

THE ALCMAEON PROJECT: BRINGING HUMANITIES, THE ARTS AND MEDICAL EDUCATION TOGETHER

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Abstract

The article is a systematic reflection on the Alcmaeon European project (2018-ES01-KA203-050606), which puts forth an alternative model for integrating the history of medicine into medical education. The project is developed within a partnership between education organizations, museums and universities from Spain, Great Britain, Italy, Greece and Romania. The project aims at shifting the focus of teaching the history of medicine from simply chronicling events to examining the process of medical development over time and studying it as a continuous inquiry by providing medical professionals with structured and harmonized online materials available in its own virtual museum and library. In addition, the arts can be used as a means to educate students of medicine in an agreeable atmosphere by means of focused interpretation and discussion with a view to developing their professionalism, self-awareness and communication skills, increasingly important assets for physicians. Bringing these disciplines together enables students to form deeper connections with patients and develop empathy and creativity. Overall, the focus group analysis highlighted that integrating the history of medicine into medical education is necessary as it gives students insights into past procedures and achievements, raises their awareness about the importance of medical and social ethics, provides lessons in medical education, empathy, charity work, community involvement, ethical standards, and laboratory research.

Key words: medical education, arts, the history of medicine, focus group

The teaching of the history of medicine is generally included in the programme of Medical Humanities courses for undergraduate medical students. This meets a need to connect medical history with medical practice. In fact, the perspective of humanities and social sciences enriches medicine with a human dimension that seems to have been lost. The history of medicine and medical humanities inform medical students about former physicians' efforts and contributions and introduce them to the evolution of medicine with its changes, breakthroughs and errors throughout the ages.

The Alcmaeon project represents an alternative model for integrating the history of medicine into medical education. The project's

main outputs address medical humanities lecturers, medical education researchers, undergraduate medical students, curators of museums and medical libraries and museum visitors. The project aims at changing the focus of teaching the history of medicine from chronicling events to examining the process of medical development over time and studying it as a process of continual inquiry. A thorough history of medicine helps students understand it in its proper context and provides them with new perspectives on its directions and progress. It offers students great examples of learning: it tells them how our ancestors worked and sought to evolve as we do today; it makes medicine more human, more sensitive, more interesting and more accessible to future young physicians. The study of the history of medicine,

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thus, encourages them to continue their ancestors' work (Macnaughton, 2000).

The Alcmaeon project focuses on changing the way the history of medicine is taught. It is common knowledge that medicine is related to other fields. Medicine borrowed concepts from other scientific disciplines such as physics and chemistry to describe or explain sickness and health. The reverse also stands true. Quite recently 'medical humanities' promoted a growing exchange between the humanities and medicine. On the one hand, the arts have always found medicine an invaluable source of inspiration. On the other hand, the arts have been used in therapy to treat and comfort patients. Nowadays more and more lectures use literature or films to improve students' observation skills, communication skills and empathy with their patients (Scott, 2000; Byars *et al.*, 2015).

The project aims at elaborating a **training package on the history of medicine supported by a virtual medical museum and a virtual video library with testimonials from role-model doctors**. The ALCMAEON virtual museum will display 'learning objects' created within the partnership with a view to promoting different traditions in European medical history. The learning objects are small units of learning which are interactive, interoperable, reusable, multimedia and easily accessible online. They comprise small digital pieces of content, such as text, audio, video, graphics and animations. They can be compared to Lego blocks, whose small pieces can be used, reused or combined to build many different structures, such as tutorials, case-based learning or simulations (Churchill, 2007; Rouiz *et al.*, 2009).

MATERIAL AND METHOD

What follows is the discussion of the findings of the focus group organised at the University of Medicine and Pharmacy Grigore T. Popa for the Alcmaeon Project.

The project application stipulated to use the focus group discussion among specialists in the field as a means to meet the objectives of the baseline research. The focus group discussion is a frequently used method, where a researcher assembles a group of individuals to discuss a specific topic, aiming to draw information from the complex personal experiences, beliefs, perceptions and attitudes of the participants through a moderated interaction. The researcher adopts the peripheral role of a "moderator" facilitating a group discussion between participants. (Nyumba *et al.*, 2019). The application recommended this technique for its quality to set up a friendly informal atmosphere which encourages participants

to open up and sincerely share their opinions and experiences; thus it provides authentic insights into participants' perceptions and understanding of the concepts under discussion.

Some elements of the focus group discussion were utilised to meet the project's research objectives. The method consisted of the four major steps: design, data collection, analysis and reporting of results. The process began by establishing the main purpose of the focus group and defining the key research objectives of the study. The main topic of the discussion focused on participants' previous experience of teaching medical humanities and medical history in order to explore their understanding of the main topic and views as to how to innovate the teaching of medical history in medical education.

