



Improving and evaluating reflective narratives: A rubric for higher education students



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HIGHLIGHTS

- We present a new instrument for the evaluation of the reflective narratives of university students.
- We describe the process of construction of the rubric (elements, indicators and levels).
- The results of a validation process that used the judgements of external experts are presented.
- We conclude that the rubric works well in grading the degree of reflection.

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ABSTRACT

This paper presents a new instrument for the evaluation and improvement of the reflective narratives of students in higher education: the Rubric for Narrative Reflection Assessment (NARRA). First, we describe the process of construction of the rubric, with its elements, indicators and levels. Second, we present the results of a validation process that used the judgements of external experts, who confirmed the usefulness of the instrument. Third, we show the results of NARRA's first application to students' narratives. We conclude that the new rubric we propose works well in grading the degree of reflection on the basis of subjective texts.

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1. Introduction

The etymological origin of the term *assessment* is the Latin word *assidere*, which means 'to sit down with'. With this in mind, this paper adopts the vision of Kiraly (2000), which views assessment as the process of sitting down and working with students in a mutual search for new knowledge, as well as for the development of new capabilities.

One of the cross-disciplinary abilities that university students need to acquire, regardless of their course of study, is reflective competence. Since Schön (1983) highlighted the importance of reflection in the training process, several authors have explored various aspects of this perspective. Kolb (1984), for example, emphasized that knowledge is created from the transformation of experience. His famous 'experiential learning cycle' considers the following cyclical phases: concrete experience, reflective observation, abstract conceptualization and active experimentation. Furthermore, Korthagen (2001), inspired by Kolb's model, described five phases in the reflective process: 1) the action or experience, 2) looking back (on the action), 3) raising awareness

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and identifying important aspects of one's activity, 4) searching for and preparing alternative behaviours to perform and 5) testing their effectiveness in a new situation. This again provides a new experience, and is therefore the starting point for a new cycle of reflection. Then the ideal for the progressive acquisition of reflective competence is described as a continuous alternation between action and reflection.

While students have different predispositions to reflect on an action, it is during their time at university that they should acquire strategies to empower such ability. Teachers, in their role as learning facilitators, have an important task in this respect. Since assessment has a strong impact on the focus and attention of most students, teachers must have effective tools to evaluate students' reflective competence and, at the same time, to improve it. In this sense, the investment in rubrics by teachers and educational institutions responds to a demand for more authentic, complex and motivating forms of assessment (Dochy, Gijbels, & Segers, 2006). The Rubric for Narrative Reflection Assessment (NARRA) that we present in this paper has been developed using this perspective. The aim of this article is to describe the process of construction and validation of the rubric using the judgement of external experts, as well as a pilot application to six reflective texts written by a sample of university students.

2. The improvement and evaluation of reflective competence in higher education

One of the purposes of reflective competence among university students should be the progressive acquisition of tools that enable them to move from what they already know and what they already do (tacit knowledge) to absorb existing scientific knowledge (explicit knowledge) under monitored conditions (Melief, Tigchelaar, & Korthagen, 2010). In the same way, university teachers, as supervisors of the quality of this process of transformation, should have tools available to promote and evaluate the processes of student self-regulation (Carandell, Keim, & Tigchelaar, 2010). In other words, teachers should know the principles governing the creative reconstruction carried out by their students up to the appropriation of scientific knowledge (Galperin, 1989; 1992) and practitioner competence (Schön, 1983).

Schön's perspective on reflective practice has been criticized (Finlay, 2008). Boud and Walker (1998) discuss the fact that Schön's analysis ignores critical features of the context of reflection, while Eraut (2004) dislikes Schön's work for its lack of precision and clarity. Thus, the identification of the regulatory principles of reflective competence is not a trivial issue. As Black and Plowright (2010) explained, the improvement and evaluation of reflective competence is a very complex matter. Among other things, this complexity is driven by the fact that reflective competence cannot be learned from a lecture, which is the conventional form of teaching at university; and nor can it be assessed by examination, which again remains the most common means of assessing students. On the contrary, reflective competence may be attained by promoting reflective critical thinking, which can be addressed through contextualized learning spaces of simulations (Tutticci, Lewis, & Coyer, 2016), assessed with skills resulting from the lesson evaluations (Watts & Lawson, 2009) or action research (Hagevik, Aydeniz, & Rowell, 2012) and measured through instruments that exhibit content validity.

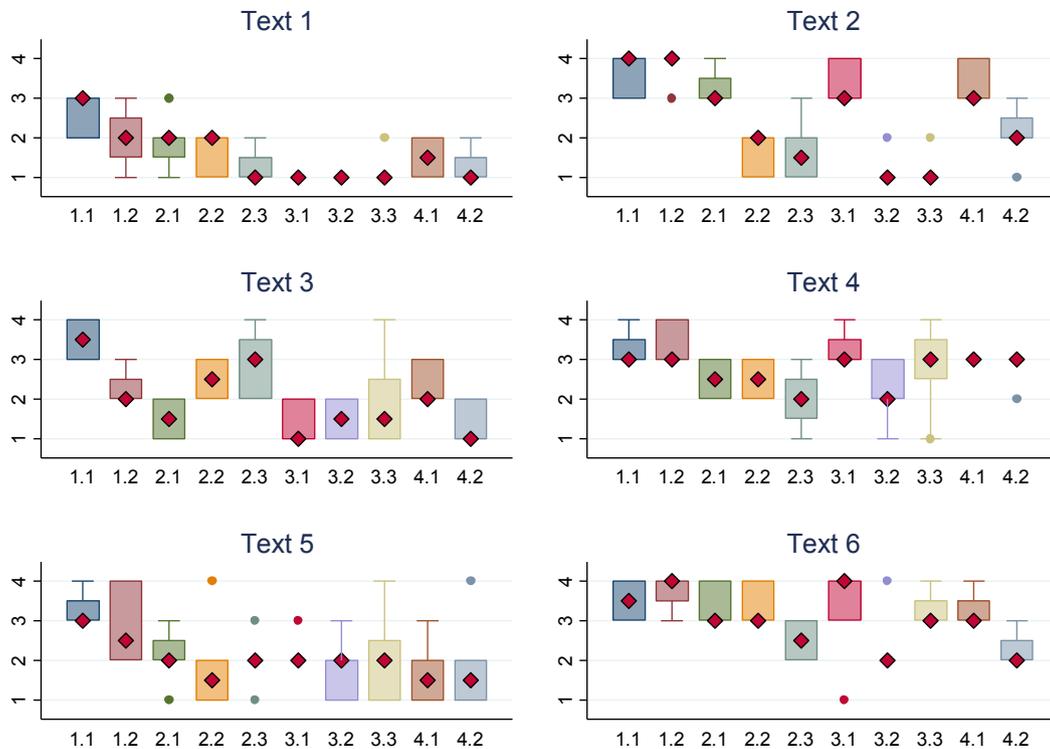
There have been multiple studies on evaluation of the reflective competence of university students in different fields of knowledge, mainly involving a learning portfolio (Canniford, Ortho, & Fox-Young, 2015; Zubizarreta, 2009). Students use learning portfolios to reflect on their development over a specific period of time, and this allows analysis of either student assessment or student

