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Studies

Phronesis, meta-emotions, and character education

Phrónesis, metaemociones y educación del carácter

Kristján Kristjánsson, PhD. Professor. University of Birmingham (*k.kristjansson@bham.ac.uk*).

Abstract:

Despite the recent interest in *phronesis* (practical wisdom), and the creation of a four-componential model to unpack its nature, various puzzles (philosophical, psychological, and educational) remain about those components, not least the proposed one of *emotion regulation*. This paper introduces four remaining puzzles about this component and provides a brief overview of possible responses, based on Aristotle's texts. However, given Aristotle's own naturalistic method, in which ethical theorising must be constantly updated in light of empirical findings, the paper suggests that Aristotle's texts only take us thus far and that we need to draw on contemporary psychological sources for further enlightenment. The paper therefore invokes research from the last quarter of a century about so-called *meta-emotions*. This research is relevant given the meta-status of *phronesis* as an integrative virtue. Some of the possible implications of this research for an understanding of the emotional component of *phronesis* are elicited, as well as how it can be cultivated as part of character education.

Keywords: *phronesis*, meta-emotions, emotion regulation, emotional cultivation, character education.

Resumen:

Pese al reciente interés en la *phrónesis* ('sabiduría práctica') y a la creación de un modelo de cuatro componentes para desentrañar su naturaleza, todavía quedan por resolver algunos interrogantes (filosóficos, psicológicos y educativos) sobre estos últimos, principalmente con el propuesto sobre la «regulación de las emociones». Este artículo plantea cuatro interrogantes pendientes sobre este componente y ofrece una breve

descripción de posibles respuestas a partir de los textos de Aristóteles. Sin embargo, dado el método naturalista que empleaba el propio filósofo, según el cual la teorización ética debe actualizarse de forma constante a la luz de los hallazgos empíricos, el artículo sugiere que los textos aristotélicos ya no nos permiten avanzar más y que, para ampliar nuestros conocimientos, tenemos que servirnos de fuentes psicológicas contemporáneas. Por lo tanto, se ha recurrido a la investigación realizada en el último cuarto de siglo sobre las «metaemociones», de gran importancia dado el metaestado de la *phrónesis* como virtud integradora. Se han identificado algunas de las posibles implicaciones de esta investigación para la comprensión del componente emocional de la *phrónesis*, así como la forma en que puede cultivarse como parte de la educación del carácter.

Descriptores: *phrónesis*, metaemociones, regulación de las emociones, cultivo emocional, educación del carácter.

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1. Introduction

Neo-Aristotelian character or virtue education has been undergoing a revival of late in Europe and elsewhere in the world, either as a form of values/moral education (Jubilee Centre, 2022) or part of citizenship education focused on the development of civic virtues (Peterson, 2020). In part motivated by a new international policy-drive towards seeing flourishing (*eudaimonia* in Aristotle's sense) as the ultimate aim of education (Bernal, & Naval, 2023), this new-found interest has led to the establishment of a European Character and Virtue Association, with a journal in the pipeline.

In Aristotle's ethical and educational system, the lynchpin of a flourishing life, actualising the virtues and representing good character, is the overarching meta-virtue of *phronesis* (practical wisdom): an intellectual virtue that guides the moral and civic virtues[1] towards their goals and solves possible conflicts between them as an integrator and adjudicator. In that sense, *phronesis* is best understood as excellence in ethical decision-making (Kristjánsson & Fowers, 2024). It is somewhat mysterious, however, that, until recently, much less was written about *phronesis* as a meta-virtue than about the underlying primary virtues in philosophical and educational circles; and, until 2019, no psychological conceptualisation of *phronesis* existed, nor any instrument to measure its efficacy (Darnell et al., 2019). This lacuna is particularly striking within education where advice about how to cultivate *phronesis*, in schools or universities, has been in short supply (Kristjánsson, 2021). Explanations given for this academic void range from Aristotle's own reticence about *phronesis* cultivation to the fact that *phronesis* is a more complex construct than, say, a "simple" moral virtue like gratitude.

In any case, the last 3-4 years have witnessed a sudden burst of interest in *phronesis* and *phronesis* development within philosophy, psychology, and education, with a number of partly overlapping constructs of *phronesis* being created (De Caro et al., 2021; Wright et al., 2021; Fowers et al., 2021; Kristjánsson et al., 2021; Darnell et al., 2022). There is no space here for comparisons and contrasts between all the different constructs. Rather, in this paper I focus exclusively on the four-componential model of *phronesis* to which I have contributed along with various colleagues in psychology and education. While the development of that model has now become the topic of a large book (Kristjánsson & Fowers, 2024), it is far from being the case that all puzzles surrounding *phronesis* and *phronesis* education have been settled. The present paper explores four puzzles relating to one of the proposed components of *phronesis*: that of emotion regulation.

In section 2, I explain our current neo-Aristotelian reconstruction of the *phronesis* concept, with a special focus on its emotion-regulatory function, and I introduce the four remaining puzzles. I provide a brief overview of possible responses to those puzzles based on Aristotle's texts. However, given Aristotle's own naturalistic method, in which ethical theorising must be constantly updated in light of empirical findings about "what we do and how we live" (Aristotle, 1985, p. 290 [1179a20-23]), I suggest that his texts only take us thus far and that we need to draw on contemporary psychological sources for further enlightenment. In section 3,

I therefore introduce research from the last quarter of a century about so-called «meta-emotions», of great relevance given the meta-status of *phronesis* as an integrative virtue. I elicit some of the possible implications of this research for our understanding of the emotional function of *phronesis* and how it can be cultivated as part of character education.

By necessity, this paper is very much exploratory and does not propose definitive answers to all the puzzles. While the goal is obviously to enhance the credentials of a neo-Aristotelian model of *phronesis* by strengthening an understanding of the relationship between *phronesis* and our emotional lives, it must be noted from the start that this is, as far as I know, the first paper written specifically about *phronesis* and emotions, at least in the Anglophone world.[2] As constituting the first word about many of the remaining puzzles, it would be overly ambitious to expect this paper to offer the last word.

2. A neo-Aristotelian *phronesis* model, and its emotional component

Many of the recent writings mentioned above grapple with, and try to finesse, what tends to be known as the Aristotelian "standard model" of *phronesis* (Kristjánsson & Fowers, 2024, chaps. 1-2). We know from Aristotle's texts about *phronesis*, and the more general contours of his virtue ethics, that the best course of action, at which *phronesis* aims, is the one that tracks the "golden mean" of an individual virtue (hits the bull's eye like an

archer's arrow) or finds the medial over-all way of reacting when there is a conflict between virtues. We also know that *phronesis* performs various functions; and the best way to convey that in contemporary psychological language is to say that the construct is made up of various (inter-related) components. I assume in what follows, in line with previous writings (Darnell et al., 2019; Kristjánsson et al., 2021), that these are four. The four-componential version of the "standard model" constitutes a pragmatic hypothesis. It does not aim at unearthing essential structures of the human mind. The aim is simply to identify what roles *phronesis* is called upon to perform and how those can best be characterised for explanatory purposes and, subsequently, for purposes of development and measurement.[3] Moreover, the components do not refer to psycho-moral capacities that are completely independent of one another and can be turned "up" or "down" in isolation; rather, they are inter-related as explained below (see further in Kristjánsson & Fowers, 2024, chap. 2).

2.1. Constitutive function/component

Phronesis involves the cognitive discriminatory ability to perceive the ethically salient aspects of a situation and to appreciate these as calling for specific kinds of responses. In the *phronimoi* (people possessing *phronesis*) this becomes a cognitive excellence in that, after having noted a salient moral feature of a concrete situation calling for a response, they will be able to weigh different considerations and see that, say, courage is required when the risk to one's life is not overwhelming

but the object at stake is extremely valuable; or that honesty is required when one has wronged a friend. We could also refer to this function as "moral sensitivity" or "moral perception", in order to link it more directly to the standard moral psychology/education literatures.

