STUDENTS' PARTICIPATION IN AN ARCHAEOANTHROPOLOGY COURSE USING A CONTENT AND LANGUAGE INTEGRATED LEARNING (CLIL) METHODOLOGY

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Abstract

In this paper we present the results of an ongoing archaeoanthropology project which was started in the year 2007 at Benabbio, a village located near Lucca, in northern Tuscany, Italy. Aim of the project is to exhume individuals buried in the medieval cemetery near the church of the Castle of Benabbio (also in course of excavation), and of people who died in the village during the cholera epidemic of the year 1855. Burials and artefacts, ranging between 12th and 19th centuries, have been recorded on a computer database to provide information about the cultural and physical aspects of this ancient human group. The discovery of some well preserved medieval houses led to the decision to examine the settlement in its entirety, exploring the spatial and chronological development of the site. Archaeological exploration of this vast area will involve not only the cemetery of the castle but also the houses and the manor, investigating the origins of the settlement and the early stages of encastlement, by which the local lord could dominate the surrounding countryside and control his neighbours. It will be possible to reconstruct the different phases of organization of the settlement and the life-style and diseases of the inhabitants of the castle. Furthermore, this project is an important test-bed for the development of field techniques such as balloon photography, high-resolution georadar survey, GIS, as well as special laboratory techniques for palaeopathology such as computerized tomography (CT), electron microscopy (EM), stable isotope palaeonutrition and ancient DNA (aDNA), that can be used to diagnose ancient diseases.

This paper has a dual purpose: on the one hand, it makes the first results of the excavations available to the widest possible audience; on the other hand, it describes the application of a CLIL methodology which uses a foreign language to study a specific discipline. In this case, English is used as supporting language to carry out a number of tasks on the archaeological site, within an environment of interaction where the peers, the archaeologist, the content and language teachers are working in collaboration. The language is embedded within the activities, in particular two separate groups of students will be working on the two different sites (the cemetery and the residential complex), communicating in English with students graduating in the same discipline in Great Britain and the United States. The two groups will be asked to keep a running diary of the daily activities, and to document this information, using the blogging features of Office Word, a familiar device offering a wide range of writing tools that can help create an ongoing online record of their experiences. The project, organized and funded by the Division of Palaeopathology of Pisa University, has been approved by the Faculty of Humanities of the University of Pisa.

Keywords - Archaeoanthropology, content and language integrated learning (CLIL), computer technology, laboratory techniques, field archaeology.

1 INTRODUCTION

In 2007, a course in funerary archaeology held at the Division of Palaeopathology of Pisa University was integrated by the excavations carried out in the archaeological area of Benabbio, a small village which is located near the town of Lucca in the northern part of the Tuscany region in Italy (Fig. 1). The discovery of some well preserved medieval houses led to the decision to examine the origins of the
settlement in its entirety, exploring the spatial and chronological development of the site, the early stages of encastlement, and not only the houses and the manor, but also the cemetery within the walls of the castle.

This year the content course, now renamed archaeoanthropology, covers a broader range of topics, from the study of death, ancient burials and human skeletal remains, body disposal, the rites and beliefs of past populations, to the dynamics of human settlement in the area of northern Tuscany in relation to historical events. The course is also concerned with techniques of excavation and recovery of materials, modern technical and scientific laboratory methods, and includes lectures dealing with the programme issues, laboratory activities, application of techniques to the materials and artefacts recovered during the archaeological excavations, as well as the analysis and interpretation of the data. The course is attended by undergraduates with particular interest in archaeology and anthropology, but students with some background knowledge of medicine, palaeopathology, ancient history and art are also accepted.

Fig.1 - Village of Benabbio, Bagni di Lucca, northern Tuscany, Italy.

The Faculty of Pisa University has approved a parallel archaeoanthropology course to be carried out next year using a Content and Language Integrated Learning (CLIL) methodology. CLIL consists in the exploitation of a vehicular foreign language to teach a particular subject which is not the second language and can be used in a variety of learning environments. The aim of an approach of this type is to acquire language proficiency simultaneously with content mastery and achievement of more challenging performance standards.

