



Design of a tool to evaluate oral final examinations in a Chair of Surgery of the career of Veterinarian: achieved experience.

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Introduction

New paradigms in university teaching demand new evaluation ways to ensure the learning quality of students and the validation of their qualifications. There is enough available information on oral final examinations where it is theorized and reflected on this subject; but there are few investigations related to the application in the day-to-day practice of a tool facilitating the labour of the teacher and ensuring the efficacy of exams.

If history referred to the methodology used in final exams in higher education in Argentina is analyzed, it could be said that it begun from the University Reform of 1918. In that time, academic practices were democratised in the universities and the power monopoly owned by the teacher oligarchy was broken down. This originated a modification on student evaluation way and juries comprised of several teachers were formed (Puiggros and Kotsch, 1994).

In this context, the Faculty of Veterinary of Universidad Nacional de La Plata (the oldest one of the country) had faculty members having a clearly orthodox training because of the majority of them was European. The teachers had been educated through classic and almost *ritual* evaluation models, being the first ones understood as what is willing by custom, and those closer to *ritual* ones as a series of actions carried out mainly by their symbolic values and by traditions of a community.

With regard to the Universidad Nacional de Rosario, an important proportion of the oldest professors of the Faculty of Veterinary Sciences were trained as teachers in other institutions following the indications of their professors and using a method to evaluate final exams that has continued over time.

In the particular case of the Chair of Surgery, the methodology that has been historically used to evaluate a final examination has glimpses of tradition and heritage, and does not differ from that used by other Chairs of the Institution, and that were used by teachers of today's teachers, and possibly will be used by beginner teachers who today integrate the examination boards. Ergo: if no changes are made, methodology will go on repeating *in aeternum*.

The list that this article describes comes from two elementary concepts: evaluation and evaluation criteria. The term evaluation has different meanings, which depend on perspective and contexts from where it is analyzed. That is why it is important to clarify here what concept was assumed. Barbier ⁽¹⁹⁹⁹⁾ says that evaluation is getting the value of something. Therefore, and from a basic approach, it could be said that evaluating is to make a value judgment. With respect to evaluation criteria, Litwin ⁽¹⁹⁹⁸⁾ defines them as elements that express parameters taken into account to make that

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value judgment. According to these concepts, it is deduced that to build an objective value judgment it is necessary to have clear evaluation criteria. When the author contrasts this deduction with his reality questions appear such as:

- Is this method used by the Chair to evaluate an oral final exam applied in the same way in all the exams and all the students equally?
- Is there consensus among the teachers on the hierarchies of the applied indicators?
- Is there a uniform criterion for rating these indicators?
- Do students know which skills and knowledge are evaluated?

Considering this problem, a list was designed to act as a tool to evaluate oral final exams. Without applying radical modifications to the traditional evaluative method and taking as a reference the axiomatic principles of surgery, it was considered that organizing and standardizing how to evaluate an oral final exam could be the fundamental premise to make it more and more fair and equitable and not giving rise to suspicions generated by the teacher's mood on the day of the exam, or the sympathy or antipathy that awakens a particular student. It was emphasized on the qualification of an exam, fact that can not be subjected to chance or timely improvisation. For this, it is considered essential to have evaluation criteria arising from the consensus of teachers, being clear, simple and consistent with the contents to be evaluated, but fundamentally, known by the students. On this last one, Cordoba ⁽²⁰⁰⁶⁾ says that the evaluation must be a transparent process, opened and without any veil of mystery that conceals its true intentionality.

The aim of this article is to describe and substantiate the content and practical operation of the list to act as a trigger for ideas to teachers of other disciplines concerned about a similar problem to the one raised. In addition, the criticisms, appreciations and suggestions generated by this new educative proposal will be of great importance for the improvement of the same.