2.2. Emotional regulative function/component

Individuals foster their emotional well-being through *phronesis* by harmonising their emotional responses with their understandings of the ethically salient aspects of their situation, their judgement, and their recognition of what is at stake in the moment. This is both because they will have already acquired habituated virtues, that is, have shaped their emotions in ways that motivate them to behave as the virtuous person would, and also because having formed these habits and consolidated them through understanding and reasoning, they will have a robust intellectual basis for them. For example, a *phronimos* might recognise that her appraisal of the situation is problematic, giving rise to an emotional response that is inappropriate to the situation. The emotion-regulative function can then help her adjust her emotion by, for instance, giving herself an inner "talking to" or asking herself questions about what is prompting the ill-fitting emotional response. For this reason, we can also refer to this function, in a more standard Aristotelian way, as infusing emotion with reason. Since this is the component that is specifically under discussion in the present paper, I return to it later in this section.

2.3. Blueprint function/component

The synthesising work of *phronesis* operates in conjunction with the agent's overall understanding of the kinds of things that matter for a flourishing life: the agent's own ethical aims and aspirations, her understanding of what it takes to live and act well, and her need to live up to the standards that shape and are shaped by her understanding and experience of what matters. This amounts to what we call a blueprint of flourishing. A "blueprint" has more similarity to what psychologists call "moral identity" than a full-blown theoretical outline of the good life. *Phronetic* persons possess a general justifiable conception of the good life *(eudaimonia)* and adjust their overall reactions to that blueprint, thus furnishing it with motivational force. This does not mean that each ordinary person needs to have the same sophisticated comprehension of the "grand end" of human life as a philosopher might have, in order to count as possessing *phronesis*. Rather than being an "elite sport", the sort of grasp of a blueprint of the aims of human life informing *phronesis* is within the grasp of the ordinary well-brought-up individual. It draws upon the person's standpoint on life as a whole and determines the place that different goods occupy in the larger context.

2.4. Integrative function/component

Let us assume that we have identified a moral problem correctly as one potentially requiring input from two apparently conflicting moral virtues. Let us further assume that we have infused our relevant emotions with reason and that they are not obstructing the decision process. Finally, let us assume that we have a clear, non-self-deceptive identity of who we want to be (a blueprint of the good life) and an overall motivation to bring our reactions into line with that identity. That leaves just the final component of the four-componential construct: the integrative one, which we could also call its adjudicative function or, in line with standard moral psychology, denote as a form of "moral reasoning". Through this component, an individual integrates different virtue-relevant considerations, via a process of checks and balances, especially in circumstances where different ethically salient considerations, or different kinds of virtues or values, appear to be in conflict and agents need to negotiate dilemmatic space.

Figure 1 illustrates the overall conceptualisation of *phronesis*. Notice that I try to couch the components there in a language that will be more familiar to social scientists (entirely capitalised words) than the names of the four functions.

Now, a long paper could be written about each of the above components and problems that they present (philosophically, psychologically, and not least educationally). However, this paper focuses on the emotional component only. This component remains problematic in many ways, both exegetically and practically.

FIGURE 1. A Neo-Aristotelian model of wise (phronetic) moral decision-making.
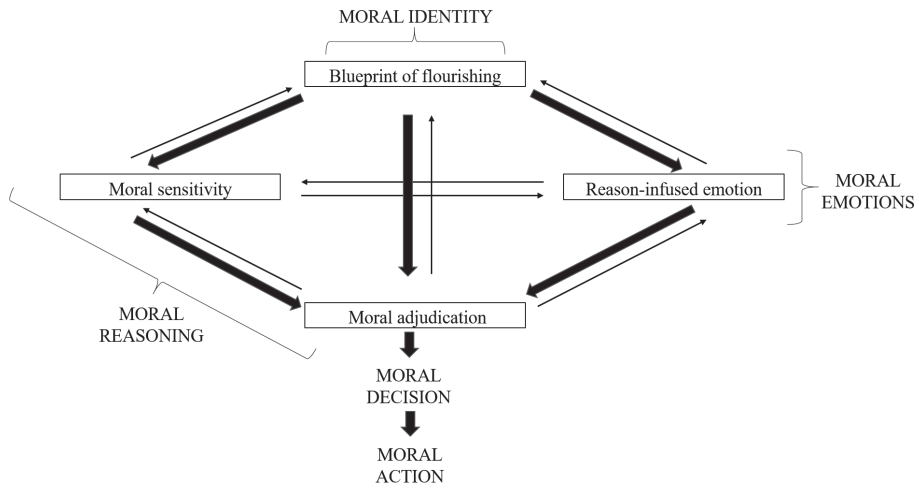
2.5. The four puzzles

Here is a quick description of four puzzles relating to the relationship between *phronesis* and emotions:

1. Is it really the case that there is an emotion-regulation component inherent in Aristotelian *phronesis*, and if there is, why does he not say anything explicitly about it himself?

2. Does *phronesis*, as a whole, include an emotional motivation or is all of its motivational force derived from the moral virtues that it is meant to synthesise/integrate?

3. If there is a distinct emotional motivation tied to *phronesis*, does it fall under Aristotle's account of a unique pleasure attached to virtuously achieved motivations? In other words, is there a unique *phronesis-satisfaction* pleasure?

4. How do we solve the problem of the "mysteriously missing emotional motivation" in Aristotle, namely the motivation stemming from the virtue that plays second fiddle after the *phronetic* decision, for example in a case where *phronesis* adjudicates honesty over loyalty? According to Aristotle, the virtuous person achieves emotional harmony without suppressing emotions, so what happens to the original "loyalty-prompting" motivation?

Let me now elaborate upon those problems and offer some initial clues about their solution from Aristotle's texts. As we will see, those do not offer clear-cut answers and more work needs to be done, which I undertake in section 3. To begin with first puzzle, it must be noted that Aristotle does not mention emotions at all in his specific sections on *phronesis* in the *Nicomachean Ethics* (1985). However, he does remind us that to understand

the workings of *phronesis*, "we must begin from a little further back" (Aristotle, 1985, p. 168 [1144a12-14]); i.e., we must recall *inter alia* what has already been said about the moral virtues and how *phronesis* does not get off the ground without effectively habituated moral virtues being in place already in the agent's developmental trajectory. Now it so happens that most of those moral virtues incorporate a clear emotional component that motivates them. More than that, Aristotle does have a well-developed account of the nature of emotions and their role in the good life. He explains their ontology, epistemology, and moral standing. Space only allows a summary rehearsal of those features.

Regarding the *ontological* question (although Aristotle is not always fully consistent on this) every emotion seems to have a perceptual, cognitive (thought), sensory (feeling) and behavioural component (see Kristjánsson, 2018, chap. 1). Debates rage in contemporary emotion theory about which of those four components essentially defines an emotion; but it is as if Aristotle anticipated those debates with his argument that an emotion needs a combination of all four to emerge. Epistemologically, regarding the thorny question of whether emotions track or create value, Aristotle again offers a conciliatory position, which could be termed "soft rationalism" (Kristjánsson, 2018, chap. 2), according to which emotions essentially record already existing objective values but also help identify those in ways that reason alone cannot do,[4] and in some cases imbue objects and events with surplus value.