development (Beck, Livne, & Bear, 2005; Mansvelder-Longayroux, Beijaard, & Verloop, 2007). Klecker (2000) advocated that the portfolio should be used to evaluate the achievement of content and performance standards, whereas Darling (2001), for example, proposed student development through narrative reflection as the best way of fostering such development. Korthagen and Vasalos (2005) distinguished between *reflection* and *core reflection*: reflection is understood as a systematic way of improving one's practice, while core reflection involves questioning and reframing a person's levels of functioning, such as identity and mission. Core reflection aims at more durable changes in a person than mere reflection.

Some authors conclude that in itself the portfolio is a weak instrument for assessing reflective competence, due to the degree of subjectivity inherent in the assessment (Dekker et al., 2009; McCready, 2007; Serdà & Alsina, 2013; Watson, 2007). For this reason, over the years several rubrics have been developed either to complement the portfolio approach, or to be used independently to promote and evaluate learning and student work. Those are named instructional rubrics (Goodrich, 2000). Although topic-specific rubrics are likely to produce more reliable scores than generic rubrics (Jonsson & Svingby, 2007; Marzano, 2002), the use of generic rubrics is increasing, since they focus on the development of measures of reflective writing that are reliable, valid and practical to implement (Moniz et al., 2015).

Ward and McCotter (2004) designed a generic rubric to enable pre-service teachers to appraise their critical reflections. The rubric includes three dimensions: a) focus (what is the focus of concern about practice?), b) inquiry (what is the process of inquiry?), and c) change (how does inquiry change practice and perspective?). There are four levels for each dimension: 1) routine (disengaged from change); 2) technical (instrumental response to specific situations without change of perspective); 3) dialogic (inquiry part of the process, involving cycles of situated questions and action, consideration of others' perspectives, new insights); and 4) transformative (fundamental questions and change). Watts and Lawson (2009) noted that the use of the rubric presented by Ward and McCotter (2004) allows students to recognize qualitative changes in the development of skills of critical reflection. Harrison and Lee (2011) also used the rubric of Ward & McCotter to identify changes in the level of reflective critical practice among future teachers; they concluded that in the transformation process, the teacher's skills in relation to dialogue and managing students' emotions are fundamental. Finally, Ryan and Ryan (2012) suggested a multi-level reflective scale for the teaching and assessment of reflective learning in higher education. Adapting the levels provided by Bain, Ballantyne, Mills, and Lester (2002), the authors suggested the following four indicators: 1) reporting and responding; 2) relating; 3) reasoning; and 4) reconstructing.

Based on the levels of reflective thinking, the rubric designed by Kember, McKay, Sinclair, and Wong (2008) was used to assess the level of reflection and non-reflection in writing. This rubric sets four levels to guide the degree of reflection of the written works of students: usual action–non-reflection; understanding; reflection; and critical reflection. Similarly, Wald, Borkan, Taylor, Anthony, and Reis (2012) designed the REFLECT (Reflection Evaluation for Learners' Enhanced Competencies Tool) rubric to evaluate reflective narratives in the field of medical education. It consists of the following indicators that enhance the students' active participation, the cognitive aspects and emotions and critical thinking during the reflective learning process: voice and presence; description of conflict or disorienting dilemma (insight and reflection); attending to emotions; and critical analysis and meaning making. Four levels of reflective capacity are considered, ranging from the usual action to critical reflection: 1) non-reflective: habitual action; 2) non-reflective: thoughtful action; 3) reflective; and 4) critically



Note: Each element was graded 1–4 (vertical axis).

Fig. 1. Evaluation of texts based on the ten elements included in the proposed rubric. Source: Authors' elaboration.

reflective. The study shows reliability between apparent validity, feasibility and acceptability. The application of the REFLECT rubric to medical students proved that inter-sample reliability is only achieved if fourteen writing samples are available per student and if there are four or five assessors to score a given set of reflections (Moniz et al., 2015). Their findings suggest that reflective writing appears to be a context-dependent competency.

