ONLINE COURSEWARE DESIGN AND DELIVERY: THE *INGENIO* AUTHORING SYSTEM

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Abstract

Online materials development for foreign language learning and teaching is still today in its initial stages, despite the fact that there are currently several robust, easy-to-use authoring tools that allow language teachers to design and publish their materials via the web. Increasingly, language teachers are creating their own web-delivered supplementary materials, even though most of these are isolated initiatives that are not made available to the language teaching community at large. Despite an increasing number of projects around the world aimed at maximising the effort and cost that goes into developing pedagogically sound online language learning materials by creating authoring packages to facilitate and guide the creation of materials, most of these have to be installed onto personal computers for individuals to use independently, without the possibility of creating a pool of multimedia exercises and resources that can be shared by a larger community.

Changing this situation is what triggered *Proyecto InGenio*. The aim was to design a completely online tool, based on the template approach to software authoring, that would allow language teachers from around the world to design their own materials –according to their student's needs and requirements–, create a database with these materials –thus making them available to other users–, and automatically convert them into learner-ready materials.

Proyecto InGenio has four basic outcomes: a) a language independent, on-line multimedia CALL authoring shell; b) an on-line learning environment offering the courseware designed and created within the *InGenio* authoring tool; c) a student assessment and on-line tutoring interface; and d) a translation tool to adapt the materials into different languages.

The authoring shell provides language teachers with 15 fully operative exercise templates, as well as a number of templates to create reference materials such as grammar notes, use of language, cultural information and so forth. In addition, *InGenio* allows the creation of monolingual or multilingual glossaries.

Progress reports can also be called up at any point during the learning process since an assessment facility is permanently available. The data is automatically transferred to the server while the materials are in use. Students and tutors can therefore monitor progress and access exercise results, scores, etc.

The system will be illustrated by describing one of the currently available *InGenio* courses, *Intermediate Online English,* designed for learners of English for Specific Purposes and currently being used at the Polytechnic University of Valencia.

1. Introduction

Teaching on-line is a rapidly expanding 21st century phenomenon in language teaching, and more so as far as teaching English is concerned. Just as an example, the number of entries called up in the *Google* search engine when the exact string "teaching English online" is typed in calls up a total of 25400 occurrences, whereas all other major European languages only call up a few screens of results. The occurrences include sites addressing learners —listing courses, materials, resources, etc.—, as well as tutors and instructors or researchers in the field. In addition, typing in "learning English online" calls up a further 35700 results, most of which either advertise commercially available online courses or offer free ready-made exercises. If we restrict the search even further and include + beginner level / elementary level / intermediate level / advanced level, we find in both strings that the higher the language level being targeted, the more results appear in increased progression. This may imply that lower levels of proficiency such as beginners and elementary learners prefer face-to-face tuition and classroom contact, whereas intermediate and advanced learners are more willing to explore autonomous learning scenarios; a fact that seems only natural considering that learners who have an intermediate or advanced level of proficiency can to a larger

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extent become independent learners due to an existing knowledge base and subsequent understanding of the target language, conferring more autonomy on them. This suggests that the Internet is slowly becoming an integral part of our English language teaching practice, specially at levels targeting higher intermediate to advanced learners, that there is an audience for these courses and that learners are increasingly in need of materials and learning scenarios outside the limits of more traditional teaching. However, it does not come as a surprise that when we search for teaching or learning professional or academic English online, there are no results whatsoever. Although there is a large community of language learners who seek to learn languages for specific or academic purposes, there is a very small community of language teachers who are willing to embark in creating tailor-made materials for their learners' specific professional needs; and, understandably so, if we take into account –even today– the amount of time, will and effort that goes into designing interactive multimedia materials for the web.

The will to change this drove us to design the *InGenio* online authoring shell, an entirely web-based multilingual tool that enables language teachers from around the world to design and publish, very easily, language learning courseware without having to acquire additional computer programming skills. The tool was developed within *Proyecto InGenio*[2], which produced three basic outcomes in addition to the language independent, on-line multimedia authoring shell; i) an on-line learning environment offering the courseware designed and created within the *InGenio* authoring tool; ii) a student assessment and on-line tutoring interface; and iii) a translation tool to adapt the materials into different support languages –L1s. These four components are currently being integrated into the *InGenio* Content Management System (CMS), an interface specifically devoted to managing, facilitating use of and sharing web content designed and published with our system.

Further to designing the authoring shell, we then embarked on designing an intermediate level online English course intended for learners of English for engineering purposes as a prototype to illustrate some of the things that could be done with the tool. The course is known as *Intermediate Online English.* The examples given below will all refer to this courseware.

2. Approaches and methodology – independent & autonomous learning

When combining the principles underlying teaching languages for professional or academic purposes and e-language learning, one comes to the conclusion that the learning process must foster a number of strategies to ensure deep learning[3] through critical thinking and analysis of new information and ideas, linking these to already known concepts, and leading to understanding and long-term retention of (newly acquired) knowledge. In addition, the use of Information and Communications Technologies (ICT) in the language curriculum has, to some extent, been responsible for the shift from focusing on the teacher to focusing on the learner when designing web-enhanced materials, and has led courseware designers to adopt a constructivist approach to learning, whereby the student is encouraged to actively construct knowledge and the teacher becomes a guide to support learners through the process of learning. In so doing, students must be equipped with all the necessary tools to become independent learners and take responsibility for their own learning. As pointed out by Blin (2005, p.33), "Independent language learning environments present language learning opportunities that do not require the constant intervention of a teacher or that can be pursued outside the framework of an educational institution."