Aristotle is most detailed and explicit when he talks about the "morality" of emotions. Emotional dispositions can, no less than action dispositions, have an "intermediate and best condition [...] proper to virtue": a condition in which the relevant emotions are felt "at the right times, about the right things, towards the right people, for the right end and in the right way" (Aristotle, 1985, p. 44 [1106b17-35]). If a relevant emotion is "too intense or slack" for its present object, we are badly off in relation to it, but if it is intermediate, we are "well off" (Aristotle, 1985, p. 41 [1105b26-28]). And persons can be fully virtuous only if they are regularly disposed to experience emotions in this medial way. This theory ties in with Aristotle's teleological assumption of psycho-social homeostasis, according to which the parts of the human soul are arranged such that it may adjust successfully to the various social situations in which individuals will find themselves, *inter alia* by adopting medial emotional states of character (see further in Kristjánsson, 2007, chap. 4). In the case of emotion, the mediality (in the sense of neither being too intense nor too slack, too wide or too narrow, etc.) refers to (a) occasions, (b) objects, (c) people, (d) motive (i.e., goal), and (e) way (i.e., degree).

It is clear from this text that, to achieve its integrative aim, *phronesis* needs to engage in considerable emotion regulation; hence the invocation of the 'emotion-regulative function' in the above neo-Aristotelian model. Because 'emotion regulation' in

psychology has sometimes been seen as equivalent to 'emotional control', or more specifically to the cognitive policing of wayward non-cognitive emotions, it is easy to understand why this function of *phronesis* may be misunderstood by some psychologists to involve emotional suppression, or to invoke an outdated reason–emotion dichotomy. Nothing is further from the truth, however, as Aristotelians understand emotion regulation in terms of the "reason-infusion" of emotions rather than the suppression of emotion by reason.[5] Yet because Aristotle talks about this at the level of individual virtues/emotions only and does not have at his disposal the general contemporary constructs of "meta-emotion" and "emotional schemas" that I introduce in section 3, puzzle 1, is not fully resolved.

This brings us straight to puzzle 2. It is clear in Aristotle's account that *phronesis* depends, developmentally and logically, on emotionally charged motivations derived from the individual moral virtues.[6] The problem is that the emotional motivations *phronesis* feeds on from those virtues may lead in conflicting directions (e.g., the pain of sympathy may clash with pleasure of satisfied indignation when an evildoer receives comeuppance), or the evoked emotions may be disproportionate to a holistic assessment of the situation. An implication of this, insofar as emotions are our prime motivational anchors, is that the *phronimos*' emotions must be in harmony with her rational judgement and overall virtuous outlook ("blueprint") and motivate her to behave accordingly. Precisely be-

cause of the blueprint component, *phronesis* is thus not only about resolving tricky particularist situations, but about what "promotes living well in general" (Aristotle, 1985, p. 153 [1140a25-28]).[7] For morality, like medicine, "there is a ruling [science]" (Aristotle, 1985, p. 159 [1141b22-23]). More specifically, this science is encapsulated in the ungrounded grounder of virtue ethics, the conception of human flourishing and, through the blueprint component, in how the agent identifies with such a conception for herself.

The blueprint component may thus seem to contain the solution to puzzle 2 about *phronesis* and emotions: whether it is itself a source of moral motivation or whether it simply feeds on motivations drawn from the moral virtues that it synthesises. The answer in the model presented above is *both*. The *phronimos*' primary source of moral motivation continues to be derived from the specific moral virtues. For example, she acts honestly primarily because of the motivational component of the virtue of honesty. However, that primary motivation is reinforced and shaped by the overall blueprint motivation of the agent to be an honest person. This secondary *phronetic* motivation is brought into sharper relief when there is a conflict between virtues: say, when both honesty and loyalty are motivating the person in the same situation but where those motivations seem to call for opposite reactions. Then the secondary background motivation derived from the blueprint component becomes crucial. It demands

coherence and prompts the agent to seek for the golden mean of reaction that best accords with her sense of who she is and wants to be overall as a person.

While this solution seems to cohere with the spirit, if not the letter, of Aristotle's account, it remains psychologically underdeveloped. What is the exact nature of the secondary motivation; how is it related to some kind of secondary emotion; and how does that emotion-motivation dyad develop through possible feedback loops derived from *phronetic* decisions regarding emotional motivations stemming from individual virtues? We need to draw on modern conceptualisations to come closer to solving puzzle 2 (see section 3).

The third puzzle arises because of a strange discrepancy between what Aristotle says about the sensory nature of virtues versus mere emotions. Aristotle observes about virtue that a pleasure peculiar to each virtuous activity will supervene upon and complete that activity once it has been successfully accomplished (Aristotle, 1985, pp. 277-278 [1175a22-28]). It is tempting to hypothesise that he held the same view with regard to emotions: namely, that a sensation peculiar to each emotion accompanies that emotion. However, nothing in Aristotle's account of emotions supports this hypothesis. In the *Rhetoric* (Aristotle, 2007), pleasure and pain accompanying emotions are regarded as mere sensations, not as intentional states with cognitive content. To be sure, different pleasant emotions are experienced differently, but that is because of their different cognitive consorts and goal-directed activities, not because the pleasant sensations accompanying them vary in kind.

One way to explain this apparent discrepancy is to point out that the behavioural component of an emotion (like gratitude) is a mere suggestion or a prompt. For instance, with gratitude, you feel good and want to do something good in return (which you may or may not be able to do). That pleasant feeling may be phenomenologically indistinguishable from pleasant feelings accompanying other positively valenced emotions such as joy. However, once you have taken a decision to express the gratitude and have done so successfully, you experience a unique pleasure characteristic of that accomplishment, as the icing on the cake of the virtuous activity. The crucial question then arises whether a pleasant feeling supervenes upon all *phronetic* decisions and, more specifically, whether that feeling is a general feeling of satisfaction (as with positive emotions) or a discrete feeling, unique to *phronesis* (as with virtuous actions). To answer that question, we need to know more than Aristotle tells us about how exactly emotion is implicated in *phronetic* decisions (recall puzzles 1 and 2).

The final puzzle 4 relates to Aristotle's claim that reason (as embodied in *phronesis*) does not suppress emotion, in conjunction with the claim that the *phronetic* agent is fully motivationally unified. Now, it seems to be a common

understanding that in some cases of *phronetic* decision-making one virtue will simply overrule another; for instance, we decide to prioritise honesty over loyalty to a friend who has committed some misdemeanour. What happens, then, to the emotionally charged motivation to value loyalty? Either it has been suppressed or not. If it has been suppressed, that violates Aristotle's claim about *phronesis* not suppressing emotion. If it has not been suppressed, it must somehow linger on, which seems to violate Aristotle's claim about the *phronimos'* complete psychological unity. I have referred to this earlier as 'the mystery of the missing motivation'; and my inclination has been simply to modify or even reject Aristotle's claim that the *phronimos* is fully psycho-morally unified (Kristjánsson, 2010; cf. Carr, 2009). However, in default of a clearer picture of the relationship between *phronesis* and emotions, it is difficult to ascertain whether we may have missed a trick here. Is there some more advanced account of emotional homeostasis at hand that could make sense of and accommodate Aristotle's apparently contrasting claims?

3. Contemporary work on meta-emotions and related concepts: Implications for the four puzzles and for efforts at emotion-centred character education

Couched in modern psychological language, not available to Aristotle, *phronesis* is a meta-cognitive capacity. However, with respect to its proposed emotion-regulative component/function, another recent psychological concept may be even more relevant, namely that of meta-emotions.