Irrespective of whether both the understanding of reflection for learning and the development of professional learning are taken into account, rubrics focus on the exploration of reflection in an inductive sequential manner. As such, Black and Plowright (2010) designed a multi-dimensional model of reflective learning for professional development. In this model, they included the following dimensions: a) the source of reflection, comprising learning experience and practice experience and known as the experiential process; b) the target of reflection, namely reflection-on-learning and reflection-on-practice, and, also the levels of reflection in relation to the target; c) the realization of reflection, through written and internal dialogue with oneself, which is known as the transformational process; and d) the purpose of reflection, i.e. reflection for learning and reflection for practice, referred to as the developmental process. The model includes reflection on learning for further learning and self-development; reflection on learning for application to professional practice; reflection on professional practice for further learning and self-development; and reflection on professional practice for application to future professional practice (Black & Plowright, 2010, p. 255). In the same way, rubrics designed to evaluate scientific skills in higher education on the basis of written scientific texts follow a sequential model. Timmermann, Strickland, Johnson, and Payne (2011), for example, developed a rubric that included the

following indicators: a) introduction (context, accuracy and relevance); b) hypotheses (testable, with consideration of alternatives; scientific merit); c) methods (controls and replicas, experimental design); d) results (data selection, data reporting, statistical analysis); e) discussion (based on the selected data findings, alternative explanations, design limitations, significance of the research); and f) use of previous literature. Each of these indicators included four levels: 1) it is not addressed; 2) beginner; 3) intermediate; and 4) competent. After administering the rubric to bachelor-degree students of biology, they suggested three types of benefits: a) it increased the consistency of the classes, especially those that are shared by several teachers; b) it evaluated the scientific reasoning and writing skills of students; and c) it highlighted gaps in course work and provided a common metric to assess the extent to which the curriculum was achieving the programme goals.

Bearing in mind previous literature, we designed NARRA from a multifactorial perspective, considering factors related to learning and professional development, as well as the key levels to achieve critical reflection. It also considers ten specific indicators for the evaluation of narrative reflection in higher education, such as those that consider the focus of reflection, the initial belief system, inquiry about the focus of reflection (through questions and hypotheses), and rebuilding the belief system to empower new goals and new actions in order to transform prior knowledge. On the one hand, although the rubric is delivered by the teacher, the student must take ownership of it. In other words, there must be an internalization from an inter-psychological to an intra-psychological functioning level – then it could become a learning tool to trigger self-regulating formative evaluation. On the other hand, NARRA should assist teachers in realizing, framing and shaping the horizon of expectations.

The aim of this paper is twofold. First, it describes the process of construction and validation of the rubric, which was submitted for judgement by seven European and Latin American experts. Second, it details the results of a pilot test of NARRA, involving the scoring of student texts in order to assess reflective narratives, clarity and understanding of the indicators, and to increase and support the reliability, validity and feasibility of the rubric (Cohen, Manion, & Morrison, 2011).

3. The process of elaborating NARRA

The development of NARRA occurred in three phases. In the first phase, the team from the Teaching Innovation Network on Reflective Learning from University of Girona developed an initial version of NARRA. In the second phase, the rubric was subjected to a validation process using external experts – this resulted in a second version of the instrument. In the third phase, this second version was used to evaluate a set of reflective narratives produced by students engaged in various university degrees and courses, in order to obtain a first indication of its reliability. This section describes in detail the process followed in each of these three phases.

3.1. First phase: elaboration of the first version of the rubric

The development of the rubric was carried out by members of the Teaching Innovation Network on Reflective Learning. It began with a literature review of articles that presented rubrics to evaluate narratives of reflective type in different areas of higher education (e.g. Black & Plowright, 2010; Harrison & Lee, 2011; Leijen, Valtna, Leijen, & Pedaste, 2012; Ryan, 2013; Ward & McCotter, 2004). This literature review allowed us to develop a first version of the rubric. Several aspects detailed below were considered.

The first step in a process of reflection is to clearly identify a focus of reflection (Leijen et al., 2012; Ward & McCotter, 2004), identifying the elements of the experience that can be the source of reflection (Melief et al., 2010). Black and Plowright (2010) introduce the idea that the focus can be related to the experience – either to learning academic subjects or to learning through the development of professional practices. In the same way, Ryan (2013) identifies a basic level of reflection named ‘Reporting/responding’, by which the student builds an opinion or develops an initial response in relation to a situation or incident that is relevant for the discipline, for the professional practice or for the actual learning. Choosing the focus of reflection is not always an easy task. And so the correct identification of this focus is crucial to the reflective process. It could be ‘something that worries us’, which is presented as a challenge or a practice that we consider problematic; or conversely, it could be something that ‘gives us satisfaction’. All of these topics could become the focus of reflection. Good identification and selection of a focus of reflection involves describing in detail the situation and identifying what is relevant in the situation, what feelings it engenders, or what doubts it raises.¹ Following this idea, the first element of the rubric is the identification of the *academic or professionalizing experience, situation or activity*, on which the reflective experience will centre.

Reflection involves a process of inquiry that adopts different nuances. It includes asking various kinds of questions, often implicit, about an experience that is the focus of reflection; it implies some personal dialogue and the incorporation of the views of

Table 1
Results of the expert assessment of the rubric (dichotomous questions).

	Validity	Correspondence	Formulation	Belonging
Element 1	YES (7)			
Indicators		YES (6)/NO (1)	YES (5)/NO (2)	YES (7)
Levels		YES (6)/NO (1)	YES (4)/NO (3)	YES (6)/NO (1)
Element 2	YES (7)			
Indicators		YES (5)/NO (2)	YES (5)/NO (2)	YES (7)
Levels		YES (7)	YES (4)/NO (3)	YES (6)/NO (1)
Element 3	YES (7)			
Indicators		YES (6)/NO (1)	YES (5)/NO (2)	YES (6)/NO (1)
Levels		YES (5)/NO (2)	YES (5)/NO (2)	YES (6)/NO (1)
Element 4	YES (7)			
Indicators		YES (6)/NO (1)	YES (5)/NO (2)	YES (5)/NO (2)
Levels		YES (6)/NO (1)	YES (6)/NO (1)	YES (7)

Source: Authors' elaboration.