Thus, online learning resources such as the ones which can be developed using the *InGenio* platform should ultimately encourage "active learning", that is, a context where the learner is encouraged to write, speak, actively participate, interact with fellow learners, etc. in a resourceful and stimulating learning environment, yet not necessarily under the constant supervision of a teacher. This scenario naturally implies making use of currently available technologies such as video and audio conferencing tools, instant messaging tools, blogs[4], wikis[5], etc. The very nature of these tools provide learners with a fair amount of independence which nevertheless also requires guidance by a qualified instructor to help the learner orient his or her activity toward the learning process itself and not deviate attention towards other possible distracting scenarios. Learner autonomy, understood as the capacity to self-manage learning, is also one of the key concepts which has rapidly evolved due to the integration of Computer Assisted Language Learning (CALL) into the language curriculum. As Littlewood (1997, p.83) points out, "The autonomous learner takes responsibility for his or her own learning, has developed useful and effective learning strategies and is able to work independently." In CALL materials' design, most authors are aware of the fact that a

[2] *Proyecto InGenio* was developed by the CAMILLE R&D Group and entirely funded by the Universidad Politécnica de Valencia (Spain). For further information, please refer to the following site http://camilleweb.upv.es/camille.

[3] *Deep learning* as opposed to *surface learning.* Weigel, V. B. (2002). *Deep learning for a digital age: Technology's untapped potential to enrich higher education*. San Francisco: Jossey-Bass.

[4] Blog, a term that originates from the combination of "web" and "log", is a website where entries are made and normally displayed in reverse chronological order. Visitor may add comments to these entries.

[5] A wiki is a website that allows the visitors themselves to easily add, remove and otherwise edit and change some available content, sometimes without the need for registration; wikis are especially useful for collaborative writing projects.

variety of teaching strategies have to be implemented in the courseware in order to facilitate and encourage learners to take up the endeavour of second language acquisition. To this end, the *InGenio* authoring tool has been designed to include, as well as a considerable number of exercise templates, reference materials such as grammar notes, cultural information, multilingual sound-enhanced dictionaries and glossaries, etc. in order to provide learners with all the necessary resources that contribute toward enriching comprehension and understanding of the target language. Another important factor to bear in mind is the need for the inclusion of meaningful corrective feedback on which the learner can rely to support their progress.

In terms of methodology, *InGenio* can be adopted to suit a large number of teaching methodologies, ranging from structural methods to a more communicative approach to language learning. The exercise templates are particularly suitable for designing courses that attempt to acknowledge the fact that a true linguistic competence implies being able to use the language that is appropriate to a given social and cultural context in order to achieve a specific communicative goal. To do this, learners need knowledge of the linguistic forms, meanings and functions for a given context. To achieve this end *InGenio* provides a variety of goal-oriented learning strategies in a media rich electronic environment that supports the study of the target language. The notion of supporting the study of the language is crucial here. Our objective was not so much the creation of software to "teach" the language, but the construction of learning resources in the shape of an environment that would provide the student with all the tools and information, short of a live teacher, that they might need to undertake a language course.

Because "there are strong arguments to support the notion that students will need higher levels of explicit and implicit assistance in computerised than in face-to-face environments" (Trinder, 2006, p.97), online courseware must replace the absence of face-to-face interaction with techniques and strategies which give the student appropriate support. In order to illustrate this more thoroughly, the following section deals with an overview of the *InGenio* authoring system[6]. As we can see in Figure 1, the system features, including registration of users (authors, students, tutors and translators), as well as the authoring shell, can be accessed by clicking on the main menu items on the left.