Gottman and colleagues coined the term "meta-emotion" in a 1996 paper for the purpose of conceptualising and predicting what they call "parental meta-emotion philosophy", which refers to an organized set of feelings and thoughts about one's own emotions and one's children's emotions' (Gottam et al., 1996, p. 243). In short, meta-emotions are (secondary) meta-level emotions about (primary) object-level emotions.[8] For example, I may feel anxious or sad about my own anger, which I deem unreasonable, or proud of my guilt about a misdeed I committed, as I deem the guilt the correct moral response. Gottman et al.'s original aim was to search for the correlates of parental attitudes towards their children's emotions (dismissing/derogatory versus accepting/encouraging), and indeed they found the predicted links between these parental attitudes and various positive or negative outcomes for the children. Somewhat unfortunately, for the purposes of the present paper, the vast majority of research projects on meta-emotions still focus on psychodynamics and psychopathologies, especially within families; there are not many forays into moral, characterological, or educational spheres. Another implication of the relative bloatedness of Gottman et al.'s original definition is that conceptions of the concept have remained somewhat broad and vague, and it is sometimes not clear that theorists are working with the same concept. Again, for present purposes, it helps to clarify and narrow down the

features of the concept that might be most useful for us.

First, while Gottman and colleagues (1996) used the term to target broadly both "feelings and thoughts about emotions", mere thoughts about emotions seem to be covered well by the existing term "meta-cognition", so what we want to home in on here are exclusively emotions about emotions. This distinction is not always crystal-clear, however, as emotions in Aristotle's theory include a cognitive component (thought); and emotions and cognitions have proven impossible to fully separate in psychological science.

Second, Gottman et al. (1996) were mainly interested in meta-emotions about other people's emotions. However, I will, in what follows, confine the term to secondary emotions about one's own object-level emotions.

Third, meta-emotions need to be distinguished from meta-moods (Norman & Furnes, 2016). Moods, as distinct from emotions, are typically defined as objectless emotional states. A person in a mood of melancholy is not sad about anything specific but rather suffers from an apparently objectless existential sadness. This standard definition creates a problem for the notion of a meta-mood, however, as it seems then to have become a logical impossibility. If moods are not about anything, a meta-mood "about" a primary mood cannot occur (Jäger & Bartsch, 2006). It may be more apt, therefore, to say that moods have vague, unspecific objects rather than no objects,[9] or that individuals may have emotional responses to their moods, as in impatience with one's melancholy moods. The former would leave space, for example, for a melancholic meta-mood about how often I am in a melancholic mood, and the latter takes us back to a meta-emotion with a mood as its object. In any case, in this paper the lens is directed exclusively at meta-emotions in a stricter sense.

Fourth, a meta-emotion can either be the same as, or different from, the primary emotion. I can experience meta-anger about my own anger, but also meta-sadness about my anger. In the first kind of case, it can be difficult to distinguish between what is "meta" and what is "primary" in the emotional episode (Mendonça, 2016). Both these types of meta-emotions may be relevant for present concerns.

Fifth, meta-emotions can be felt simultaneous to the primary emotion or later (Mendonça, 2016). I may be embarrassed about my jealousy while I am feeling the jealousy or later when it has subsided (or both). If we think of meta-emotions in terms of *phronetic* emotional regulation, both types of occurrences may be of interest. Similarly, meta-emotions can constitute either an episodic state or a lasting trait (Norman & Furnes, 2016).

Sixth, meta-emotions are often discussed in terms of emotional reflexivity (e.g., Mendonça, 2013). Although that is a helpful conceptualisation, it must not be

conflated with another type of emotional reflexivity that is part and parcel of Aristotle's emotion theory. Aristotle talks a lot about Janus-faced (primary) emotions such as pride and shame that point both inwards (are about oneself) in a reflexive way and outwards, to external events and actions in which one is engaged (see Kristjánsson, 2018). This sort of primary reflexivity needs to be distinguished from meta-emotive reflexivity.

The recent literature on meta-emotions is not the only source of potential enlightenment for a neo-Aristotelian understanding of the emotion-regulative component of *phronesis*. There are also vast literatures on more general high-level emotional processes that guard and regulate an agent's emotional system as a whole (cf. Thomas et al., 2022). Most educationists will, for example, be familiar with the concept of "emotional intelligence". While that concept upholds the idea of a holistic order imposed on our emotional lives, as one would expect *phronesis* to do, Aristotelians tend to be wary of the concept as it is typically specified in psychological and educational circles,[10] because of its instrumentalist severance from any idea of a moral blueprint. A clever, manipulative cocaine baron can thus easily satisfy all the standard criteria of emotional intelligence (Kristjánsson, 2007, chap. 6). The concept of general "emotional schemas" is less loaded than that of "emotional intelligence", and it may carry a stronger appeal for Aristotelians. It is typically considered to include

a broad, inter-related range of beliefs and strategies regarding our emotional lives, including beliefs about causes and consequences of emotions, implications of emotional experiences on self-concept, and appropriate and effective means of regulation (Edwards & Wupperman, 2019).[11] As emotional schemas are conceptualised from a meta-cognitive perspective, they may seem to afford a convenient scientific way of making sense of the overall role that *phronesis* is meant to play, in Aristotelian theory, for our emotional lives.

3.1. Lessons to be learned

This quick overview of the state of the art in psychological theorising about meta-emotions and related constructs may help shed some light on the puzzles introduced in section 2 affecting the proposed emotion-regulative component of *phronesis*. Before exploring those lessons, I need to repeat that this is the first paper of which I know that looks at Aristotelian *phronesis* through the theoretical lens of meta-emotions; and what I offer below are thus very much initial, exploratory thoughts on the matter, to be (hopefully) further reflected upon and discussed.

3.1.1. Puzzle 1

Insofar as puzzle 1 is an exegetical one, about Aristotle's silence on *phronesis* and emotions, the literature above obviously does not offer any help. However, insofar as it is a puzzle about how to make sense of the emotion-based tasks that *phronesis* is clearly required to take on in an Aristotelian model, the conceptualis-

ation of meta-emotions offers considerable clarity. As an initial observation, there seems to be no special difficulty in accounting for the ontology of meta-emotions in much the same way as Aristotle does for ordinary primary emotions. If we think of *phronesis* as offering a meta-emotional take on emotional virtue conflicts, for instance, the relevant meta-emotion requires *perception* (of the diverging emotions evoked by the situation in which, say, loyalty and honesty clash); *cognition* (thought about the emotional conflict); a *feeling* (of unease about the conflict) and a *behavioural suggestion* (about finding a way to solve the conflict).

Consider the hypothesis that, when one applies *phronesis* to a conflict situation between different virtuous emotions, there is a meta-emotion that kicks in (accompanying the blueprint component of *phronesis* which identifies the agent's ideal conception of a good life) and that tries to reconcile the conflicting primary emotions or, if necessary, prioritise one at the expense of the other. Judging from the current literature on meta-emotions, this seems to be a credible hypothesis, because the consensus in the literature is that meta-emotions have a regulatory function *vis-à-vis* primary emotions: indeed, they are considered to be the main instigators of emotion regulation (see, e.g., Norman & Furnes, 2016; Miceli & Castelfranchi, 2019; Thomas et al., 2022). I return to this issue under puzzle 2.

There is another feature of the recent literature on meta-emotions that relates to puzzle 1 and strengthens Aristotle's general model of *phronesis* as a decision-making process in the ethical sphere. This is the finding that those low in meta-emotional capacities are prone to adopt utilitarian calculations rather than virtue ethical ones to solve moral quandaries. As Aristotle might have predicted, a pattern of meta-emotional avoidance prevents agents from utilising emotion information that is critical for virtue-ethical decision-making (Koven, 2011). This finding may also heighten doubts about the possibility of transferring *phronetic* decision-making to automated AI-driven systems (Koutsikouri et al., 2023). At least at the moment, one of the primary deficiencies of such systems is emotional competence, and according to Aristotelian virtue ethics, such a lack will likely lead to over-reliance on instrumentalist utilitarian reasoning.