others in such a dialogue; and it questions the nature of problems (Ward & McCotter, 2004). Black and Plowright (2010) also refer to dialogue as an element, because the individual engages in a transformation process. They highlight the important point that the dialogue sustained by the person with him/herself takes place by means of writing. This process also includes questioning one's own assumptions, as well as ideas that are often taken for granted (Ward & McCotter, 2004). Leijen et al. (2012) establish a level of ‘justification’, by which the student offers logical explanations for what has or has not been done, and a level of ‘criticism’, by which the student evaluates the focus of reflection, highlighting wrong aspects of his/her actions and stating why they were wrong. Both levels are close to the level of inquiry of the reflective process. Melief et al. (2010) place emphasis on the importance of asking questions of oneself about what previous experiences help in coping with the experience that is the focus of reflection, what knowledge can help to understand and analyse it, what possible alternatives there are, and what gaps in the learning process are identified. Thus, in this process of inquiry, it is important to revisit the experience, the experience of others and the learning so far. This allows gaps in learning to be identified and shared. In this respect, we identify two elements of the rubric: the identification of the *ideas and previous beliefs*, related to the focus of reflection, and the *inquiry and targeting*, exploiting the focus of reflection.

Reflection should also lead to a change in the way the student acts, and/or a change in his/her perspective. Ward and McCotter (2004) state that the reflection must result in change, either in the practice or in the perspective, or in both. Black and Plowright (2010) and Leijen et al. (2012) also argue that, as a result of the reflective process, the individual needs to engage in actions concerning his/her learning or his/her practice, indicating what can be done to start the changes and why they are necessary. According to Melief et al. (2010) and Black and Plowright (2010), this part of the reflection is important because it drives professional development. The level that Ryan (2013) terms ‘reconstruction’ points in the same direction, acknowledging that it is the most difficult to achieve and measure. Therefore, the student must be able to identify what the change is that he or she is seeking, and he or she should be able to explain it and argue about it. The element named *Transformation* included in the rubric is related to these aspects of the reflection.

One of the challenges involved in evaluating reflection is the identification of different levels or degrees in the narratives of students. The contributions in the literature reviewed suggest that the most basic level of reflection involves being able to produce a good description of the focus of reflection and to identify some feelings and attitudes about this focus. The highest level involves the exercise of critical analysis and reconstruction or transformation, showing new ideas and approaches to the topic covered by the process of reflection, and documenting decisions about

¹ One aspect of reflective learning is based on moving learners beyond sharing feelings to a deeper level of intellectual analysis (Eyler & Giles, 1999) and it also helps students to make sense of their learning (Harvey et al., 2016), contributing to how they feel.

Table 2
Narrative reflection rubric assessment, NARRA.

Indicators	Rubric levels			
	1	2	3	4
Element 1: Situation, activity or experience that triggers reflection. Selection and analysis of a situation over which the reflective process will be done				
1.1. Identifies and describes the focus of reflection in a contextualized manner.	Does not identify any sources of reflection on a specific experience. Writes a dissertation that is rhetoric and decontextualized.	Identifies focus of reflection of a concrete and lived experience but it is trivial or not so important. Writes a description that is out of context.	Identifies a significant focus of reflection on a specific and lived experience. Writes description that lacks some elements of context.	Identifies one or more relevant focus of reflection on a concrete and lived experience. Writes a contextualized description.
1.2. Makes judgements about the focus of reflection.	Does not make any value judgements.	Makes some value judgements, but they are simple and without nuances.	Makes one or more value judgements with nuances and/or with emotional engagement.	Makes one or more value judgements with nuances and emotional engagement.
Element 2: Prior conceptions and beliefs: awareness of own previous beliefs, knowledge and experiences				
2.1. Specifies, analyses and elaborates on beliefs or ideas about him/herself.	Does not specify prior ideas or beliefs about him/herself.	Specifies some prior ideas or beliefs about him/herself without further explanation.	Specifies prior ideas or beliefs about him/herself and analyses them.	Specifies prior beliefs or ideas about him/herself and analyses and evaluates them. For example, explains why he/she has reached these beliefs and relates them to personal experiences and analyses his/her history.
2.2. Specifies, analyses and elaborates on prior beliefs or ideas about the context.	Does not specify prior ideas or beliefs about the context.	Specifies prior beliefs or ideas about the context without explaining them.	Specifies prior beliefs or ideas about the context and analyses them.	Specifies prior beliefs or ideas about the context and analyses and evaluates them.
2.3. Specifies, analyses and elaborates on beliefs or ideas about the discipline/profession.	Does not specify prior ideas or beliefs about the profession or discipline.	Specifies prior beliefs or ideas about the discipline or profession without explaining them.	Specifies prior beliefs or ideas about the discipline or profession and analyses them.	Specifies prior beliefs or ideas about the discipline or profession and analyses and evaluates them.
Element 3: Inquiring and/or focusing: investigating possible actions of students through focusing and questions and hypotheses				
3.1. Focuses on questions and hypotheses and makes inquiries about the focus of reflection.	Does not specify questions or hypotheses about the focus of reflection.	Specifies questions or general hypotheses about him/herself, but does not examine or argue them.	Specifies questions or hypotheses about the focus of reflection but does not expand them. The student does not develop a process of investigation over the focus or reflection.	Specifies questions or hypotheses and also starts a process of investigation about the focus of reflection.
3.2. Focuses on questions and hypotheses and makes inquiries about the context.	Does not specify questions or explicit assumptions about the context.	Specifies assumptions or general questions about the profession or scientific discipline, but does not examine or argue them.	Specifies and focuses on questions and hypotheses about the professional action but does not expand them. The student does not develop a process of investigation into the professional action.	Specifies focused questions and assumptions that can lead to a process of investigation into the profession or discipline.
Element 4: Transformation: Set concrete learning objectives and future action plans and approaches to initiate a new reflective cycle.				
4.1 Specifies, argues and transfers new learning goals.	Does not specify new learning goals for the transformation of any belief, experience or prior knowledge (about himself, about the context or the profession).	Specifies learning goals for the transformation of some beliefs, experiences and/or prior knowledge (about himself, about the context or profession) but does not argue them.	Paradigm shift. Argumentation of these changes or the need for them. Specifies learning goals for the transformation of some beliefs, experiences and/or prior knowledge (about himself, about the context or profession) and argues and transfers them without providing scientific evidence.	Specifies learning goals for the transformation of some beliefs, experiences and/or prior knowledge (about himself, about the context or profession), argues and transfers them basing them on scientific evidence.
4.2. Implementing new action plans and supports them with arguments.	Does not implement improving alternatives of action.	Implements improving alternatives, but does not argue them.	Implements improving alternatives, argues them with shortcomings and/or mistakes.	Implements improving alternatives and argues them without shortcomings and mistakes and closing the reflective cycle.

future practices.