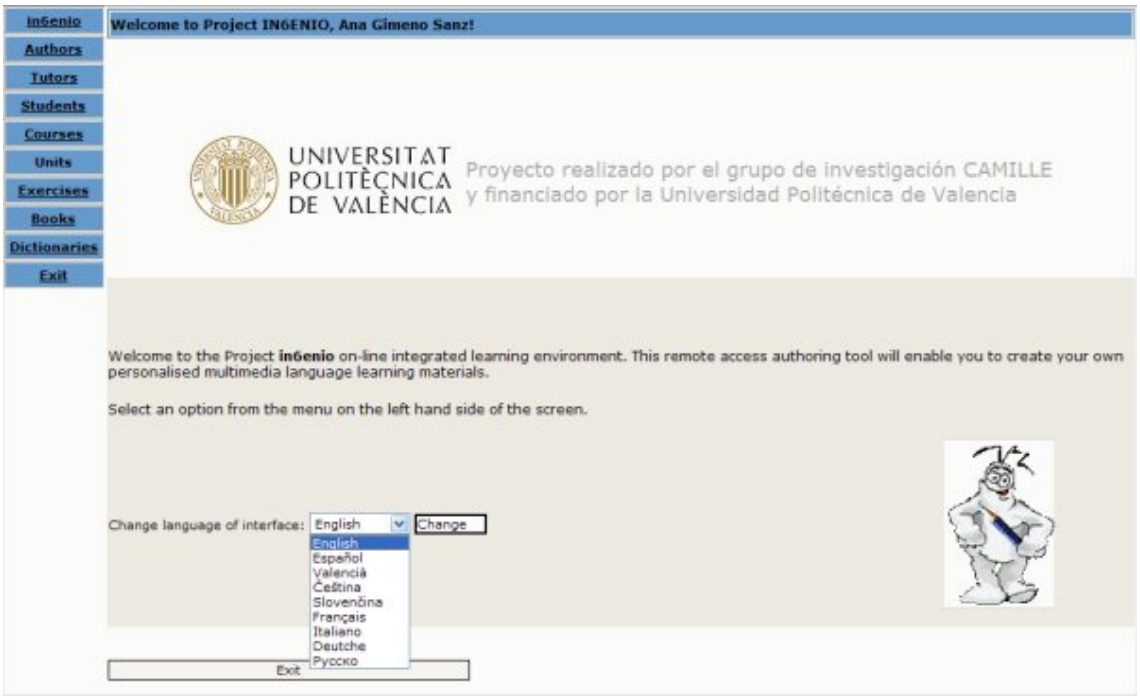

Figure 1. The *InGenio* authoring shell front page.

3. Exercise templates

In order to implement activities that engage learners in the construction of knowledge, the authoring tool comprises two templates that are suitable for fact-finding and for retrieving relevant data from a particular source of information,

[6] Versions of the description of the *InGenio* authoring system that follows have been previously published in Gimeno (2006) and in "How can CLIL benefit from the integration of Information and Communications Technologies?", shortly to be published in a special issue dedicated to Content and Language Integrated Learning (CLIL), edited by Do Coyle & Hugo Baetens-Beardsmore, of the *International Journal of Bilingual Education and Bilingualism.* Clevedon: Multilingual Matters.

whether it is audio, video, text or a combination of these. Activities such as note-taking, which can play an important role in improving the learner's long-term retention of newly acquired knowledge (Perry, 2007), completing information gaps and diagrams, etc. can be designed with the following templates.

a) Presentation of information. This template permits the inclusion of any text type, in addition to images and audio. These templates have been devised to introduce the lesson contents, task or problem by means of an introductory text, illustration(s) and/or sound file(s). They are the simplest of the templates but are particularly appropriate, for example, to introduce the text preceding a reading comprehension exercise or to give a set of instructions. Students can be led to find facts out of the information provided. Because lengthy reading from a screen is not advisable (Dillon, 2004), texts should be presented in reasonable chunks without altering their semantic structure and accompanied by exercises specifically designed to ensure understanding of text content.

b) Video sequence and script. This template enables the insertion of video sequences in any of the most common formats at three transfer rates[7] in order to accommodate different bandwidths. Additionally, the video script can be included although the default mode does not automatically unveil the script, but instead, has to be called up. This template is particularly suitable to introduce the video sequence preceding a listening comprehension exercise to assess learner understanding. Presenting descriptions, processes, procedures, etc. audio-visually has a high impact on input retention. In terms of English for Academic and Professional Purposes (EAPP), where the language syllabus would normally incorporate topics dealing with the given professional subject matter, this template would allow instructors to introduce a new topic from the syllabus and accompany it with follow-up exercises whilst simultaneously designing exercises focussing on the language content of the video sequence.

c) Tasks such as ordering and sorting information can also be transferred onto the computer screen be designing exercises for students to classify and categorise elements according to specified criteria. Rearranging information is a useful task when requiring learners to sort ideas and concepts that are depicted in a preceding text or audio-visual. For example, these exercises can be useful to verify listening comprehension after listening to an audio sequence presenting source information. In terms of functionality, the reordering template allows content providers to create exercises where images or text have to be reordered either vertically or horizontally on the screen. The text to be reordered can be an individual word or an edited fragment (e.g. parts of a letter). It includes the option of adding a sound file as input to aid in completing the exercise.

d) Tasks dealing with comparisons such as matching, finding similarities and differences can be appropriate to enhance associations of ideas and concepts. To this end, the matching template allows courseware designers to create exercises based on appropriately assembling items. Associations can be made by matching textual input, images or sound to a given text. An introductory video clip or audio file can be optionally included, as well as visual support. The options can be randomised, allowing up to 25 options per question. The options appear in a pull-down menu alongside the exercise input. Matching exercises are commonly used for recognition of relationships and for making associations of various nature, e.g. terms and definitions, symbols and names, questions with answers, cause with effect, parts with functions, procedures with operations, principles with situations in which they apply, etc. They can therefore have countless functions and measure a great variety of learning outcomes.