Materials and methods

About the design of the list

The design of the list can be observed in Appendix 1. It is based on the use of indicators and scope descriptors. A competency assessment carried out by Ana Maria Amarante, MSc. in the Jesuit College of the Immaculate Conception of Santa Fe city was taken as a reference. In turn, Amarante ⁽²⁰¹¹⁾ based on the work of Zavala ⁽²⁰⁰³⁾. According to these authors, the indicators are the items to evaluate, and the descriptors are the different behaviours that the teacher can observe in each indicator. The design of the list went through different stages to achieve the current format, which is used by the teachers of the Chair of Surgery. It presents seven indicators ordered according to a pre-established hierarchy, each of them with their scope descriptors, in turn they are divided into four categories: minimum achievement (unsatisfactory), basic achievement, achievement with quality advancements and achievement with excellence.

Stages in the design of the list

1. First stage. It consisted in discussing, agreeing and finally approving among the teachers of the Chair the prototype of the evaluation list proposed by the author. This meant to determine and rank the indicators to be evaluated and why they exist, and to define the scope descriptors in each indicator with its four marks or scores. It should be clarified that in the ideas provided for the design of the list, the legal framework of the University and the Faculty was contemplated at all times regarding the methodology of the final examinations. On this subject, it was also important to have the opinion of the Commission of Educational Training and the Academic Secretary of the institution.
2. Second stage. To finish defining the design of the list, pilot tests were conducted at several examination tables and compared with the traditional method. This was done so that all teachers could make their criticisms and suggest new modifications.

About the choice of indicators and scope descriptors

For the choice and hierarchy of the indicators and the qualification of the scope descriptors, the meaning of the final examination for teachers of the Chair of Surgery was contemplated. The collective idea is that a final evaluation is not only to measure the scope acquired in the knowledge imparted, but it is also the application of the same in the resolution of problematic situations raised, and the integration with other knowledge related to the discipline. This idea is reflected on the first three indicators, which give the highest score to the exam qualification.

Learning Surgery also requires an operational memory capable of retaining a large number of data (rules, names, measures and doses) that are contemplated in indicator 4.

Indicators 5 and 6 are related to student's ability to transmit knowledge through orality, transversal competence highly valued in the professional life of any individual.

Indicator 7 is related to the previous ones and it qualifies the time used to complete the exam. It is considered that a brief exam demonstrates not only the planning and the organization that the student did, but also the general knowledge that he possesses and the ability to integrate it with other knowledge of related subjects.

About the use of the list

To make registration of the list more intelligible for those who do not know the methodology of an oral exam of Surgery, the stages of it are chronologically detailed.

- 1) The student takes out two test balls, he chooses one and prepares a topic to start the exam.
- 2) The student prepares the chosen topic in an instance called "to make chapel", this means to concentrate, to remember the subject and to put together a conceptual map or a synoptic picture to order his speech. It is important to clarify that the student knows that, although he chooses one of the two balls, the teachers will be able to ask him about subjects that integrate the other one.
- 3) The student exposes the chosen subject. In this instance, the teacher can only interrupt the exam to make observations when the student is wrong or ask questions in case of prolonged silences or incomplete statements. A test

can abruptly end if the student does not demonstrate knowledge about the chosen subject or does not know a subject requested by the teacher that the latter considers basic or elementary for the subject (see scope descriptor 4 in indicator 1).

- 4) Once the test is over, the student withdraws and the teachers contrast the qualifications of their lists and agree on the final exam result. That a student goes through the different instances of the exam and reaches the end of it, it does not mean that he has approved.

Results

The list has been used by the Chair of Surgery since 2014. More than four hundred exams were evaluated with this method. *Prima facie*, the opinions and comments of teachers and students about the use of the list have been encouraging. It has been observed that, by ordering and logging the development of an exam, teachers carefully follow the student's oratory so as not to overlook any evaluation instance, student exposures are more orderly, better qualifications and lack of complaints are evident about the part of those who do not achieve satisfactory results.

Discussion

Currently, the use of the list is being evaluated in a research work called: "Analysis of the validity of an instrument to evaluate the final oral exam in Veterinary Surgery", which has been accredited by the Secretary of Science and Technology of the National University of Rosario. As its name implies, the aim is to analyze the validity of the list as an evaluation tool through a quantitative and qualitative research that allows analyzing the opinions of the teachers who use the instrument regarding its practicality and ease of application, determining the degree of agreement and discrepancy in the final qualification given by different teachers to the same exam, identifying the indicators that show greater differences among the descriptors of scope given by the evaluating teachers and estimating the behaviour of the qualifications obtained by the students.