Over three working sessions held from February to April 2014 (Fernández Peña et al., 2016) came up with the draft of a flexible rubric that could be adapted to a variety of learning situations in the context of the classroom or professional practice, and that was applicable to reflective learning experiences in different fields of knowledge. The first proposal included the *elements* of reflective narration and *indicators* that tried to specify the components of each element. This rubric instrument was jointly reviewed, from May to July 2014, and modified in the course of four subsequent working sessions. For each of the proposed four elements, indicators were finally described that specified the aspects to be evaluated within each element.

The four elements of the rubric are as follows:

- 1 *The academic or professionalizing experience, situation or activity.* In reflective learning, the experience or the particular practice constitutes the starting point for reflection. Knowing how to identify previous personal experiences, situations, academic experiences or professional practices that can be a source of learning is a first step in the process of reflection. It includes two indicators aimed at analysing a) the selection and definition of a situation over which the student performs his/her reflection and b) the inclusion of personal opinions, as well as the reasoning behind them.
- 2 *Ideas and prior beliefs.* This is based on awareness of all the experiences, beliefs and prior knowledge acquired by the student. Belief systems and mental constructs that are forged individually constitute the starting point for reflection processes that result in significant appropriation of one's own knowledge. This element includes three indicators related to the identification, classification and evaluation of a) beliefs and preconceptions about oneself, b) beliefs and ideas raised by the social context and c) beliefs and preconceptions associated with the academic discipline and/or the profession.
- 3 *Inquiry and targeting.* This element emphasizes the decision made by the student as a result of awareness of the points of departure and of his/her own detailed possible actions that may follow the analysis. This is an initial reflective itinerary which investigates possible actions and focuses on one or more of a range of possible actions. Then several inquiring questions or hypotheses formulating significant appropriation of knowledge and learning are generated. This element is specified by three indicators that are designed to identify, classify and evaluate inquiring questions and hypotheses posed by the student about a) himself, b) the social context and c) the discipline or profession.
- 4 *Transformation.* In the last phase of the reflective cycle, the student transforms questions into goals for improvement, in order to rebuild beliefs about him or herself, beliefs raised by the context and beliefs about the discipline and/or profession. The element focuses on two indicators related to a) the extent to which the student makes learning objectives explicit and argues them and b) the degree to which the student starts to operate under the framework of new plans of action.

Once the rubric's elements and indicators were established, its 'levels' were specified. Level 1 implies the absence or low weight of the indicator in the student narrative, while level 4 indicates the highest level of performance. Each level includes a brief description to help the user identify the characteristic of narratives that might be relevant. To develop a description of the levels of the rubric, each member of the Teaching Innovation Network on Reflective Learning looked for narratives that could be related to each of the levels of the rubric; from analysis of the texts, the levels were defined.

3.2. Second phase: validation of the rubric through the judgement of external experts

A panel of experts in educational practices, formed to assess the validity of the content of a rubric, is one way of operationalizing and synthesizing the appropriateness of indicators to measure a particular dimension of quality and is a method commonly used to generate consensus on poorly defined aspects (Chacón, Pérez-Gil, Holgado, & Lara, 2001; Timmermann et al., 2011). In this validation phase, seven experts on educational sciences and on reflective methodology from six different Spanish universities and one expert from a Latin American university were contacted by e-mail and invited to participate in the validation process. Once they agreed to participate in this phase by responding to the e-mail and accepting the invitation, they received an introductory letter with the objectives of the validation and the assessment methodology, as well as the first version of the rubric. The experts evaluated the appropriateness of the criteria and descriptors by answering closed questions and by giving open comments and/or suggestions for improvement. This process lasted from March to October 2015.

Specifically, this validation of the first version of the rubric included assessment by dichotomous response to a series of questions (presented in Table 1) and comments or suggestions for improvement. In relation to the indicators proposed for each element and the specific content of each level, the experts were asked to comment and make suggestions on the following items: 1) the correspondence of the indicators for each of the four elements and the description of the four levels of each indicator; 2) the formulation – that is, the language used in the description of the elements, indicators and levels of the rubric; and 3) the relevance of the indicators and the different levels in assessing a reflective narrative.

The results of the expert validation of the first version of the rubric highlight certain aspects. There was total consensus on the validity of the elements and indicators as essential aspects in the evaluation of reflective narratives. In judging the correspondence, formulation and relevance of indicators and the levels of the first version of the rubric, the experts provided a largely positive assessment (Table 1). Most observations and suggestions for improvement concerned the formulation and language used. The suggestions and comments provided by the experts were analysed by the authors of this paper, paying attention to the level of proposed improvement and to their logic and theoretical foundation. This led to some changes in the description of element 1, and to alterations in three indicators and in the definition of five levels.

Furthermore, the text for element 1 was modified according to the experts' judgement. In line with the ideas of the experiential learning of Kolb (1984), this element evaluates ability to focus reflection on a specific experience. We decided to remove the adjectives 'academic and/or professionalizing' from the rubric. This wording had originally been used because the initial conception was that reflective methodologies are directed at university students, who are considered to be in a training phase. A change in the word order of the previous definition of element 1 – from 'Experience, situation or activity' to 'Situation, activity or experience' – was accepted in order to stress the idea that reflection has to be embedded in a concrete situation (the English expression 'grounded in experience' alludes to this idea of being 'based on experience' or 'anchored in experience'). The term 'experience' may be more ambiguous, and therefore we chose to place it last.