3.1.2. Puzzle 2

Turning to puzzle 2, the research on meta-emotions furnishes us with nothing less than an ideal conceptual repertoire to make sense of the solution tentatively ascribed to Aristotle earlier about the two layers of dynamically related emotional motivations driving *phronetic* task operations. While the primary motivation (say, towards honesty or loyalty) stems from the primary emotions accompanying the discrete virtues, the secondary meta-emotion (which tracks overall harmony of action choices with the agent's blueprint of a good life) regulates the primary emotions by magnifying, rec-

onciling, attenuating, or even reversing them (cf. Miceli & Castelfranchi, 2019). At the same time, the meta-emotionally overseen choices feed back into and can lead to revisions of the agent's ongoing moral identity and hence the overarching meta-emotion. Individual deliberative choices thus lead to constant ongoing, if subtle, changes in the overall *phronetic* system. Not only does this account satisfy the understandable demand from psychologists that the *phronesis* model be explicated in a language derived from empirical research (e.g., Lapsley, 2021), it also adds grist to the mill of those philosophers who argue that an Aristotle-derived *phronesis* model will be anti-Humean about motivation: i.e., it will not assume that all moral decision-making is eventually based on non-deliberative desires, as Hume did, because the blueprint function requires deliberation (see further in Kristjánsson, 2018, chaps. 1-2).

3.1.3. Puzzle 3

Is there a unique *phronesis*-satisfaction pleasure? Although the meta-emotion literature does not answer that question directly, as it never mentions *phronesis*, it does go some distance towards offering an Aristotle-sounding hypothesis about the relationship between *phronesis* and positively or negatively valenced feelings. *Qua* emotion, according to Aristotle at least, the meta-emotion driving *phronesis* will not be phenomenologically unique. It will simply present itself as painful when the primary virtuous emotions are in conflict or cannot, for some reason, be behavioural

ly executed, but pleasant when a solution has been found.[12] When a *phronetic* decision has been made and an action instigated successfully, there might be a case for arguing that a unique pleasure emerges (the pleasure of successfully enacted *phronesis*) which would then be a pleasure "celebrating" the whole meta-cognitive system (all the four components) rather than just the relevant meta-emotion. There may also be a case for an alternative hypothesis. Someone could argue, in line with Occam's razor, that it suffices to assume that the unique pleasure will be the one accompanying the overriding virtue in each particular case. So, for example, if *phronesis* decides to prioritise honesty over loyalty to a friend, the pleasure peculiar to the enacted decision, if it works out well, will be the pleasure unique to honesty and, *mutatis mutandis*, for loyalty if the decision went in its favour. Which one of these two hypotheses is more accurate needs to be established through empirical research that does not exist today.

3.1.4. Puzzle 4

The literature on meta-emotions does not solve "the mystery of the missing motivation". Jäger and Bartsch (2006) may be right that the construct of meta-emotions helps elucidate cases of emotional ambivalence, but it does not explain how the *phronimos* overcomes them. We are probably stuck, therefore, either with the earlier-mentioned recourse of downplaying Aristotle's insistence on the motivational unity of the *phronimos* (see further in Kristjánsson & Fowers, 2024, chap. 10),[13]

or trying to argue (like Calhoun, 1995) that motivational integrity is compatible with ambivalence and does not imply complete wholeheartedness.[14] The related literature on "emotional schemas" may hold greater promise of explaining how adaptive and coherent emotional schemas can be, ideally, developed (e.g., Edwards & Wupperman, 2019), but, at the moment, it is not very explicit on ways in which to achieve this.[15] Perhaps, in this case at least, we would be best advised to leave Aristotle behind completely and draw on other historical sources that offer less rigid conceptualisations of emotional unity. For instance, Leung (2023) has recently argued that neo-Confucian thinker Zhu Xi provides a more plausible account than Aristotle's of how emotional harmony can be achieved without full motivational unity in Aristotle's sense.[16]

All in all, the recent conceptualisation of meta-emotion and related constructs adds considerable psychological backbone to the neo-Aristotelian *phronesis* model explained in section 2 by allowing us to frame the account of the emotion-regulative component in state-of-the-art psychological language and helping us, at least, think more clearly about some of the remaining puzzles.

3.1.5. Character education and emotional cultivation

It is well-known that neo-Aristotelian character education (Jubilee Centre, 2022) cannot get going without the cultivation of virtuous emotions; and at the early stages at least, it is predominantly about emotional sensitisation and inter-nalisation (Kristjánsson, 2018, chap. 9). Until now, most of the educational literature on emotion education, within a characterological framework, has been about early-years education. This may be partly a reflection of the developmental priority of emotions in the early years, but also partly because of the unfortunate lacuna, mentioned at the outset, about *phronesis* education in general. The recent input from psychology aids us in articulating the tasks of emotion education, as part of character education, more systematically and scientifically than before.[17]

As I see it, the task for the character-education-inspired emotion educator can be divided up into four parts or phases, which partly follow a young person's developmental trajectory.

First, something Aristotle does not mention because the relevant conceptualisation was not available to him, and I have not mentioned in this paper either because it precedes *phronesis* development, is the development of the student's "empathy": the capacity to understand, and possibly identity with, others' emotional states. While not a full-blown emotion in itself, empathy is often considered to constitute the developmental precursor of most other-regarding emotions, be those primary or secondary.[18] Acknowledging this consideration, Svenaeus (2014) argues persuasively that *phronesis* must "be 'rooted' in empathy" (p. 295). He overdoes it, however, when he further argues that empathy "is the feeling component of

phronesis'" (p. 296). As argued above, the main affective component of *phronesis* is a meta-emotion, more complex and multi-faceted than empathy and emerging later in the developmental trajectory. That said, it is not far-fetched to conjecture that empathy can be applied, for measurement purposes, as one of the proxies for *phronesis*, and it has indeed been used in such a way in the past (Darnell et al., 2022).

Second, the bread and butter of character education, especially in the early stages, is the habituation of the individual virtues, including their emotional components of virtuous emotions. This is, indeed, what most of the emotion-education literature has been about, and there is no shortage of available pedagogical strategies (Kristjánsson, 2018, chap. 9).

Third, given the thrust of the present paper, we need to help students develop the meta-emotion that *phronesis* needs to perform its emotion-regulative function. While there is no doubt something to learn here from the developmental literatures on emotional regulation more generally (Kristjánsson, 2018, chap. 9) and meta-cognitions (Norman & Furnes, 2016), there does not exist, to the best of my knowledge, any specific literature on this in the context of a model of Aristotelian or neo-Aristotelian *phronesis*.[19] This is, in other words, an area that cries out for input from character educationists and character educators.

Fourth and finally, there is the honing and finessing of the whole *phronesis* system, insofar as it adjudicates and incorporates emotions. This is a far bigger task than that of developing one *phronetic* meta-emotion; it has to do with the consolidation and regulation of a holistic emotional system. The more general research available on emotional intelligence and emotional schemas will no doubt be useful, in this regard, although I have already pointed out some shortcomings of that work. However, again, I suggest this as still mostly uncharted territory for emotion-based character education aimed at cultivating *phronesis*.

4. Final comment

To sum up, *phronesis* is about complex ethical decision-making, guided by emotionally driven motivations. Whether philosophers like it or not, some of the most important research in this area in the last decades has been conducted within empirical science in general and psychology in particular. The naturalistic revisions of virtue-ethical work, which Aristotle himself called for, cannot be done without drawing on resources provided by psychology. Similarly for educationists, interested in character education in general and the cultivation of virtuous emotions in particular, an obvious place to start is to draw lessons from recent research into meta-constructs such as meta-emotions and how those lessons can be applied to the development of *phronesis*: the virtue that ultimately matters most for good character.

Acknowledgement

Notes

[1] For the sake of simplicity, I focus exclusively in this paper on the moral virtues in relation to *phronesis*. However, it is clear that *phronesis* also integrates the civic virtues (Aristotle, 1944; Kristjánsson & Fowers, 2024, chap. 8).