This paper is organized as follows: the introduction outlines the contents of an archaeoanthropology course held at the Division of Palaeopathology of Pisa University, and followed by archaeological excavations performed on a site in northern Tuscany, Italy. Part two describes in detail the castle and residential area on the one hand, and the church and cemetery on the other. Part three focuses on the different types of technology employed during the different phases of work on the excavation site, while part four is concerned with the main features of the content and language integrated learning course and the specific tasks assigned to the students. Part five shows how software and electronic tools used in the classroom for content and language teaching can be combined with field archaeology equipment to assess the students working on the excavation site.

2 ARCHAEOLOGICAL INVESTIGATIONS

The 2007 archaeological excavation campaigns at the castle of Benabbio were continued in August-September 2008 and July-August 2009. The investigations, promoted by the Division of Palaeopathology of the University of Pisa in collaboration with the Superintendency of Archaeological
Heritage in Tuscany, made it possible not only to deepen our understanding of the Val di Lima, an area in the heart of north-west Tuscany which has not been widely studied from a historical and archaeological point of view, but also to create a didactic archaeological dig for the students of Funerary Archaeology of the University of Pisa, with the aid of the content teacher and an archaeologist. The first surveys were conducted in the area occupied by the remains of the castle from an unusual perspective, that of the spaces reserved to the dead, and only at a later stage were the investigations continued in the settlement area. The aim was to introduce the students to the taphonomic exhumation of human remains, with particular attention to the funerary aspects and to the excavation of the medieval and post-medieval cemeterial levels (Fig. 2).

2.1 Residential settlement

The archaeological site is situated only two-hundred metres north-east of the village of Benabbio and includes the medieval castle, from where the local lord could dominate the surrounding countryside and control his neighbours, as well as the manor, and many well-preserved houses. The first explicit reference to the castle dates back to the year 1334, when the main defensive structures were destroyed by the Rossi, lords of Parma and starting from the first half of the 14th century the castle lost its military function. In the 16th century, Michel de Montaigne visited the hill on whose peak the Castle is situated, and described it as an area rich in vegetable cultivations.

The area is dense with concentrations of features, artefacts, and organic material. The surrounding walls of the castle, well preserved for about 200 metres in the southern part of the site, were originally meant to surround the hills both on the northern and southern sides of the Church of San Michele, with a vast planimetric development. Some slits and embrasures for the crossbows are still visible. The surrounding wall, about 60 cm wide and formed by “bozzette” is an important example of 12-13th century fortification. The building material was obtained on the site, and traces of quarries in the Middle Ages are present on the slopes of the hill. The first excavations alongside the eastern walls revealed the presence of XIV century stone buildings, with two floors, used until the end of the 15th century. At the extreme southern layer of the castle one can see the quadrangular opening of a deep well tank, an essential water power resource in case of emergency. The main settlement area at the top of the hill still remains to be explored, and probably contains the remains of the tower and the lord’s palace and other houses (Fig. 3).
2.2 The Church

The church of San Michele is located within the walls of the castle and dates back to the first half of the 13th century: it is an imposing religious building, with an important lengthwise development of 25 m and valuable walls of rough stone squares. An inscription reports the presumable date of construction “Anno Domini MCCXVIII”. The inside of the church is very interesting for its flooring made of ancient cobble flagstone. A beautiful arch portal at the front and an early 14th century extension at the back of the church are also visible. The eastern wall surface in “bozzette”, with hardly any openings, is not only one of the most important elements of the building, but also a part of the surrounding walls of the castle. The medieval and post-medieval cemetery located near the church of the Castle of Benabbio houses a number of individuals: up until now 41 individuals have been brought to light (Fig. 4).
The excavations have helped reconstruct the history of the area during the Modern Age and the cholera epidemic of the 19th century; from 26 August to 21 October 1855, 46 out of the 900 inhabitants of Benabbio died of cholera and were buried next to the Church of San Michele, far from the village but in an area consecrated by its being close to the ecclesiastic building. The dead represented a dangerous source of infection and it was therefore decided to bury the corpses in deep graves outside the village. The need to bury the corpses quickly is witnessed by the very narrow ditches and atypical posture of the bodies, often lying on their side (in one case with the face turned towards the ground) and often covered in shrouds. There are no traces of coffins or similar burial containers but once they had been placed in the fossae, the bodies would be simply covered with soil. Furthermore, some graves were used for two individuals: people who died on the same day were buried together to hasten the disposal of the corpses. Apart from the cholera cemetery, in the southern sector of the area 8 burials of the medieval village have also been exhumed from their context. Further excavations in the same area, a central and sensitive nucleus for the development of the medieval settlement, will provide important historical and archaeological information, since the small square around the church is likely to have been used for economic and productive activities.