Problem solving is no doubt one of the key activities in a learner-centred approach to task design. Problem solving involves analysing real or hypothetical situations, reasoning and decision-making. The outcomes of these tasks being the solution to the problem, which can subsequently be evaluated and assessed. These tasks imply allowing learners to write open input during their course of study. The two following templates have been designed with this premise in mind.

e) Open input without sound. This template has been designed to create activities where learners are requested to write their own input. These can take the form of rewriting, information transfer, giving short answers, etc. Open questions that require students to provide short answers can be used to assess recollection of data –as opposed to recognition– thus providing an opportunity for higher-level questions. These should encourage students to analyse data and subsequently reason their answers. In this template learners are requested to write their answers in a blank box provided, thus enabling student input to be transferred to the *InGenio* server where it can be accessed by a tutor for assessment and for provision of appropriate feedback. Images can also be added as visual aids.

f) Open input with sound. This template resembles the previous one, however it includes the possibility of adding an audio file. Learners can follow oral instructions to carry out written tasks and transfer their input to the *InGenio* server for a tutor to correct and provide feedback.

[7] A choice of 56, 256 or 512 kbps is available.

Monitoring comprehension is crucial to assess learning outcomes. Providing relevant information and designing tasks to support the acquisition of new knowledge in a specific discipline is generally followed by a final stage, which is to assess our learners' intake and monitor learning. The following four templates have been designed to measure comprehension in two different ways, by selecting an appropriate answer from a range of options or by completing an information gap with relevant data. Multiple-choice questions are useful to measure many kinds of subject matter and learning outcomes, as well as providing objective scoring. They can be used to check memory for facts, to check recognition, etc., as well as providing diagnostic information when learner's are additionally requested to support their answers.

g) Multiple-choice questions (single selection with pull-down menu). This template combines text, audio and image. It can take a variety of forms such as listening to an introductory audio sequence or reading a question and then clicking on the appropriate option. This exercise allows only one correct answer. It is particularly suitable for listening or reading comprehension activities such as True/False questions, which measure the ability to identify whether statements of facts, principles, generalizations, relationships, or evaluative statements are correct. They can be factual or involve reasoning if learners are additionally requested to support their answers.

h) Multiple-choice questions (single selection menu). This multiple-choice template allows courseware designers to include a video sequence or a sound file and an image to support exercise completion. This variety permits only one correct answer. Hints associated to each of the options (in the form of a "tool-tip") can be displayed if required. As well as the exercise text input, additional explanatory notes can be added below the options. These can be randomised so that they appear in a different order each time the exercise is accessed.

i) Multiple-choice questions (multiple selection). This multiple-choice template allows for several possible answers, as well as the possibility of including a video or an audio clip as initial input. It also permits the inclusion of images, both as support material and as selection items (options). It can have up to 25 options to choose from and each of these can have a hint associated to it. The options can be randomised so that they appear in a different order each time the exercise is accessed.

j) Gap-filling exercises. This template also allows the inclusion of an image or an audio file as additional input. Each gap can have up to a maximum of three correct answers, as well as a hint to aid the learner in its completion. We can also attach a help facility to each gap –which appears as a "tool-tip"–, in addition to specific positive and negative feedback. The learner can choose to see the correct answer partially, after having filled each gap, or completely, after having completed the entire exercise.

Additionally, in order to reinforce specific vocabulary relating to the target subject matter, *InGenio* provides a number of templates designed to aid vocabulary acquisition of the foreign language, as well as being a means of rooting key concepts that are relevant to the subject.

k) Vocabulary building. This template allows authors to write lists of words and optionally to include text, pictures and audio files to either provide a definition, translation, illustration and /or pronunciation of a given word or expression. Students tend to find this type of exercise challenging and very rewarding when satisfactory results are achieved.

l) Clickable image (hot spots, single selection). This template allows authors to create observation (passive) exercises that are specially suited to vocabulary practice. In student mode, an image is displayed (a photo, picture or illustration) and a number of "hot spots" can be selected which will activate a response by the computer when clicked on. This response can be audio, text or both. Up to 10 "hot spots" can be designated.

m) Clickable images (multiple selection). This template allows content providers to create exploration (active) exercises resembling the previous one but differing in that the audio or visual input triggers a response from the learner and appropriate feedback is provided immediately afterwards. In this model the learner is requested to make a choice out of a number of visual options. Both this and the previous template allow authors to include notes or additional activities below the pictures.

n) Word search puzzles. The authoring tool comprises two templates to create word games aiming to combine entertainment and learning. The first one enables materials writers to create word search puzzles. The amount of words to include in the grid and the level of difficulty depends entirely on the author. The template offers the choice of providing or hiding the list of words that have to be found. These puzzles may prove very useful for vocabulary revision at the end of a practice unit. Hints to aid in completing the game and feedback can also be included in this typology.

o) Hanged-man exercises. The second word game template allows content providers to create hanged-man exercises, which can work at letter, word or sentence level. The number of attempts is limited to 6, which are the number of elements comprising the hanged-man. This typology is also useful for vocabulary practice and is suitable when seeking distraction from other activities that require far more student concentration.

4. System general features

Time limits can be given to all the exercises and the number of attempts that a student is allowed to complete an exercise can also be restricted. These options have been programmed to enable authors to create a variety of assessment tests.

The images, audio or video files embedded in the exercises can be called up directly from within the authoring shell to enable content providers to be aware at all times of all the multimedia components that integrate a sole activity. Images, furthermore, are automatically resized to fit their location within the learner-template, thus avoiding authors from having to edit images unnecessarily. When designing an activity, the content provider may at all times see a preview of the exercise in student mode. This is possible because every time the materials are updated the information is automatically uploaded onto the *InGenio* server[8].