[2] I am aware that two Spanish scholars, Consuelo Martínez-Priego and Ana Romero-Iribas, are in the process of writing a paper about the same topic, albeit not from an exclusively neo-Aristotelian perspective, and I have benefited from correspondence with them. They are interested *inter alia* in the issue of how emotions facilitate *phronetic* decisions via neuroendocrine activation: an exciting topic but outside my field of expertise.

[3] From a structural point of view, and the point of conceptual parsimony, two of the components identified might better be seen as preconditions than constituents of *phronesis*. The only essential components would, then, be the constitutive and integrative ones, as delineated presently. This would mean that the emotional component under exploration here would be reduced to a precondition of *phronesis*. Nevertheless, from a pragmatic perspective (as the two "preconditions" are necessary for *phronesis* to function) I include them as components.

[4] As Mendonça (2016, p. 51) puts it (although she is not describing Aristotle's soft rationalism), emotions are "unique repositories of information about morality".

[5] If emotion is not reason-infused in that way, it behaves "like over-hasty servants who run out before they have heard all the instructions, and then carry them out wrongly, or dogs who bark at any noise at all, before investigating to see if it is a friend" (Aristotle, 1985, p. 187 [1149a26-30]).

[6] This clearly distinguishes Aristotle's account from the Aretai Center's "Socratic model" suggested by De Caro et al. (2021), according to which all the virtues are subsumed under a master virtue (rather than a meta-virtue) of *phronesis* as general moral competence. Aristotle's own complaint against Socrates (about his account getting this the wrong way round, developmentally and logically) still applies here: "For in that he [Socrates] thought all the virtues are [instances of] *phronesis*, he was in error; but in that he thought they all require *phronesis*, he was right" (Aristotle, 1985, p. 170 [1144b, 18-21]; translation slightly amended).

[7] A detailed exploration of Aristotle's concept of decision/choice (*prohairesis*), as the outcome of *phronesis*, also indicates that it typically refers to a decision about a general life-goal rather than a specific single-virtue-relevant decision (De Oliveira, 2023).

[8] Philosophically minded readers will no doubt pick up on the possibility that there could then, logically at least, be meta-meta emotions about meta-emotions, and so forth *ad infinitum*. Psychologists are aware of this problem but do not seem overly concerned about it, as subjects rarely if ever report upon such third-level-or-higher emotions (cf. Mendonça, 2013, p. 392).

[9] It is well-known from the literature, also, how moods seek out objects and thus turn themselves into discrete emotions. For example, a person in a mood of grievance (increasingly pervasive in our times) will seek out objects and events, sometimes trivial, to complain about.

[10] In educational circles, emotional intelligence is a core concept underwriting so-called social and emotional learning (SEL).

[11] While the schema concept assumes is that there is some structure to a set of beliefs, cognitions, emotions, etc., the term does not say anything about the kind of structure, the nature of the components, or the relationships among the components. On its own, the concept of a schema is thus quite formal and empty. It needs filling in.

[12] As Martínez-Priego and Romero-Iribas (personal correspondence) put it, "emotions allow confirmation of the correctness of moral decision".

[13] It is of course open to the Aristotelian to argue that if my adjudication guides me to prioritise one virtue over another, it will also help shape my emotional response, downregulating the virtue and emotion that are not prioritised. However, this does not make the de-prioritised virtue-related emotion or motivation disappear entirely, as Aristotle's unity thesis seems to require, but they become part of a residual motivation, as a road not taken.

[14] The idea would then be, for example, that identities can be compartmentalised according to context without jeopardising integrity: e.g., defending lesbianism in one context but endorsing a fundamentalist religious stance against homosexuality in another.

[15] Because emotional schemas are partly shaped by culture (Edwards & Wupperman, 2019), *phronesis* education as part of character education needs to be more multiculturally sensitive that it has typically been, in the Aristotelian tradition. Lu Yun Chieh is currently working on a doctoral project on this topic within my research centre.

[16] Although there is no space to explore this paper in any detail here, I strongly recommend it to readers. In short, if we tried to accommodate Leung's (Zhu Xi-derived) solution to an Aristotelian *phronesis* framework, it would be even more optimistic than I have allowed myself to be about the possibility of subsuming conflicting emotions under the same principle and allowing both of them jointly to inform action choices.

[17] Not everyone will agree with this. See, e.g., David Carr's (2023) criticism of the 'psychologisation' of the *phronesis* discourse, explored and responded to in Kristjánsson and Fowers (2024, chap. 12).

[18] Notably, many developmental psychologists maintain that so-called basic emotions such as fear or anger precede empathy.

[19] Yet as a possible starting point, see the five steps suggested by Molewijk et al. (2011, p. 389) for an Aristotelian moral inquiry into emotions.

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Author's biography

Kristján Kristjánsson is a Professor of Character Education and Virtue Ethics at the University of Birmingham and former deputy director of the Jubilee Centre for Character and Virtues. He has been a Visiting Fellow at Cornell University, University of Konstanz, St. Edmund's College (Cambridge University) and Institute of Education (University

of London). He has written extensively on themes in general education, moral education, educational psychology, moral philosophy and political philosophy. His research orientation can best be summed up as that of Aristotle-inspired philosoph-ical scrutiny of theories in educational psychology and values education, with special emphasis on the notions of character and virtuous emotions.

(iD) https://orcid.org/0000-0002-8584-4178

University student profiles in the learning to learn competence and their relationship with academic achievement

Perfiles de estudiantes universitarios en la competencia aprender a aprender y su relación con el rendimiento académico

Bernardo GARGALLO-LÓPEZ, PhD. Professor. Universidad de Valencia (*bernardo.gargallo@uv.es*).

Gonzalo ALMERICH-CERVERÓ, PhD. Associate Professor. Universidad de Valencia (*gonzalo.almerich@uv.es*).

Fran-J. GARCÍA-GARCÍA, PhD. Associate Professor. Universidad de Valencia (*francisco.javier.garcia-garcia@uv.es*).

Inmaculada LÓPEZ-FRANCÉS, PhD. Associate Professor. Universidad de Valencia (*inmaculada.lopez-frances@uv.es*).

Piedad-M.ª SAHUQUILLO-MATEO, PhD. Associate Professor. Universidad de Valencia (*piedad.sahuquillo@uv.es*).

Abstract:

Learning to learn (LtL) is a key competence that the European Commission has identified for education systems (Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning and Council Recommendation of 22 May 2018 on key competences for lifelong learning). It is usually assumed that students will already handle it well when they start university and that their use of it will improve during their university studies, but this assumption needs testing. The aim of this article is to establish the level of management of this competence as well as possible profiles of how university students use it and their relationship to academic achievement. To this end, we worked with a sample of 1,234 students from three universities in Valencia (Spain) in different study years and study areas, applying the QELtLCUS questionnaire, which evaluates the competence. We performed descriptive analyses, cluster analysis, analyses of differences, and multiple linear regression analyses. The sample subjects displayed an acceptable level of management, albeit with low scores in some important dimensions of LtL. We found two groups with two management profiles: one

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with a high competence level and another with a lower competence level. The students in the first group had better scores than those in the second group, with statistically significant results. We also found differences that were not statistically significant by gender, with a higher level of competence in women, with those relating to year and study area being larger. We believe that this research provides relevant data that may be of interest to researchers. It also includes guidance to help teachers work on this competence in university studies.

Keywords: self-regulated learning, learning to learn competence, higher education, learning strategies, academic achievement.