The excavations carried out so far have produced a wealth of evidence and brought to light remnants of the past, with a surprising abundance of material and important finds which will add greatly to our knowledge of the area. Some well-preserved bodies that have been recovered were adorned with rings, ear-rings and other jewels, as well as buckles, a crucifix, a rosary and several devotional medals; different artefacts like pottery, glassware and coins were also found. (Fig. 5)

A total of 3,000 artefacts from the site, ranging between 12th and 19th centuries, have been stored and classified, and the different phases of the excavations have been documented with photographs and captions. The information has been inserted in a database and the results of the finds studied by a team of specialists will allow us to learn more about the cultural and physical aspects of this ancient human group. Furthermore, all the details illustrating some of the results achieved so far and collected by the students of the former funerary archaeology courses are available on the website of the Department of Palaeopathology, and can be expanded and developed with further data by the students of the new courses.

3 FIELD SURVEY AND LABORATORY TECHNIQUES

Over the last years, field survey and laboratory techniques have developed rapidly, disclosing information and shedding light on the life-styles, dietary habits and diseases of past populations and providing us with knowledge that would have been impossible to accomplish in the past. The study of
the places of burial, types of burial, morphological analysis of the bones, interpretation of bone injuries, etc.) can provide new insights into past civilizations, cultures and practices that remained previously undiscovered.

The most important techniques and tools in field archaeology are used for the excavations of this course, including balloon aerial photography, high-resolution georadar survey, geographic information system (GIS). Balloon aerial photography allows to spot the traces of buried structures that cannot be seen at ground level; georadar survey combined with accurate planning and efficient data processing has proven to be the best tool to perform high-resolution and at the same time non-destructive survey even on very delicate surfaces in a short time. This sophisticated equipment allows the user to explore the subsoil with a detail which is not obtainable with other techniques, and thus represents one of the most important aids offered to archaeology.

The skeletal remains so far recovered at the cemetery of Benabbio have been taken to the Division of Palaeopathology and submitted to different laboratory studies, such as bone restoration, macroscopic observation, computerized tomography (CT), electron microscopy (EM), stable isotopes and ancient DNA (aDNA) determination.

Fig. 6 shows the results of a GIS survey of the excavation area outside the façade of the medieval church: along the western edge of the excavation area a 60-cm levelling of a brick-faced wall structure formed by two rock battlements joined by strong mortar has come to light, and is likely to have been the perimetral portion of a building situated between the square of the church and the western part of the castle wall. The wall structure is partly hidden by the collapses of the building, which have been cut by fossae for the cholera bodies of 1855.

Fig. 6 - fossae of the cholera epidemics outside the façade of the medieval church.

4 CLIL METHODOLOGY

The idea of using a CLIL (Content and Language Integrated Learning) methodology for an archaeology course in Pisa first occurred two years ago, when the content teacher of the University course in funerary archaeology and a language teacher collaborating with the Department thought it would be useful for the students to use English as vehicular language to teach that particular discipline. This integrated language and content approach responds to the need for more situated and contextualized language teaching, which in our case situates language teaching in the subject matter classroom first and then on the field, engaging the students in the discussion of archaeology content through the vehicular language. The possibility of conducting a CLIL course parallel to the traditional course has now been given formal approval by the University of Pisa and will be conducted at the
A questionnaire specifying name, age, gender, interests, previous non-native language learning and career aspirations will be circulated among the applicants and followed by an interview with the subject and language teachers in order to identify English language competence and help organize the language course.