In relation to indicator 1.1, description and prior identification of the focus of reflection were both included, since these are

Box 1

Translation from Catalan into English of two of the analysed texts.

Text 3: In the nursery school where I'm doing my *Practicum*, I have observed several shortcomings: the group of teachers meets very seldom (only once a month); there is an excess of structured and commercial material in the classroom; there is an inadequate allocation of time in some of the educational proposals, because the activities usually end when the situation becomes uncontrollable; and, above all, there is a lack of documentation and reflection on the teaching practice.

Because of this, I intend to initiate a transformation of the teaching practice, with the creation of a space of light and darkness in an unused corner of the school, where I will articulate proposals with unspecified materials. This new environment should promote a space for dialogue and reflection from the documents obtained, thus: a) counter the lack of confrontation between teachers; b) improve their reflective practice and their interventions; and c) state what actions in mathematics are undertaken by children aged 2–3 years.

In my third year I did a seminar on reflective practice that gave me the elements to work from the reflection on my own practice that I think will help me in the task that I want to perform, even though I am aware that I will have to read much more and learn much more. I'll do bibliographical research and will try to talk to experts on the subject. Relative to the mathematics actions that children aged 0 to 3 years perform, last year I did a course on 'Experimental manipulation and game in the kindergarten' which gave me a lot of knowledge. I know that the subject's teacher has just published a book on the topic; I will study it closely and will try my best to make good documentation in the classroom.

Text 4: Practising in a school provides an opportunity to narrow the gap and the contradictions that often arise between the theoretical and the practical level. It is a period during which we can test new strategies, learn from mistakes and situations that were not as we had imagined. The key question is to know how to learn from the daily experience and to be aware of the important job we perform.

For me, this Practicum has represented a clear example of personal and professional development. I would like to emphasize that in this school, they made me feel as one of the teachers.

Undoubtedly, each challenge has been a significant learning experience. To design a space and see it come to fruition has been a great privilege. If I had to describe this period of practice in just a few words, the first that come to mind are: enthusiasm, passion, reflection, confrontation, emotion, satisfaction, conversion, vocation ... With each glance from the children, I received the best possible reward.

Despite the high rating of the self-evaluation, there are always areas for improvement and development. At this point, I always like to reflect retrospectively, wondering: If you were to start again, what would you change and/or modify? In everything I do, I always try to give the best of myself. **However, small experiments when, for a moment, you may feel frustrated are those that help you grow and**

improve yourself as a future teacher, so long as one is aware that sometimes we do it right and sometimes we learn from others. For example, although I was careful about what materials were and were not fluorescent, I used white paint, with which I did not achieve the desired result. Similarly, rice painted with fluorescent paint turned out to be a less attractive proposition than I had anticipated, since the children had already manipulated rice several times before. Therefore, in sessions aimed at exploring this material, I combined it with others (stones, balls and paper tubes) to achieve a more appropriate and rewarding experience. The possibility of working in different small groups and developing a number of sessions allowed me to confirm that each group is different; what works in one does not always go the same way in another. These are the moments when management and intervention assume important educational relevance. These are the moments when we grow as teachers.

The best lesson that I take with me is that we must be coherent and consistent; we must be thoughtful teachers, guides, observers, flexible, open to renewal and transformation; in particular, we should inspire ourselves and learn along with the children.

The work of a teacher is a constant exchange of learning, because children are often able to show you the world in a way that is imperceptible to adults. I think that the true training and preparation can be found in classrooms, with children and good people with whom we can talk and exchange different views, build from experience and from excitement in order to evolve to a quality education.

interdependent and are both needed to assess whether the description takes into account the importance of relevant elements – i.e. if this description is contextualized or refers to the specific theoretical and practical framework of the discipline or profession. The adjective 'relevant' was removed, since it presents difficulties in interpretation, and could be related to the degree of expertise in different domains, disciplines or professional skills, and takes into account the different steps in the transition from novice to expert. As pointed out by Dreyfus (2004, p. 178):

At this point, because a sense of what is important in any particular situation is missing, performance becomes nerve-racking and exhausting, and the student might well wonder how anybody ever masters the skill. To cope with this overload, and to achieve competence, people learn, through instruction or experience, to devise a plan or choose a perspective that then determines those elements of the situation or domain that must be treated as important and those that can be ignored. As students learn to restrict themselves to only a few of the vast number of possibly relevant features and aspects, understanding and decision making becomes easier.

In relation to the levels of the rubric, changes were made in line with the comments of the experts, since clarity and appropriate language are central to the validation phase of a rubric. The changes that appeared in the final version of the rubric addressed the lack of consistency in the verbs and adjectives used in the headings. This could have led to various interpretations – a problem pointed out previously by Reddy and Andrade (2010) and Robin and Simon (2004). Taking into account all these aspects, we arrived at the final rubric (see Table 2).

3.3. Third phase: application of the rubric to students' narratives

Once the process of validation by national and international experts had been completed, we carried out a second exercise to validate the rubric. University students on different degree courses at the University of Girona were specifically asked to engage in a reflective exercise. We took six of their texts and graded them using the rubric.² Each text was evaluated by the eight authors of this paper. By analysing the extent to which our assessments converged or diverged, we saw which elements of the rubric were still ambiguous and needed to be revised, and which elements were useful in capturing the degree of student reflection and needed no change. This exercise was done in two stages: first, each of us, individually, graded the texts; and then, at a face-to-face meeting, we discussed which elements in each text had caused most disagreement and reassessed them, as well as the rubric, if necessary. The changes required were very small and a matter of language.