From the results obtained in this research, modifications should be made to the original list design tending to overcome the imitations identified in its implementation and to validate them from its application in new testing instances.

The contributions of research that theorize and reflect about the need to generate changes in the evaluative processes of Higher Education are enormous and valuable. While this happens, university teachers especially those who are starting, need models of practical instruments that ease the complicated and daily task of evaluating. The expectations aroused by the use of the list in the Chair of Surgery could be transformed into a reference for teachers who aspire to achieve evaluative methodologies that are ever more equitable and fair.

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Appendix I

List to evaluate a final oral examination
<p>Date: Student: Subject: Year of attendance: Teacher: Extracted balls: Chosen ball: Chosen theme: Start time: Ending time: Obtained qualification:</p> <p>References: Insufficient (0 to 5); Approved (6); Good (7); Very Good (8); Distinguished (9); Outstanding (10)</p>

Indicator 1: Knowledge of the topic chosen to start the exam. Obtained score

Scope descriptors:

1. Demonstration of a thorough knowledge of the subject, with clear and orderly concepts. Without giving rise to questions. (20)
2. Demonstration of knowledge of the subject. Concepts are ordered but incomplete. Questions are asked and correctly answered. (16)
3. Demonstration of partial knowledge of the subject. The concepts are incomplete and do not carry a correct sequence. Questions are asked and correctly answered. (12)
4. Demonstration of an insufficient knowledge of the subject. Concepts are incomplete and do not carry a correct sequence. Questions are asked but are not answered or are insufficient. (0)

Indicator 2: Knowledge of other subjects. Obtained score

Scope descriptors:

1. When a question is asked on any subject, a speech is begun indicating a thorough knowledge of the subject. (20)
2. When a question is asked on any subject, answers are correct and complete. (16)
3. When a question is asked on any subject, there are doubts and answers are incomplete. (12)
4. When a question is asked on any subject, there are no answers or they are wrong. (0)

Indicator 3: Significant knowledge. Obtained score

Scope descriptors:

1. The knowledge addressed is related and spontaneously associated with other knowledge of the same subject or others (Physiology, Pharmacology, Anatomy, etc.). (20)

2. Questions are asked to relate the knowledge covered with other knowledge of the same subject or others (Physiology, Pharmacology, Anatomy, etc.) and answers are correct. (16)
3. Questions are asked to relate the knowledge covered with other knowledge of the same subject or others (Physiology, Pharmacology, Anatomy, etc.) and answers are poor. (12)
4. Questions are asked to relate the knowledge covered with other knowledge of the same subject or others (Physiology, Pharmacology, Anatomy, etc.) there are no answers. (0)

Indicator 4: Memory knowledge. Obtained score

Scope descriptors:

1. There are spontaneously data in the development of the speech (figures, doses, bibliography) (10)
2. There are reference data (figures, doses, bibliography) only when asked, answers are always correct. (8)
3. There are reference data (figures, doses, bibliography) only when asked. Answers are not always correct. (6)
4. There are neither reference data nor answers to questions. (0)

Indicator 5: Speech quality. Obtained score

Scope descriptors:

1. Normal and constant rhythm. Expressiveness, the tone of voice, the vocalization and gesture are highlighted, the speech is clear. (10)
2. Slow or fast rhythm. Poor expressiveness. The speech is clear. (8)
3. Slow or fast rhythm. Laconic or verbal. The speech is not clear. (6)
4. Slow and hesitant rhythm, interrupted by prolonged silence. There must be encouragement to speak. Inexpressiveness. The speech is not clear. (0)

Indicator 6: Use of disciplinary lexicon. Obtained score

Scope descriptors:

1. Permanent and spontaneous use of scientific terms. (10)
2. Sporadic use of scientific terms or when they are asked. (8)
3. Use of scientific terms only when asked. (6)
4. There is no use or knowledge of scientific terms. A colloquial language is used. (0)

Indicator 7: Time used to develop the examination. Obtained score

Scope descriptors:

1. Less than 20 minutes. (10)
2. From 20 to 30 minutes. (8)
3. From 30 to 45 minutes. (6)
4. More than 45 minutes. (0)