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A paper in health sciences: the Student Mentor

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Abstract

Ethics and communication with patients are basic transversal skills for the Degrees in Medicine, Physiotherapy and Nutrition. In this model, senior students use video to create simulated clinical cases with ethics and communication components, and conduct academic mentoring using these cases. To ensure quality video recordings, the students are introduced to visual language by students of the Master's in Communication, thus completing the learning cycle.

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1. Introduction

At the Faculty of Medicine and Health Sciences (FMCS) of the Rovira i Virgili University (URV) in Reus, Degrees are taught in Medicine, Physiotherapy and Human Nutrition and Dietetics (NHID). Since professional ethics and communication with patients and their families are basic transversal competences for the optimal development of future professional practice, students are taught these competences at various levels throughout their Degrees.

These competences are acquired through practice and critical reflection on that practice. According to the learning cycles defined by Schön (1987) and Kolb (1995), students should be taught processes for reflecting thoroughly and critically on their practice (reflection-on-action). The traditional learning system, which considers only in vivo training with patients, is being called into question (Swanwick, 2008). Until recently, the most that could be expected was that, before working professionally, students could observe how others performed a task and in this way learn indirectly from them. Ethics (concern for clinical safety) and training efficiency (minimising the learning curve), however, highlight the need to base the acquisition of skills on simulation activities before students work directly with patients, especially when the competence being developed involves interacting with people ("the human factor") (Seagull, 2012). Simulation is therefore a learning tool that can be used in a controlled environment and that has no impact on patients. Moreover, complex or uncommon situations can be devised that under real conditions would not always guarantee the suitable supervision of students.

In this context, for the training model described in this paper we had to develop a large and exhaustive casuistry and find individuals capable of simulating situations in which communication and professional values are the principal axes of the problem. Since designing the casuistry is itself an act of reflection as well as an activity involving the detection and correction of errors, and since it also enables the learning circle to be completed, senior students were given the responsibility of creating and staging this database of cases.

The main aims of the project were, on the one hand, to enable senior students to develop competence in clinical communication, an ability to incorporate values, and attitudes pertaining to the profession's code of ethics, and, on the other hand, to encourage their ethical reflection by switching their role from health professional to patient. Other aims of the project were to: provide a database of simulated cases involving the relationship between the health professional, the patient and the patient's family and including a range of clinical and communication problems; consolidate knowledge acquired on basic courses by creating and designing simulated cases in the areas of communication and clinical ethics and thus achieve a greater level of competence; establish an academic mentoring programme in order to encourage retention, performance and contribution to university life; create quality audio-visual clips by applying audio-visual language to video pre-production and editing; and apply this training model to all the Degrees offered by the Faculty of Medicine and Basic Medical Science of the URV.

2. Methodology

Since the academic year 2010–2011, this training model has been gradually incorporated into the various Degrees of the FMCS of the URV in a two-ECTS-credit activity entitled *The Student Mentor: Communication in Health Sciences*. Students who enrol in this activity have two objectives: first, to design a simulated clinical case, write the script and shooting script, and act out a role in a simulated clinical case involving clinical communication and professional ethics; and second, to serve as a mentor for first-year students on one of the Degrees taught at the Faculty using the cases they themselves have created. These objectives are fulfilled chronologically in consecutive semesters.

2.1. Audio-visual recordings

To guarantee long-term use of the material created by the students first as simulators and then as mentors, an audio-visual format was considered the most suitable. Advantages of this approach, both for the viewer and the creator of the project in an academic or university context, are also reported in the literature (Maloney, et al., 2013). It allows the creation of a stock of reusable clinical cases with a common theme: clinical communication and professional ethics. However, as university training of students in the FMCS could not guarantee the quality of the

videos as an end product, inter-departmental collaboration between the URV's Department of Basic Medical Science (DCMB), Department of Medicine and Surgery (DMiC), and Department of Communication Studies (DEC) was sought. The DEC trains future professionals in the use of advanced audio-visual technologies and promotes open, critical and reflective attitudes in the field of social communication, of which clinical communication is a component. This technical and creative know-how is therefore employed alongside the knowledge students at the FMCS have acquired in the areas of ethics and communication. During the four years this training model has been in place, this collaboration has involved the participation of Master's students of the DEC, who have acted as mentors for the senior Degree students of the FMCS, thus completing the learning cycle in the fullest and broadest way possible.

2.2. Academic mentoring

The simulated cases are presented by the senior students to first-year students in an academic mentoring activity. The advantages of university mentoring programmes in terms of retention, academic performance and contribution to university life have been widely recognised (Eby, et al., 2008; Lattanzi, et al., 2011). Through seminar discussions and the flood of ideas that follow the viewing of the simulated case, the student mentors are able to encourage first-year students to further investigate one of the themes related to the contents of the programme and to draw conclusions that will later be evaluated by the mentor in a short examination.

3. Results

3.1. Audio-visual recordings

Between academic years 2010–2011 and 2013–2014, 10 audio-visual recordings were produced (see Table 1).