Text 1 and text 2 are from two different students in the Psychology Department who were participating in the Module for Integrated Academic and Professional Skills (hereinafter IAPS).³ As part of the IAPS module, students were asked to write a 'reflective portfolio', which is based on the Reflective Portfolio for Human Development Studies in the Information Society (Villar & Font-Mayolas, 2007), but modified to focus on reflective aspects of student work (Pérez-Burriel, 2012). As well as specifying their goals and interests in relation to their profession and career, and offering evidence of skills, the students were asked to reflect on their professional training experiences. Texts 1 and 2, in particular, offer an example of these reflections, focusing as they do on work experience that relates to 'bibliographical research'. In their texts, the students detail how they felt at the beginning of the task and at the end, the difficulties they encountered and how they faced them, as well as changes in their level of motivation during the process.

Texts 3 and 4 were written by the same student (from the Department of Specific Didactics), but at different points in time. Text 3 was written at the very beginning of the student's *Practicum* (practical classroom experience), when students were asked to reflect on the first weeks of their training period, at the same time detailing problems that they observed in the school's classrooms. The identification of a specific problem and potential ways of tackling it are later used as a topic for the final degree essay that students must write to obtain their bachelor's degree (in Spanish, *Trabajo de Final de Grado*). Text 4 was written by the same student at the end of the *Practicum* experience and contains a reflection on the whole training period. Naturally, we expect a higher degree of reflection by the student at the end of the process, given that she will have had much more time to think and reflect on what she has observed in the classroom, what she feels about it and what she can learn from it.

Finally, texts 5 and 6 are from two different students who were participating in the subject Social Education (Department of Pedagogy), who again had to reflect on their *Practicum* experiences. The students had to select an incident or problem that they encountered during their training period and were expected to reflect on it, detailing why that particular problem had been chosen, explaining what they, as professionals, would do in the situation, and saying what they had learned from the experience, to what extent the knowledge gained from the experience was

applicable to new situations and what the student needed to change in terms of ideas, capacity of reaction and previous knowledge after such reflection. In the particular case of text 5, the student reflected on an incident that she was involved in, when a young person with autism became violent in the classroom; in the case of text 6, the student reflected on a tutorial session with a person who had a drug-addiction problem.

Fig. 1 shows how the eight authors of this paper evaluated the six texts using the rubric (in total eight markers for each element of each text).⁴ The sub-figures are whisker plots with an adjacent line showing the lower and upper values, while the box contains the values between the 25th and the 75th percentile. The circles are outside values and the diamonds indicate the median. The larger the box for each element, the greater the disagreement in the assessment, while the lack of a box indicates that the agreement was very strong.

As can be seen, for text 1 there was very strong agreement on the vast majority of the elements of the rubric; this was particularly clear in the case of element 3. With the sole exceptions of elements 1.2 and 2.1, the difference in our evaluations of the text was never above 1 point, which implies a very similar evaluation of the reflection carried out by this particular student. The same is true of text 2: very strong agreement on all the elements, particularly on element 3 (Inquiring and/or focusing: investigating possible actions of students through focusing and questions and hypotheses).

We analyse texts 3 and 4 in more detail – see Box 1 for a translation into English of the original texts. Text 3 obtained a high score in element 1.1, as the evaluators considered that the student had written a contextualized description, clearly identifying the focus of reflection. However, the rest of the text showed a poor level of reflection; the student barely specified prior beliefs or ideas about herself, the context or the profession (elements 2.1, 2.2 and 2.3, respectively). Regarding elements 3.1, 3.2 and 3.3, the student barely developed a process of investigation over the focus of reflection, because she did not specify any hypotheses or made any inquiries. The evaluation of elements 4.1 and 4.2, devoted to *transformation*, was also very low. The reason for this is that, although the student specified some new learning goals for the transformation of the context and herself, she merely listed them, without any argument (see the passage in *italics* in text 3). The evaluators agreed that, with slight differences in individual evaluation, this text displayed a poor level of reflection. The text, overall, is basically descriptive.

As has been mentioned, text 4 was written by the same student at the end of her *Practicum* experience and contains a reflection on the whole training period. The evaluators agreed that the student's level of reflection had improved globally. Concretely, she displayed an ability to make judgements with emotional engagement about the focus of reflection (see passage in *italics*); for this she received a high score for element 1.2. Besides, she focused on the professional action that could lead to a process of investigation (elements 3.1 and 3.3; see the underlined passage). Also, she specified learning goals for the transformation of some beliefs and experiences about herself and the context of her profession, and she tried to transfer them (elements 4.1 and 4.2; see passage in **bold**).

As for texts 5 and 6, again we can see that agreement on how to evaluate the texts using NARRA was high (particularly in the case of text 5). With very few exceptions, the grades used in each element never differed by more than one point.

Finally, given that intra-class correlation coefficients – of which Cronbach's alpha (Barrera, Braley, & Slate, 2010; Cronbach, 1951;

² The five authors of the selected texts signed an informed consent giving us permission to use anonymously their texts as part of the validation process.

³ All the texts (in their original language) are available from the authors on request.

⁴ The constructed dataset with the texts' evaluations was analysed using the software package Stata.

Gliem & Gliem, 2003) is one form — are used as measures of consistency when evaluating multiple raters on ordered category scales, we computed Cronbach's alpha to evaluate the inter-rater reliability of the rubric's elements. Cronbach's alpha for all the dimensions was 0.87, which is generally considered a satisfactory value. Furthermore, we checked to see whether there was any element in the rubric that systematically stood out as a source of disagreement. This was the case for none of the elements, and so we concluded that, with only slight variance, the rubric works well in grading the degree of reflection from the subjective texts of university students.