Resumen:

Aprender a aprender (AaA) es una competencia clave propuesta por la Comisión Europea para los sistemas educativos (Recomendación del Parlamento Europeo y del Consejo, de 18 de diciembre de 2006, sobre las competencias clave para el aprendizaje permanente y Recomendación del Consejo, de 22 de mayo de 2018, relativa a las competencias clave para el aprendizaje permanente). Se suele pensar que los estudiantes, al incorporarse a la universidad, la manejan suficientemente y que su uso mejora durante sus estudios universitarios, pero hay que verificar este supuesto. El objetivo de este artículo es delimitar el nivel de ma-

nejo de la competencia, así como los posibles perfiles de uso de los estudiantes universitarios y su relación con el rendimiento académico. Para ello, utilizamos una muestra de 1234 estudiantes de tres universidades de Valencia (España), de diferentes cursos y áreas de estudios, y les aplicamos el cuestionario CECA-PEU, que evalúa la competencia. Realizamos análisis descriptivos, de clúster, de diferencias y de regresión lineal múltiple. Los sujetos de la muestra exhibieron un nivel aceptable de manejo, aunque con puntuaciones bajas en algunas dimensiones relevantes de AaA. Encontramos dos grupos con dos perfiles de manejo, uno de ellos con competencia alta y el otro con competencia más baja. El alumnado del primer grupo obtuvo mejores calificaciones que el del segundo y los resultados fueron estadísticamente significativos. Se encontraron también diferencias en función del género (con mayor nivel de competencia en las chicas) que no fueron significativas; más pronunciadas fueron, en cambio, las asociadas con curso y con área de estudio. Creemos que esta investigación aporta datos relevantes que pueden interesar a los investigadores. Asimismo, recoge pautas para ayudar a los profesores a trabajar la competencia en los estudios universitarios.

Descriptores: aprendizaje autorregulado, competencia aprender a aprender, educación superior, estrategias de aprendizaje, rendimiento académico.

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1. Introduction

The concept of "learning to learn" (LtL) has progressively grown in importance in academic literature since the

1980s, but it is only recently that it has been interpreted as a key competence for lifelong learning in the twenty-first century (Recommendation of the European

Parliament and of the Council of 18 December 2006 on key competences for lifelong learning; Council Recommendation of 22 May 2018 on key competences for lifelong learning).

The theoretical basis of this competence principally draws on two lines of research: strategic learning (SL) (Weinstein, 1987) and self-regulated learning (SRL) (Pintrich, 2004; Zimmerman, 2000). Both emphasise students' active participation in the management of their own learning processes (Weinstein & Acee, 2018). The first line is based on cognitive theory (information processing theory) and the second on sociocognitive theory.

The literature since the 1980s on these two constructs commonly has used the term "learning to learn" to refer to both, something that is readily apparent in any bibliographic search.

Typically, both constructs (SL and SRL) include three components: cognitive, metacognitive, and affective-motivational (Boekaerts, 2006; Brandmo et al., 2020; Panadero, 2017; Pintrich, 2004; Weinstein et al., 2000; Zimmerman, 2000).

Indeed, the first classifications of learning strategies included cognitive components (associational and repetition strategies, strategies for preparing and organising information), metacognitive ones (planning, self-regulation, and self-evaluation strategies) and affective-motivational ones (controlling anxiety, attitudes, motivational aspects, self-concept, self-esteem, self-efficacy) (Beltrán, 1987; Weinsten, 1988; Weinstein & Mayer, 1985; Weinstein et al., 1988). The best-known models of self-regulated learning (which usually include a three-phase cycle comprising planning, execution, and self-reflection) also included cognitive, metacognitive, and affective-motivational components in these three phases.

These three dimensions were incorporated into the concept of LtL very early on: cognitive (skills related to processing information), metacognitive (conscience and management of one's own learning processes); and affective-motivational (motivation, attitudes, etc.). This is reflected in the study by Hoskins and Fredriksson (2008) and in the one by Caena and Stringher (2020), when the evolution and the foundations of the formulation of the competence are analysed.

It is true that both theories mentioned above (SL and SRL) emphasise the learner as an autonomous subject who faces his or her own learning in isolation from the others in a certain way. Social aspects have been somewhat peripheral in the theory of strategic learning and also in the theory that concerns itself with self-regulated learning (Meyer & Turner, 2002), even though the latter is based on sociocognitive theory and not exclusively on the cognitive theory of information processing, as in the case of the former. This is the situation in the self-regulated learning models of Zimmerman (1989, 2000), Pintrich (2000), and Boekaerts (1996) (three important authors on the

subject) which do not explicitly mention these aspects.

Indeed, Zimmerman, who is certainly the most cited author with regards to the theory of self-regulated learning, did not include context in his model of three cyclical phases (Zimmerman, 2000) other than a minor reference to specific strategies for structuring the surroundings. Nonetheless, in his triadic models, the influence of the context and of vicarious learning is fundamental to the ability to develop self-regulation skills (Zimmerman, 2013). Boekaerts and Niemivirta (2000) make similar arguments.

It should be noted that Bandura (1986) already emphasised the social aspects of learning in his theory, which is a crucial element in Vygotsky (1978), because learning and hominization occur in social contexts with others, in a continuous process of internalisation of higher skills, which are initially provided by significant subjects from the surroundings. In fact, Vygotsky (1978) and von Glasersfeld (1989) are notable figures in the literature on the social nature of self-regulated learning (Thoutenhoofd & Pirrie, 2015).

With all of these precedents, it is no surprise that in the last decade of the previous century and in the first decade of this one the door was opened to the definition and exploration of regulation models that included shared regulation (Hadwin et al., 2005; Järvelä et al., 2008; McCaslin & Hickey, 2001), emphasising

the development of self-regulatory skills developed in interactive and collaborative learning environments (Hadwin et al., 2017; Hadwin & Oshige, 2011; Järvelä & Hadwin, 2015).

Consequently, there has been an openness to the perspective of socially shared cognition, of a subject who learns with others and from others; so that today we can speak of "co-regulation", referring to the influence of others on a student's learning and specifically on the learning of self-regulatory skills.

With all of this, the social dimension of learning to learn has constantly gained in importance in the different models developed, as noted, among others, by Johnson and Johnson (2017), Panadero (2017), Stringher (2014), and Thoutenhoofd and Pirrie (2015).

Drawing on previous research, the European Union (EU) included LtL as a key competence for educational systems (Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning). In this original formulation, LtL as a competence is understood to include cognitive, affective, and metacognitive dimensions with a very brief mention of socio-relational aspects:

"Learning to learn" is the ability to pursue and persist in learning, to organise one's own learning, including through effective management of time and information, both individually and in groups. […] awareness of one's learning process […] identify-

ing available opportunities […] overcome obstacles in order to learn successfully […] gaining, processing and assimilating new knowledge and skills […] use and apply knowledge and skills in a variety of contexts […]. Motivation and confidence are crucial to an individual's competence. (p. 16)

In 2018, the European Council (EC) reformulated this, setting out the "Personal, Social and Learning to Learn Competence" (Council Recommendation of 22 May 2018 on key competences for lifelong learning), which places more importance on social aspects than in the earlier definition:

Personal, social and learning to learn competence is the ability to reflect upon oneself, effectively manage time and information, work with others in a constructive way, remain resilient and manage one's own learning and career. It includes the ability to cope with uncertainty and complexity, learn to learn, support one's physical and emotional well-being […] empathize and manage conflict. (p. 5)

There is a significant overlap with the formulation of LtL from 2006, but there are important additions: empathy and conflict management, resilience and the ability to manage uncertainty and stress, critical thinking, emphasis on team work and negotiation, a positive attitude towards personal well-being, social, and physical well-being and also, with regards to lifelong learning, the importance of an attitude of collaboration, assertiveness, and integrity, as well as developing an attitude aimed at solving problems. As Caena (2019) and Sala et al. (2020) note, who carried out two

works for the implementation of LtL for the EC, this new key competence integrates the earlier LtL competence, incorporating significant elements of personal and social development.