Table 1. Audio-visual recordings produced at the FMCS (2010–2014)

Year	Productions by degree course
	Human Nutrition and Dietetics
2010-2011	NV1: Celiaquia (Celiac disease) http://www.youtube.com/watch?v=3TLWKSHfaDM&feature=youtu.be
2011-2012	NV2: Conviu amb ella no la ignoris: la malatia de Crohn forma part de tu (Don't ignore it, live with it: Crohn's disease is part of you) http://www.youtube.com/watch?v=kCxpI1epmE
2012-2013	NV3: No hi ha manera (It's impossible) https://www.youtube.com/watch?feature=player_detailpage&v=idOkOhQ_OD0
2013-2014	NV4: Els nous companys de viatge de la Marta (Marta's new travelling companions) http://www.youtube.com/watch?v=Cd28jEDw2CA&feature=youtu.be
	Medicine
2011-2012	MV1: Cas pràctic (A practical case) http://www.youtube.com/watch?v=puwJXND6qH8&feature=youtu.be
2012-2013	MV2: Dolores, dolores, dolores... (Pains, pains, pains) https://www.youtube.com/watch?feature=player_detailpage&v=nyGprADV_CE
2013-2014	MV3: De cap en cap (From one primary care centre to another) http://youtu.be/4OwsVKJDrCM

	Physiotherapy
2011-2012	FV1: Rehabilitació de dolor lumbar (The rehabilitation of back pain) http://www.youtube.com/watch?v=6tg9ce5L-ul&feature=youtu.be
2012-2013	FV2: Tensión en rehabilitación (Tension in rehabilitation) http://www.youtube.com/watch?feature=player_embedded&v=Oc7i3hd-uek
2013-2014	FV3: Algo pasa en el hospital (Something's going on at the hospital) http://www.youtube.com/watch?v=fnIpnvzchjE

NV: Video by students of Human Nutrition and Dietetics; MV: Video by students of Medicine; FV: Video by students of Physiotherapy.

3.2. Academic Mentoring

The academic mentoring programme is a component of the practical classes and seminars of the basic subjects of the first year of the degree in Human Nutrition and Dietetics (Bases of Communication, Ethics and Education), the degree in Physiotherapy (Bases of Communication and Ethics), and the degree in Medicine (Bases of Communication and Ethics). For the Degree in Human Nutrition and Dietetics, the mentors conduct five two-hour sessions with four different groups; for the Degree in Medicine they conduct one two-hour session with twelve different groups; and for the Degree in Physiotherapy they conduct two two-hour sessions with three different groups. This means that for the academic year 2013–2014, the mentors had contact with 292 first-year students (84 in NHD, 125 in Medicine, and 83 in Physiotherapy). The sessions are conducted with the aid of a teacher-produced guide and, since the 2012–2013 academic year, they have been evaluated by the mentors of the first-year students with the aid of a rubric that was also designed by the teachers. In all three Degree subjects, this evaluation corresponds to 5% of the final grade for the first-year course.

The activity begins with a review of the knowledge acquired in the basic subjects during the first year of the degree (Ethics and Bases of Communication). Since 2013–2014, a guide produced by the teachers of the DCMB containing the most important concepts (and which must be taken into account when designing the simulated cases) has been used for this review (see Table 2).

Table 2. Main concepts developed in relation to communication, ethics and education for the Communication in Health Sciences activity.

Area of study	Concepts studied
<i>Communication:</i>	
Patients and illness	Factors, stages, responses, rehabilitation
Family	Role, carer, education
Effective communication	Interference, rules, regulations, flaws and strategies
Active listening	Listening, barriers, speaking
Non-verbal communication	Paralanguage, proxemics, kinesics
<i>Ethics</i>	
Ethical principles	
Professional values	
Ethical code	Professional secrecy, privacy, confidentiality
<i>Education</i>	
Health promotion	

The students receive training in audio-visual communication from the teachers and students of the Master's of the Department of Communication Studies. They are taught the language of audio-visual recordings (narrative units, visual space, camera movements, and script, etc.) and are guided in the drafting of both the script and the shooting script. Planning is essential for the recording of the simulated case. Here, the shooting script is important because, in addition to containing the communication and ethics components in the health field considered, it also has all the instructions needed to make the recording. The contents under study have been quantified as percentages in accordance with the number of minutes they are developed in each recording. Table 3 shows that the content most developed by students in all three Degree courses is Communication (65%), followed by Ethics (30%) and Education (5%). By analysing these data, we can achieve greater equilibrium with regard to content when designing future recordings. Nevertheless, we can see that, as a whole since the training model began, all the most important contents have been considered in the recordings made by the students of each Degree course.