4.1 Language activities

The refresher language course will be conducted at the University before the excavation course; the English teacher will enhance the qualitative dimension of CLIL, getting the students involved in the learning and study activities associated with content. The content and language teachers will collaborate to design meaningful learning activities involving the use of technological classroom tools and equipment for a supportive learning environment in the classroom. Objectives of the language course will consist in strengthening the four skills (listening, speaking, reading and writing), in familiarizing with the specialized terms of archaeoanthropology and of the different types of technology that will be made available during the excavations. Learners will revise and consolidate the basic grammatical structures of the English language using material drawn from the content course. In particular, they will be asked to provide the rules explained in an English grammar in fieri with examples taken from authoritative texts chosen by the content teacher as an integration to his content course on archaeoanthropology. The examples illustrating a particular grammar rule should not only show the use of the word in context, but should at the same time be rich in content, providing some useful notions about archaeoanthropology. Example sentences allow to discover important information about a particular concept and in many cases are even more useful than the definition itself.

Furthermore, the language activities will include the contribution given by the participants in the course to a bilingual English-Italian glossary of specialized archaeoanthropology terms and definitions extracted from scientific texts written by authorities in the sector, and organized according to the different areas related to the discipline (bodies, artefacts, diseases, etc.). For each English headword of the glossary the students will have to find a definition and provide the correct translation in Italian. The example included in the dictionary to explain a particular grammar rule can have a double purpose, and also be exploited as definition of an English term contained in the glossary.

The students become at the same time creators and users of a product that can be useful not only to provide other students with a useful resource book, but also to specialists who need an easy and rapid consultation handbook supplying the translation of a specific term in a language other than their own. The two teachers will assist the students by correcting any mistaken terms, replacing them with the appropriate words, and helping them reformulate any ill-formulated sentences.

DVDs and videos in English as well as audiovisual material developed from online sources and media, for example from important satellite television programs (BBC, National Geographic, Discovery Channel, etc.), as well as CNR videos, will be used. Other texts will include articles, essays or dissertations or material downloaded from the Web and previously decided upon by the archaeologist, the content and language teachers. Technology promoting language development has become more and more important for foreign language learners, in particular different techniques have been devised and implemented to meet the needs both of the teachers and students.

5 FINAL ASSESSMENT

The students will be supervised by the archaeologist, the content and language teachers, who will provide instruction and support for the students during the field work, observing them as they are carrying out the different tasks, listening to what they are saying, in order to assess how well they are performing. The supervisors will move between the two different sites (the residential complex and the cemetery), where separate groups of students will be working and communicating, also with their peers from other countries and in particular from the UK within the Erasmus/Socrates programmes according to which students are able to spend a period of study in Italy for their degree courses in their countries. The groups will be asked to keep an on-line running field diary to record their daily activities and experiences, and to document information, using the blogging features of Office Word, a familiar device which offers a wide range of writing tools. The teachers gain information about the reactions of
the students to field experience, and are provided with feedback that can improve the organization of future work and make the students more and more active in the education process. Final assessment for the content course using CLIL will take place in the form of an oral exam, in which the students will be required to demonstrate a knowledge of the different issues treated during the subject course and field work, as well as confidence with the tools used on the archaeological site. A part of the exam will be held in English and will consist in a Powerpoint presentation in which each candidate will be asked to describe the activities in which (s)he will be involved at individual, pair or group level.

It has been demonstrated that students perform better when they are motivated and engaged in the work process, producing positive effects on the entire learning environment. The approach described in this work represents a change in teaching methodology, fostering language acquisition and content learning by a range of activities. The undergraduates on this course are learning content at the same time as they are acquiring a second language, using a language and content integration approach that brings these elements together into a coherent whole.

References


