-based perspective, while Chapelle (2001) stresses that in addition to a carefully designed implementation, teachers should draw learners’ attention to meaning and language forms.

(A) Encyclopaedias, Databases and Concordances
Encyclopaedias, databases and concordances are some of the non-dedicated resources which could support language learning and teaching, with careful planning. Online and frequently updated encyclopedias, such as Encarta and Encyclopaedia Britannica (12, 13), are examples of the top-quality free reference materials available. These can be given to learners as suggested locations for reference materials for project work. In addition, databases of searchable idioms and phrases (14, 15) and websites with verb declensions (“Le Devoir conjugal” for Francophones, 16) can be used by foreign language learners and teachers as locations for reference materials. Databases are always clear as to their content and this makes it easy for both learners and teachers to identify their possible usage or usefulness as contributions. An example of a database working as a guide to grammar and writing is sponsored by the Capital Community Foundation College, Hartford, Connecticut and can be found at ccc.commnet.edu/grammar/. A concordance allows users to retrieve words or sequences of words from the pre-selected pool of a corpus e.g. daily newspapers. If any match occurs, a concordance sometimes appears on the screen or is sent to the user by email: this is a list of the occurrences retrieved in context (by default, 40 characters to the right and 40 characters to the left). Concordances (17) can assist the learner to identify the possible usages of that particular word within a body of text (corpus) and their frequency. This information can be invaluable in language learning as a learner can immediately identify word occurrence and therefore judge its importance and decide whether to learn it or not.

(B) Edutainment

Undoubtedly, the web is also a place for entertainment, offering information to kids, teenagers and adults, on subjects as diverse as Art and Music to Safety and Substance Abuse resources. Under edutainment (education + entertainment) can be classified all resources offering entertaining activities (not games) and information primarily for enjoyment, but also for the development of language skills and/or comprehension. This type of web resource could appear in an OAC/SAC in order for students to be exposed to, and be able to access and locate information of interest to them. Organizing Communities of Practice (known as CoPs) around an edutainment web site in order for learners to be able to present their projects, as well as collect and publish information on topics of interest to them can become an appealing opportunity for target language practice. Typically, these sites address different target age groups and often offer chat opportunities. The After-school Website (18) is a good example
of a well-structured edutainment gateway for teenagers, while edutainment websites for adults could be *electronic magazines* (e-zines) of interest to them. The term ‘edutainment’ can also be found on the Internet, incorporating education games for schoolchildren (22).

(C) General Information

Under the category of ‘general information’ can be classified all heterogeneous resources providing information on celebrities, known individuals, cities, museums, train and airplane time schedules etc. These can be used for tasks or projects where language students can learn how to locate (through skimming and scanning) and utilize information for class presentations. Internet locations of this type could be categorized in a list and offered in an OAC/SAC. Learners can be encouraged to visit certain sites regularly to trace information and plan real or virtual? school or family visits.

(D) Media

It would be inconceivable to list and evaluate all media providers within the framework of our study; we will only attempt to estimate the value of media providers in language education. These could be divided into Live, such as internet TV, Asynchronous, such as magazines and newspapers and Media Galleries or Gateways, which provide free text, audio and video on different subjects. Today, almost all media groups have an Internet portal where readers can obtain the latest updates and various other services: searching and retrieving older articles, communicating with users worldwide in open forums on controversial topics, finding job postings etc. The live media could serve as optimum references for learners to practice real comprehension of news of world interest which could be discussed in the classroom. On-line newspapers and magazines could provide opportunities for classroom discussions, by making comparisons of how world-breaking news is presented by different media providers or by studying the rhetoric employed in different cultures to present information. From among all the online media portals, of particular interest are those which offer online resources for learning. For example, the BBC, on its website dedicated to learning, offers tools for searching courses in all areas of interest, guides for lifelong learning studies, as well as extended resources on various topics: children’s learning, basic skills, adult learning and, of course, languages (site 9). For the French-speaking community, TV5 is apparently the biggest worldwide network which broadcasts news, but also has a portal dedicated to language learning. On its
website, one can find regularly updated news but also a separate section dedicated to French language education tv5.org/TV5Site/enseignants/apprendre_francais.php. At this URL one can find sheets of learning activities based on TV5 television programmes. These activities, which are prepared by professional teachers from a renowned language centre in France (CAVILAM), are arranged according to language level, thematic group and type of programme. Databases providing snapshots, graphics, pictures, video and audio flourish on the Internet. GoGraph and Microsoft Gallery clip art (19, 20) are perhaps the most widely known. Teachers can integrate these resources into meaningful classroom activities and tasks. A database which includes pictures and lesson plans for teachers is the Bips database in French (14).

(E) Games and Simulations

As for games and simulations, there are innumerable websites offering free games and simulations that can be played directly on-line, as opposed to those that can be downloaded. It would be too ambitious to enumerate them in our study. Many game portals gather players from all around the world and they participate in online games, for multiple players, mainly based on strategies and tactics. These could offer practice with specific (mostly military) language. From among thousands of online games, the ones that seem to be the most suitable for a classroom setting are word games or crosswords, for two or more players such as Scrabble, Word Mojo and Literati (at http://games.yahoo.com/). Tournaments with free participation are organised at (http://games.yahoo.com/tourney/calendar?league=yahoostar). Word games can serve as a motivational tool thanks to the recreational environment; more importantly, word games or crosswords can be integrated with task-based activities where vocabulary is embedded in original language texts? and where vocabulary items are explored and reconstructed by learners. Crosswords can also be created online as teaching materials using free web-based puzzle makers (21). Simulations can provide opportunities for off-screen classroom discussions, an aspect of CALL that has not been fully exploited. An example of a non-dedicated product, which potentially could be used in educational practice by one or more players, is the Sims, one of the best selling CD-ROMs worldwide. Its online version offers a space for multiple players to join in a common online enterprise with the resolution of tasks (thesimsonline.com/). Players endorse a character (a member of a family, a student on a university campus, a professional etc.) and have to cope with various situations in a
problem-solving approach. This approach, if adapted to specific language needs, could most probably fit in with a language learning curriculum.

4. Conclusion
The objective of this study was to outline the various types of sites that exist on the internet, seen only from the point of view of sources or depositories for content, and to suggest methods of classroom implementation. It is possible to conclude that dedicated internet sites are transparent as to their possible exploitation for language learning and therefore integration does not demand any additional pedagogical skills other than basic ICT skills for internet searching and storing of data. On the other hand, non-dedicated sites, which have been located and are not transparent as to their potential use for language learning, require more than ICT skills for successful and fruitful integration. One mode of approach to the problem, that an internet-oriented teacher has to face, would be to answer the usual Wh-questions of WHAT, WHY, and WHEN:

- WHAT would refer to understanding the site language content and design, by identifying what it is constructed for.
- WHY would refer to the possible learning objectives that could be nurtured with this content and design (form or meaning).
- WHEN would then refer to timing or stage / phase of learning within a Presentation - Practice - Production paradigm that this content could be integrated into.
- Clearly there is a need to include one more question here. HOW would then refer to implementation strategies and careful thinking about the teacher’s role in this voyage.

With regard to internet designers, we are in agreement with Tom March, who suggests “post no page before it’s sage”. Finally, there seems to be a need for an agreed or accepted international sign system (similar to the international driving system) for Internet designers to include on their sites in order to initially inform their customers about the content of their sites and the services that they provide.
REFERENCES


http://www.epyna.gr/modules.php?name=News&file=article&sid=82

**Appendix: Internet sites, last visited in March 20, 2005.**

8. http://online.web.cmu.edu/public/about/courses/