Table 3. Percentage of contents developed (communication, ethics and education) in the audio-visual recordings in the Communication in Health Sciences activity

	NUTRITION							PHYSIOTHERAPY						MEDICINE					
				Duration on video (%)							Duration on video (%)						Duration on video (%)		
	mean	±	SD	NV1	NV2	NV3	NV4	mean	±	SD	FV1	FV2	FV3	mean	±	SD	MV1	MV2	MV3
Communication (%)	69.71	±	5.41	66.7	63.6	74.4	74.2	62.02	±	9.23	50.0	63.6	72.4	62.73	±	3.26	59.1	65.4	63.7
Patient and illness	25.53	±	12.87	42.9	14.3	27.6	17.4	19.05	±	12.14	33.3	19.0	4.8	25.76	±	7.09	30.8	--	20.7
Family	13.54	±	8.93	7.1	7.1	13.8	26.1	14.29	±	6.32	--	9.5	19.0	7.09	±	1.71	--	5.9	8.3
Effective communication	18.67	±	3.57	14.3	21.4	17.2	21.7	23.28	±	8.49	22.2	14.3	33.3	29.92	±	0.74	30.8	29.4	29.6
Active listening	10.51	±	4.83	7.1	7.1	10.3	17.4	21.69	±	3.05	22.2	19.0	23.8	17.06	±	1.47	15.4	17.6	18.2
Non-verbal communication	31.75	±	13.54	28.6	50.0	31.0	17.4	26.46	±	9.22	22.2	38.1	19.0	34.35	±	12.06	23.1	47.1	32.9
Ethics (%)	23.71	±	6.42	23.8	31.8	23.1	16.1	37.98	±	9.32	50.0	36.4	27.6	35.25	±	0.97	36.4	34.6	34.8
Ethical principles	30.48	±	8.41	20.0	28.6	33.3	40.0	51.85	±	4.32	55.6	50.0	50.0	44.97	±	15.45	62.5	33.3	39.1
Professional values	46.83	±	8.97	40.0	42.9	44.4	60.0	34.72	±	3.18	33.3	33.3	37.5	29.72	±	7.64	37.5	22.2	29.4
Ethical code	30.26	±	9.01	40.0	28.6	22.2	--	13.43	±	16.37	11.1	16.7	12.5	45.83	±	1.96	--	44.4	47.2
Education:																			
Health promotion (%)	6.58	±	3.58	9.52	4.55	2.56	9.68	--			--	--	--	4.55			4.55	--	--

Figure 1 shows the number of students enrolled in the Communication in Health Sciences student mentor activity by academic year.

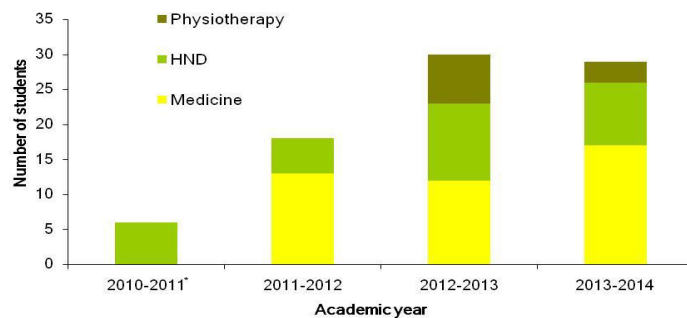


Fig. 1. Number of students enrolled per academic year.

* Only open to students of Human Nutrition and Dietetics

4. Conclusions

We have used the training model to create a database of simulated cases involving the relationships between health professionals, patients and patients' families. So far, 10 audio-visual recordings, containing a range of clinical and communication problems, have been produced. The quality of these video recordings demonstrates the high level of competence acquired by senior students in the area of communication and ethics.

An academic mentoring programme has been established for all the Degree courses available at the Faculty of Medicine and Health Sciences of the URV in Reus. Quality communicative audio-visual recordings have been produced by senior students under the supervision of Master's students of the Department of Communication Studies at the URV.

Obviously, the social impact of this training model cannot be evaluated until the participating students have joined the profession, though it would be a good idea to consider this kind of evaluation in the future. However, during the next academic year we will be able to evaluate what percentage of students have acquired a higher level of competence by analysing the portfolios of the first participating students to graduate from the Faculty.

The main limitation of the model is that it is a voluntary activity that corresponds to only two ECTS credits within the subject entitled Interdisciplinary Seminars, which is an optional subject in all three Degree courses available at the FMCS.

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The success of the training model described in this paper is based on the fact that it illustrates a clear example of inter-departmental teaching innovation. For this reason, in 2010 we made a joint request for financial support for teaching innovation to the Institut de Ciències de l'Educació (Institute of Educational Sciences). Thanks to the support received, in the academic year 2010–2011 we were able to award a grant to the Master's student from the Department of Communication Studies who was responsible for making the recordings. In 2011–2012 and 2012–2013, this grant was financed by Dr Giralt's Award for Teaching Excellence, the training plan for which was: the Learning and Evaluation of Communication Skills, Education, and Professional Values. We would like to point out that, although during the academic year 2013–2014 we have received no finance to award a grant to the Master's student of the DEC, this collaboration has continued at no financial cost.

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