One of the features that can be specified in all the templates where the learner is requested to write is whether we wish student input to be case sensitive or not. This option becomes especially useful when designing exercises that focus more on meaning than on form and where it may be relatively irrelevant whether punctuation is respected.

Although voice recording has not been programmed into the system, it is nevertheless possible to design exercises where the learner is requested to record his or her own utterances by accessing the Windows Media Player, which can be called up and minimised when not in use. Evaluation of oral production will be subject to learner comparison with a pre-recorded model or by tutor intervention. Future developments include incorporating voice recognition software into the *InGenio* system.

In any of the exercise or reference materials templates links to other websites can be included. This is particularly suitable when designing exercises where the learner is requested to access another existing web page, for instance to read or listen to a passage, or even watch a video sequence, and then complete our own exercise. This obviously avoids problems with copyright clearance issues.

5. Provision of reference materials

Provision of appropriate reference materials for the language level and purpose of the course being designed is, needless to say, of vital importance in autonomous language learning. Designers must ensure that the target language is not deprived of any element that may support the learner's acquisition process. Thus, *InGenio* provides a number of templates to enable content providers to create reference materials that can be associated individually to exercises or called up as independent tools during the student's course of study.

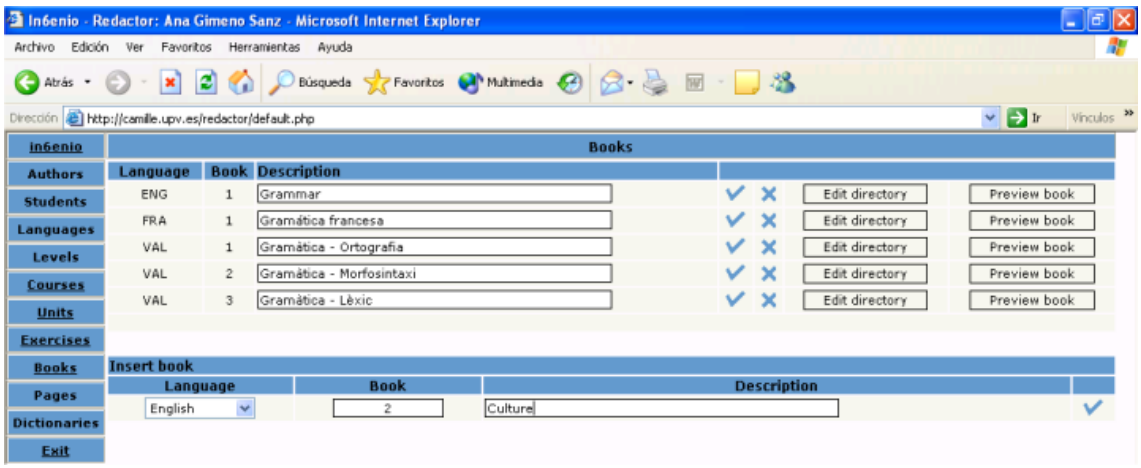

Figure 2. *IN6ENIO* reference materials editor.

[8] The *InGenio* server is hosted by the Universidad Politécnica de Valencia's Information and Communications Office.

As we can see in Figure 2, new reference materials can be immediately added by indicating the language, giving it a reference number and a description. The new "book" will be created and immediately entered into the list of already existing reference sources. This screen also enables us to edit the contents directory and preview any of the "books" by clicking on the appropriate items.

The actual "pages" within any of the books can be created, modified, edited or deleted with great ease. The contents of a given page are inserted using hypertext mark-up language (HTML) with an external web editor,[9] thus allowing authors to edit the text according to their preferences. The source code simply has to be copied and pasted into the appropriate field. This screen also automatically previews the contents of the page so that authors can immediately verify them. These newly created pages can additionally be linked to existing exercises or included as an introductory section to the exercises within a learning unit.

The *InGenio* authoring tool also enables authors to create monolingual or multilingual glossaries and dictionaries. Each of the exercise templates includes an option whereby any of the words can become a hypertext link that displays the glossed item or dictionary entry in student mode. In the event that a highlighted word should not be found in the courseware glossary, the author may specify a default online dictionary from which to retrieve the word entry in response to a student's query. All entries may, optionally, be enhanced with an audio file of an illustration.

6. Student assessment

Students can at all times check correct/incorrect answers, give up and see correct answers or request evaluation. Until the student actually requests evaluation, an exercise may be refreshed and any number of attempts made, unless the exercise has been marked as being a test, in which case the "refresh screen" option will have been disabled.

Progress reports can be called up at any point during the learning process since a link to the assessment function is permanently available on the screen. The data is automatically transferred to the server while the materials are in use, therefore allowing students to monitor their progress during the course of their work. The results are presented in percentages, registering date and time, number of completed exercises, scores, etc., as shown in Figure 3.