The discussion aimed at the following objectives: identifying participants' perceptions about the issue in order to demonstrate that medical history is part of evidence-based medical practice; eliciting the main techniques in teaching the history of medicine and medical humanities; establishing the role and impact of the history of medicine and medical humanities on students' medical training.

Based upon the research objectives, a list of questions was prepared as guidance for the focus group discussion.

The project's application also set a few ground rules for the organisation of the focus group (everyone's views were important so everyone was invited to share; there were no right or wrong answers, so a range of views was welcome; consensus was not required).

Thereafter, participant identification and recruitment was an essential step since the technique is largely based on group dynamics and relationships among participants (Rabiee, 2004; Nili *et al.*, 2017). The group consisted of 14 professionals (as recommended by the application): historical and legal medicine lecturers, medical education researchers, medical history researchers and medical language learning lecturers.

The focus group was conducted by a moderator and there was a person supporting the registration of the results. The application stipulated that there was no need for a transcription of the focus group: its main conclusions were written down. Once the discussion was completed, for each question the main ideas that occurred in the answers were collected and reviewed to identify ideas which were repeated. Main themes were identified and quotations that illustrated each theme were selected.

RESULTS AND DISCUSSIONS

The discussion developed along two sets of questions. The first set focuses on exploring professionals' understanding of what the main topic is.

| No | Question | Answers | Number of answers |
|----|---|---|-------------------|
| 1. | What difficulties they met when teaching medical history | a. how to better stimulate students' motivation | 5 |
| | | b. which are the most suitable techniques for their specific group of students | 5 |
| | | c. how to deal with groups where most of the students come from diverse educational and cultural background | 4 |
| 2 | Whether they considered the integration of medical history into the medical humanities course as appropriated and what approach they prefer | the history of medicine helps students | 14 |
| | | a.an approach that raises students' interest | 12 |
| | | b. the intercultural learning method | 4 |
| | | c. use of arts (literature, film, painting) | 10 |
| | | d. efficient communication (interactive strategies that lead to the co-creation of knowledge, positioning, sharing of opinions) | 10 |
| | | e. interdisciplinary approach: medicine subcategories, bioethics, medical humanities, legal medicine, arts | 14 |
| | | f. highly enhanced technology teaching | 14 |
| 3 | What kind of curriculum they consider more appropriated to the teaching of medical history and why | a. a course focusing on the process of medical development over time, giving insights into past procedures and achievements | 14 |
| | | b course whose content and delivery mode is in tune with students' knowledge and experience | 14 |

Most participants held that stimulating students' motivation and finding the most suitable techniques to reach them are essential when it comes to raising students' interest. Some of them were of the opinion that "highly enhanced technology teaching" and "a holistic and integrated approach of medicine" could be the solution. Participants were in favour of "interactive strategies that lead to the co-creation of knowledge, sharing of opinions and also an understanding of the legislative component". However, no matter what techniques are used, be they non-formal (role-playing, simulation, case studies, interviews, reflection) or digital formulas all methods should consider "the human factor, take students' perspective and encourage their experimenting with independent thought". A combination of a wide variety of methods is the solution.

A respondent stated that she found it difficult to teach students from a multicultural background and spent time trying to aggregate the groups. Participants agreed that cultural differences are a problem if they are not used and valued in teaching. "I find that an effective solution is to continually encourage the participation of representatives from different countries and then to include these specific contributions in the learning act". The multicultural environment should be used because students can "learn a great deal from each other, when it comes to identity clashes or cultural clashes". Given the multicultural world we live in "the intercultural learning method and that of harmoniously combining and utilizing all competences" is a solution.

As for preferred methods some of them thought that it is necessary to use an approach that raises students' interest; lecturers should use tools and techniques rooted in and adapted to the medical reality: "we do not know what medicine will look like in 2030 when they start working, that is, we do not know what it will look like in five years, when a virtual reality-based medicine will possibly come to the fore"; given the rapidly changing world students need to be flexible.

There were supporters of the interdisciplinary approach: medicine, legal medicine, arts when students had to combine information from different areas, all relevant for their case. The interdisciplinary approach is beneficial for the student's interest. Just in the case of the "communication between doctor and patient, one can discuss ethics, the

patient's rights, as well as specific personal professional skills such as empathy, teamwork, decision-making".

All participants agreed that the history of medicine helps students and should be integrated into the medical humanities course. All participants agreed that teaching the history of medicine should focus on the process of medical development over time. Its study is necessary as it gives students insights into past procedures and achievements, raises their awareness about the importance of medical and social ethics, gives lessons in medical education, empathy, charity work, community involvement, ethical standards, laboratory research. Successful earlier performance instills a sense of pride in medical achievements, create high expectations and motivate succeeding generations to continue to excel.