4. Discussion and conclusions

The use of rubrics to analyse the reflective narratives of university students has increased considerably in recent years, mainly in the Anglo-Saxon context. Specific rubrics have been designed for various fields of knowledge: the social context, such as in teacher training (Harrison & Lee, 2011; Ward & McCotter, 2004); the scientific context (Timmermann et al., 2011); or the medical context (Wald et al., 2012), among others. Initially the rubrics were designed from the unique perspective of evaluation, i.e. they were instruments in the service of university teachers, encouraging independent and self-regulated learning in the classrooms. However, of late it has been recognized that these rubrics fulfil a dual purpose: in addition to their evaluation function, they could contribute significantly to improving the reflective narrative, given that they objectively describe expectations. For this reason, authors such as Goodrich (2000) use the term *instructional rubrics*.

The evaluation of the reflective competence of higher educational students usually involves the use of instruments that prompt and bring about a narration of significant experiences, such as portfolios or diaries (Canniford et al., 2015; Zubizarreta, 2009). The power of reflective writing for students in the formation of professional identity, the integration of vocational and academic competences and the enhancement of employability skills is repeatedly highlighted by researchers, teachers and educational institutions (Körkkö, Kyrö-Ämmälä, & Turunen, 2016; Rowley, 2016; Wong & Trollope-Kumar, 2014). In this sense, despite the different areas of knowledge and skills that higher students have to develop and improve, the most likely form of their reflection is narrative writing (Bolton, 2001). This argument strengthens the focus on narrative writing, regardless of the context in which the reflective text is embedded: a reflective piece on a single experiment, a reflective diary, a reflective portfolio, etc. In this sense, we aimed to create a versatile tool with a major strength: the rubric is not only useful as an evaluation mechanism, but also contributes to students' learning.

NARRA considers both assessment and instruction, and one of the main new features (compared to previous rubrics) is that we designed it from a multifactorial perspective, taking into account both the evaluation and the expectations and considering ten specific indicators in four main categories: focus of reflection, the initial belief system, inquiry about focus of reflection (through questions and hypotheses), and rebuilding the belief system to empower new goals and new actions in order to transform prior knowledge. It is from this dual perspective that NARRA was designed. This rubric is meant to be applicable to various areas of knowledge. For this reason, its design took account of contributions from authors who have designed rubrics in different areas. More specifically, the design started with a literature review of several rubrics to evaluate reflective narratives in the Anglo-Saxon context (Black & Plowright, 2010; Harrison & Lee, 2011; Leijen et al., 2012; Ryan, 2013; Ward & McCotter, 2004). The review of the literature allowed us to build up a corpus of literature on the assessment of

reflective narratives that considered: a) how to identify clearly a focus of reflection about the experience; b) how to carry out a process of intrapersonal and interpersonal inquiry by asking questions about an experience; and c) how to transform the way in which students act, identify, explain and argue the change.

Once the four elements of the rubric were established (i.e. 1) situation, activity or experience that triggers reflection; 2) prior concepts and beliefs; 3) inquiry and focusing; 4) transformation), one of the main challenges was to set different levels or degrees in the student narratives. The review that was carried out established that the basic level of reflection produces a description of the focus of reflection and identifies some feelings and attitudes about this focus, while the upper level leads to critical thinking, along with the reconstruction and transformation of prior knowledge.

A panel of experts was used to operationalize and assess the adequacy of the indicators. Their validation considered both the adequacy of the proposed elements in terms of evaluating the narrative and how well the indicators and the elements corresponded; it also considered the formulation of the rubric with reference to the language and its relevance. The data obtained from the expert validation revealed total consensus on the validity of the elements and the indicators as essential aspects in the evaluation of reflective narrative. The elements of our rubric coincide roughly with those proposed in the rubric of Ward and McCotter (2004), which included three dimensions: a) focus (what is the focus of concern about practice?); b) inquiry (what is the process of inquiry); and c) change (how does inquiry change practice and perspective?). We considered it essential to include also a fourth element (concepts and prior beliefs), since the affective dimension also plays an important role (Wald et al., 2012). In this regard, awareness of these beliefs during the initial training of university students is essential to promote change processes (Kaasila, Hannula, & Laine, 2012).

As for the formulation and relevance of the indicators in the first version of the rubric, the assessment of the experts was overwhelmingly positive: the changes made to the initial version of the rubric were related to the expression and language (i.e. the use of adjectives, which may carry a subjective interpretation). Following the judgement of the experts, the review process involved joint analysis of how to improve the proposed rubric, its logic and theoretical framework; this meant some changes to the rubric text.

Finally, the rubric was applied to six texts written by university students from different areas of knowledge. Analysis of this pilot application enabled the validity of the items to be tested, the instrument to be refined and a final version of it defined. Evaluation of the texts was conducted independently by each of the eight authors of the rubric, and generally we concluded that although use of the instrument takes time, the rubric is useful for teachers in assessing the degree of reflection shown in student narratives from both a vertical perspective (i.e. categorizing the reflective texts according to the various elements of the rubric) and a horizontal perspective (i.e. improving these texts across the various levels), in the sense proposed by Goodrich (2000). Also, the NARRA rubric aligns with the evaluation of e-portfolios considering levels of learning, self-awareness and reflection. As pointed out by Rowley and Bennett (2016), e-Portfolios may encompass the development of thinking in students in relation to their profession and their understanding of their development. The evaluation of such portfolios, that include narrative reflection to assess on expectations, roles, applications and theory through a rubric, would provide new insights on students' critical thinking skills. All in all, the rubric may allow students to gain awareness of their reflective level and objectively meet their expectation of improvement which may, in turn, influence their motivation.

Another strength of NARRA is related to its ease of

implementation, comprehension and use by teachers and students. The process of elaborating NARRA has achieved the concomitant outcome of finding a common language for academics from very different educational backgrounds and interests to evaluate the same 'reality'. In this sense, the results of the first application are encouraging, but additional testing is needed. In future studies, it will also be necessary to progress further with the design of rubrics that take account of the vertical and horizontal dimensions, yet require a smaller investment of time by teaching staff in conducting a summative evaluation of reflective narratives, without losing the insight offered by the formative evaluation of university students.

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