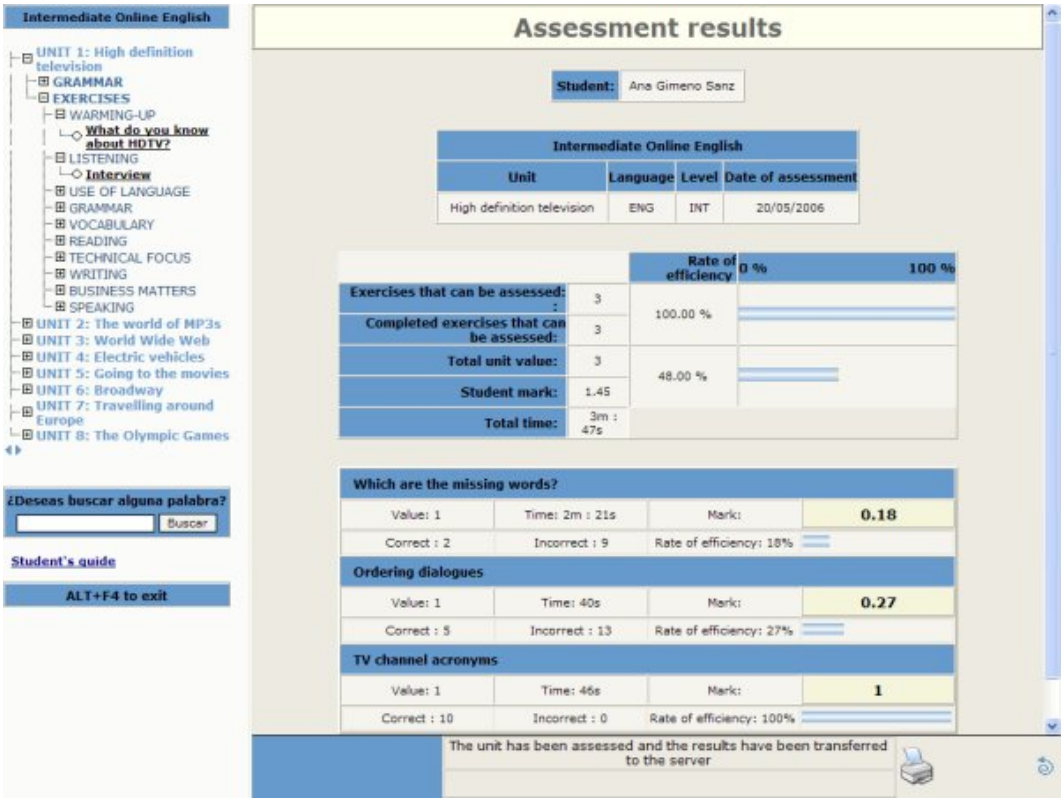

Figure 3. *InGenio* student assessment report.

[9] Macromedia Dreamweaver and Microsoft FrontPage are two of the most commonly used web editors.

Since the system automatically registers and tracks student performance, tutors using the course materials with registered users may access progress reports, as well as the student's written production deriving from open input activities in order for them to correct and mark these, and provide appropriate feedback. These marks will automatically be averaged by the system in order to give students a final mark or score. When specified in a template, learners may also upload any type of file (spreadsheets, audio, etc.) onto the server for their tutors to evaluate and assess together with any other course work.

7. Feedback and tutor interface

Users (materials writers, students, tutors and translators) access the *InGenio* tools once they have been registered on the system, which is managed by the system administrator. Students are registered on the system and assigned a tutor, if appropriate, from the list of registered *InGenio* courseware tutors. These can supervise their students' work in real time as the assessment tool described above transfers the data to the server instantly after the learner is satisfied with his or her input and decides to seek evaluation. This action is equivalent to handing in an exercise to a teacher for correction and marking. In our view, it is crucial to provide learners with adequate assessment tools (scores, individualised comments, etc.) and appropriate feedback, whether this is immediate or delayed (Pujolà, 2001), so as to avoid unnecessary frustration which may be caused by feelings of lack of support. Feedback in *InGenio* can be included according to various modalities. The exercise templates include a default feedback mode that provides learners with immediate feedback after completing an exercise and transferring the data to the server. This default feedback opens up as a separate pop-up window with a random comment and/or recommendation from a list of possible comments/recommendations that have been programmed into the system following a number of parameters describing learner performance. Scores themselves are also given, in addition to an indication of the time that has been spent on a given exercise.