Respondents also claimed that courses are far too focused on medical disciplines and less on medical humanities. Students feel the need for diversity, for the human touch in the curriculum. Thus, participants were of the opinion that art, literature and films can help future doctors improve their observation skills, enhance empathy and cope with moments of uncertainty. Visual observation is at the centre of medical practice: doctors have to perceive contextual details and interpret visual clues from patients. However, students are given few opportunities to develop observation skills during their studies. The observation and interpretive skills involved in visual art or reading literature are relevant to the medical act and therefore, art should be used in medical education to improve students' observational skills, communicative skills, reflection and empathy with their patients. Students learn to understand a situation from different points of view, to empathize with another person's dilemma, to accept different perspectives and ways of thinking and to examine things creatively. Everybody agreed that the mix of art and medicine includes elements the students like and encounter in their spare time (film, literature, entertainment). Moreover, "the harmony between free time- that is so little - and their profession enriches the person".

The second set of questions focuses on exploring experts' views about how to innovate the teaching of medical history in medical education.

| No | Questions | Answers | Number of answers |
|----|--|---|-------------------|
| 1 | What do you think about e-learning as support to teach medical history? | It "encourages the student to learn more". | 10 |
| | | It offers a positive experience | 12 |
| 2 | What do you think about the support of a digital museum which will help students to learn and perform research in medical history? | It will be useful to both lecturers and students; | 14 |
| | | It will create useful resources which could be combined or granulated according to need; | 14 |
| | | It will offer role models for doctors; | 14 |
| | | It will provide medical cases | 14 |
| 3 | What do you think about the use of object-based learning in medical history? | It will offer ideas and resources to lecturers and encourage and motivate students to study | 14 |

All experts were in favour of digital media that "encourages the student to learn more". However, the respondents plead for "an approach to technology which starts from the simple realisation that medicine is and should be a discipline of the humanities". The respondents' teaching experience with integrating digital platforms or mobile apps has only been positive. They are confident that "the future of learning is entirely digital and that the younger generation of teachers will have a more relaxed approach to technology, incorporating it effortlessly into their courses. What I see in the future is a curious student, who will do research on their own, and will use the time together to clarify and debate aspects of what they have learnt on their own".

Digital museums would provide lecturers and students with useful resources: videos with doctors sharing their knowledge and experiences or cases. "These doctors can be valuable role models for the students and I have used them successfully in class. This shows their clear need for role models, which mass-media simply cannot provide them with. Such an archive would be an invaluable tool which we can use in all our classes with a great impact on students. Also, videos of real medical cases, doctor-patient interactions and real-life examples of ethical questions or global medicine would be of great help".

Respondents defined Learning Objects as any entity, digital or non-digital, which may be used for learning, education or training". Each learning object can be used independently, in multiple contexts for multiple purposes. They can be aggregated into larger groups. Their descriptive

information allows them to be easily found and accessed. Each learning object meets a learning objective. Respondents appreciated Learning objects as useful learning elements offering medical educators a way to make education more efficient and encouraging students to study. They can be accessed by many computers and used by several learners at any time. They consist of small chunks of content: reusable electronic text and multimedia resources that support and enhance learning. Educators are no longer content presenters but become facilitators of the students' learning and evaluators of their competence.

CONCLUSIONS

The training package has been tailored to meet the respondents' suggestions. Thus it aims to help students:

- develop a general medical humanist cultural background.
- explain contemporary medicine in terms of its historical development and internalize epistemological values and ethical medical principles.
- develop investigation, analysis and interpreting abilities for certain complex themes and issues related to the history of medicine.

The training package is meant to raise students' awareness about the necessity to study the history of medicine, which is a formative component of medical studies. The student will be able to comprehend and utilize the means through which the historical text recuperates the medical past.

The partnership selected the main topics of the syllabus: Prehistoric medicine, Hippocratic medicine, Arabic medicine, Renaissance medicine, Modern medicine, Contemporary medicine.

The Romanian team develops the Contemporary Medicine unit. The main strands of the units follow four thematic areas: clinical practice (evidence based medicine), medical ethics (health expectations and experiences in terms of values and ethical principles change over time), medical social sciences (lifestyle, environment, global health) and communication skills (doctor-patient relationship). For each unit partners will produce a case scenario supported by a video used as an introduction to the unit.

In accordance with respondents' suggestions teaching methods will make use of highly enriched technology. In addition, arts can be used as a means to educate students through interpretation and discussion about their observations in a pleasant atmosphere. Including the arts and humanities in studying medicine help students develop professionalism, self-awareness, and communication skills that are increasingly important for physicians. Bringing these subjects together may enable students form deeper connections with patients and develop empathy and creativity.

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