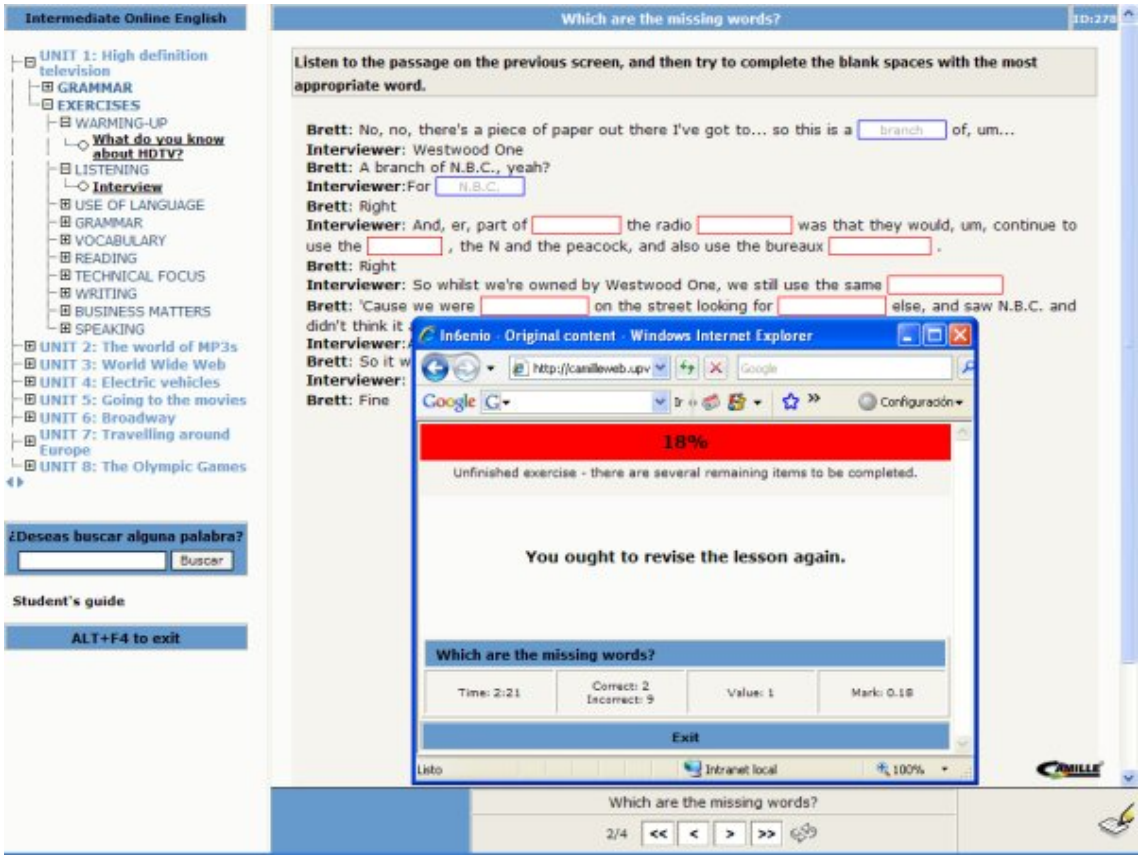

Figure 4. Default immediate feedback.

The default feedback can be altered by the materials writer at any time by supplying specific feedback for a particular exercise, although individualised corrective feedback may only be provided by the tutor when supervising the learner's input through the *InGenio* tutor interface. In a gap-filling exercise, for instance, both positive and negative feedback can be provided for each blank space to be completed by the learner —as well as a hint and contextual help to aid comprehension and exercise completion—, in addition to overall feedback after completing the entire exercise. Since one of the advantages of multimedia technology is the computer's immediate response to a mere

touch of a key or mouse click, this is very useful when dealing with positive or negative feedback in reaction to the learner's performance in completing an activity or exercise. Learners, we have observed, tend to find it encouraging to read and/or hear immediate positive feedback when they have completed an exercise successfully. A considerable variety of positive or negative text, audio or text and audio messages should appear/be heard at random and should be graded according to learner achievements. In a number of exercises feedback can be programmed depending on the number of attempts and a specific score given to each of these. We should include appropriate feedback for a "correct answer", a "partially correct answer", an "incorrect answer", or even exercise-specific feedback when a combination of options are required in order to complete an exercise successfully. An adequate way of offering positive feedback, for example, is to have the audio file of a particular exercise play when a correct answer is given. Negative feedback, of course, has to be meaningful. It should always be clear what kind of mistake has been made and the feedback should provide not only awareness as to where the mistake lies, but also how to improve the learner's performance. Wherever possible we must avoid abrupt statements such as "No", "Incorrect, try again", but instead provide constructive criticism and try to anticipate and predict our learners' behaviour when completing an activity. This may be achieved by carrying out –prior to the design stage– an error analysis based, for example, on L1 interference. (Gimeno, 2002)

The *InGenio* tutor interface (see Figure 5 below) comprises two viewing modes. One that includes the list of registered learners and general information such as the course a learner is registered on, average mark achieved, percentage of course completed, etc., and a more detailed one that provides information indicating specific performance on each exercise that has been evaluated. When a learner transfers an open input text, the programme gives the student an overall provisional grade until the tutor has personally assessed that exercise, scored it and —optionally— provided specific individualised feedback, which the learner subsequently has access to. Current system developments include the possibility of learners being able to upload files.

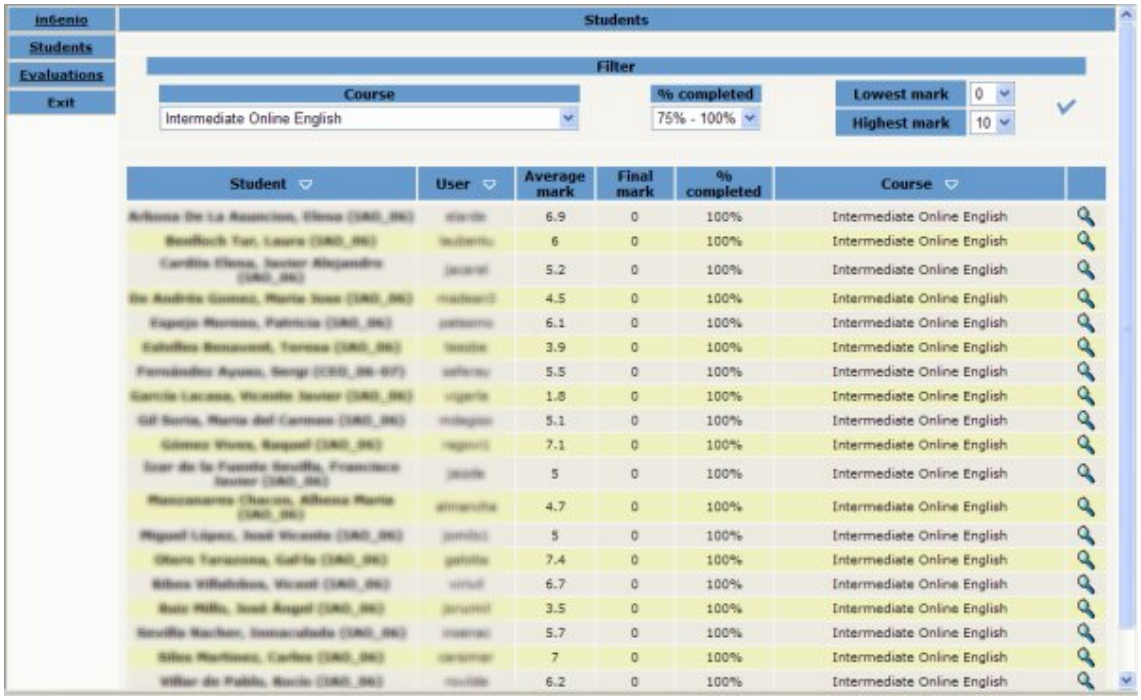

Figure 5. *InGenio* tutor mode.

Tutors who are registered on the *InGenio* system are thus advised to make use of the various feedback utilities included in the system in order to provide learners with corrective feedback that is relevant for the learning process, as well as inspiring and motivating for students.

8. *Intermediate Online English*

Intermediate Online English, as mentioned above, was designed as a prototype to illustrate what could be done and how the *InGenio* authoring tool worked. It has since been updated and is currently being used as the basis for a course delivered at the Universidad Politécnica de Valencia (UPV) called "Computer Assisted English"[10]. The online

[10] This is an elective subject worth 4.5 credits (45 hours of student workload) open to all UPV students.

course is embedded into the *InGenio* Learning Environment (LE), to which registered students have free access. The online English course is intended for intermediate learners of English seeking to achieve level B2 of the Common European Framework of Reference for Languages (CEFRL), i.e. that of an independent user, who

> can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and Independent disadvantages of various options. (CEFRL, p. 24)

Because one of the aims of the course was to reinforce technical English, *Intermediate Online English* was divided into two distinct parts; one, devoted to semi-technical issues such as digital devices, ICT, electric vehicles, the WWW, etc., which could be of general interest to our students, and another, focussing on more general topics such as leisure activities, the Olympic games, theatre-going, film festivals, etc. The aim of this division was to balance the intake of formal versus informal language and structures. The courseware aims to provide the conditions in which learners can develop communicative competences in their own way and in their own time. This, we think is achieved, among other things, by presenting a default route to follow, offering diversity of activities and developing a progression which moves from receptive to productive skills. Various strategies have been included that are designed to encourage problem solving and resolution of specific tasks, aiming at developing the learner's ability to apply and adapt their knowledge of the target language to specific communicative scenarios. The problems and the tasks, therefore, have been designed to encourage learners to use the target language for a communicative purpose in order to achieve an outcome.

Figure 6. Sample exercise from *Intermediate Online English*.

In *Intermediate Online English,* all eight units are preceded by a grammar section, —aimed at revising grammatical notions that are relevant to the course contents— and are divided into the following ten sub-headings: listening, use of language, grammar, vocabulary, reading, technical focus, writing, business matters, and speaking, which include a varied number of exercises relating to the section's prime focus. The course itself comprises over 300 exercises and activities designed to expose learners to the intricacies of the target language and generate a sound basis for consolidation and acquisition.

Within this general course outline, the courseware also combines several interrelated teaching approaches; ranging from the more LSP-oriented[11] approaches such as the functional/notional approach, through the more traditional language form approach that primarily focuses on structures, to a more contextual approach. Among the approaches that were applied to determine the course design and structure, the functional/notional approach allowed us to specify the desired learning outcomes in terms of language functions (e.g. making a request, advising a colleague on how to proceed), general as well as specific notions (e.g. duration, location), and rhetorical skills (e.g. extracting information from a dialogue). The language form approach helped to shape the structures that were present in the language functions in order to achieve learner awareness as to the linguistic forms being used, and the contextual approach enabled us to determine the situations in which the functions, notions and structures were embedded.

9. Conclusions

To conclude, the *InGenio* authoring system is a robust and flexible tool that enables language teachers from around the world to collaborate in creating innovative online language learning courseware and to share what others have previously designed. The *InGenio* system comprises 4 integrated modes, i.e. a) author mode, to design and publish online materials; b) learner mode, which gives access to the courses embedded in the *InGenio* Learning Environment; c) tutor mode, to assess students' progress, and d) translator mode, which enables interested parties to adapt the courses to any number of support languages. The system has been designed to foster independent learning and ensures that the most recent Internet-based developments can be integrated into the online courses and, due to its versatility, can be constantly updated as the need may arise.

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