Learning to learn has inspired the interest of researchers and numerous works have been published, some emphasising theoretical reflection, conceptualisation, and the elaboration of models and others the evaluation, but not so much the teaching of the competence. Among others, we should note the works by Caena (2019), Caena and Stringher (2020), Deakin (2007), Deakin et al. (2013), García-Bellido et al. (2012), Hautamäki et al. (2002), Hoskins and Fredriksson (2008), Jornet et al. (2012), Martín and Moreno (2007), Moreno and Martín (2014), Muñoz-San Roque et al. (2016), Pirrie and Thoutenhoofd (2013), Sala et al. (2020), Schulz and Stamov (2010), Stringher (2014), Thoutenhoofd and Pirrie (2015), Villardón-Gallego et al., (2013) and Yániz and Villardón-Gallego (2015).

This interest is justified by the importance of the subject, since acquiring this competence is fundamental for students' development and for them to function in a complex and changing society (Säfström, 2018), in which many current jobs will disappear and the new jobs that emerge will require new competences and skills (Caena, 2019). For the European Political Strategy Centre (2017), LtL is the most important skill of all, because it makes it possible to empower individuals to face challenges in this complex and ambiguous world

(Ehlers & Kellermann, 2019; González-Gascón, 2022; Trilling & Fadel, 2009), providing innovative solutions (OECD, 2018, 2019).

The EU's goal is for students who complete compulsory education to have sufficiently developed the LtL competence, and so it is necessary to work on integrating it into the educational system from early ages. Nonetheless, this is more a wish than a reality, and LtL is still a fundamental competence for university students (Malnes et al., 2012) who need to be more independent and competent in managing their own learning than younger students (Lluch & Portillo, 2018; Ramírez, 2017); the available data do not seem to confirm a sufficient command of the competence and these students also need training in LtL (Cameron & Rideout, 2020; Furtado & Machado, 2016; Morón-Monge & García-Carmona, 2022; Viejo & Ortega-Ruiz, 2018; Zhu & Schumacher, 2016).

A theoretical model on which the scientific community agrees is vital to incorporate LtL effectively in educational systems. In this context, starting from the European Union's formulation of the competence, there have been important works in Europe, such as that by Hautamäki et al. (2002), from the University of Helsinki, who defined this competence and established three components in various dimensions and subdimensions: context-related beliefs (societal frames and perceived support for learning and studying), self-related beliefs (learning motivation, control beliefs, self-evaluation, etc.), and learning competences (learning domain, reasoning domain, management of learning, affective self-regulation). Their aim was to construct a framework for evaluation. A later study by Hoskins and Fredriksson (2008) is also relevant. This was based on the one by Hautamäki et al. and other previous ones. These researchers coordinated the work of the European Union's CRELL network (Centre of Educational Research for Lifelong Learning), sponsored by the EC, to try to agree on a theoretical model and an evaluation protocol. In this case, three dimensions were established: cognitive, metacognitive, and affective, with the goal of designing an instrument to evaluate the competence that would act as a framework for European countries. The results did not satisfy the researchers, who were from various teams from EU member states, who were unable to reach an agreement on a common European indicator. The topic, therefore, remained open. Stringher (2014), also a member of this network, carried out a broad meta-analysis in an attempt to provide an inclusive definition and model. She covers four dimensions: cognitive, metacognitive, affective, and social.

Starting from these works, our research team has developed a theoretical model, constructed from the study of the academic literature, that sets out to be inclusive and comprehensive, and which serves as a reference point for our current research work. It includes five dimensions (cognitive, metacognitive, affective-motivational, social-relational, and ethical) and various subdimensions. The substantiation, formulation, and validation

processes of the model can be consulted in Gargallo-López et al. (2020). The first three dimensions derive from the strategic and self-regulated learning construct, and the fourth from the sociocognitive focus, as explained above. The fifth is our own contribution, and is consistent with the EC's most recent formulation and with other research (Cortina, 2013; Grace et al., 2017; Kass & Faden, 2018). We believe that learners cannot be regarded as competent in LtL if the ethical components involved in learning, in their own personal process of learning, and in their own personal improvement and in that of others are neglected.

Given its importance, we believe that it is vital to establish whether university students manage LtL well and to analyse its impact on academic achievement[1], given that there are few studies available on the topic in higher education. To do so, we have collected data from the research project that is being carried out[2].

Although there are a number of studies on the influence of learning strategies and self-regulated learning on academic achievement in university students (Kosnin, 2007; Hye-Jung et al., 2017; Lucieer et al., 2015; Lugo et al., 2016; Ning & Downing, 2015; Pérez González et al., 2022; Treviños, 2016; Yip, 2019; Zimmerman & Schunk, 2012), we have not found studies that specifically analyse the relationship between LtL and academic achievement.

If, as we believe, not all university students are sufficiently competent in LtL

and its influence on academic achievement is clear, we will have more than strong enough arguments to include this competence in the curricula of university degrees.

Therefore, the general objective of this work is to determine university students' LtL competence profiles and the relationship of these profiles with academic achievement.

This general aim takes shape in more specific objectives such as: evaluating the level of management of the competence in the general sample; establishing competence management profiles; analysing possible differences between groups with different profiles according to a number of relevant variables such as gender, age, year, or area of study; specifying the influence on academic achievement of the different dimensions of the competence according to belonging to the group or groups with the highest and lowest command; and evaluating whether there is a difference in academic achievement between the groups established by the profiles of management of the competence.

2. Method and materials

2.1. Research design

We used a quantitative non-experimental descriptive correlational design (McMillan & Schumacher, 2010).

2.2. Participants

The sample comprised 1234 students from three universities in the city of

Valencia (Spain), two public ones: the Universidad de Valencia (UV, 32.09% of the sample) and the Universidad Politécnica de Valencia (UPV, 35.65%), and one private: the Universidad Católica de Valencia (UCV, 32.25%). The sample was selected using purposive non-probability sampling, with the criterion being to obtain a suffi- ciently varied and representative sample from different large fields/areas of knowledge from the three universities (health sciences, engineering and architecture, and education).

Table 1 shows the characteristics of the sample.

TABLE 1. The sample's characteristics.

Gender	68.14% (843) females, 31.6% (391) males
Age	mean = 20.7 years; σ = 3.91; range: 17-55 years
	17-18: 97 (15.3%) 17-18: 131 (21.8%)
	19-22: 460 (72.3%) 19-22: 384 (63.9%)
	=> 23: 79 (12.4%) => 23: 86 (14.3%)
Study area	32.1% (397) from health sciences, 32.3% (399) from education, 35.6% (439) from engineering and architecture
Study year	1st: 46.6% (576) 2nd: 24.9% (308) 3rd: 18.8% (233) 4th: 8.4% (104) 5th: 1.3% (16)*

*Medicine students, a degree with 6 study years.

2.3. Instruments

The QELtLCUS questionnaire was used (Gargallo-López et al., 2021), which the research team drew up and validated to evaluate the competence in question, based on the model mentioned above (Gargallo-López et al., 2020).

To evaluate academic achievement, we calculated the mean of the grades from the first term as these are the ones closest to when the questionnaire was administered.

The QELtLCUS questionnaire comprises 85 items answered on a five-item Likert-type response scale. These gather information from the five dimensions of the theoretical model, which, in turn, contain twenty-one first-level subdimensions and some second-level subdimensions, in accordance with the theoretical model. Table 2 shows these along with their reliability figures, which are adequate. In the subdimensions, the McDonald's ω is greater than .60, meaning that they are stable.

The content validity of the questionnaire was established through analysis and evaluation of the content of the items and of their groupings into dimensions and subdimensions by seven experts (Bandalos, 2018), considering their validity, intelligibility, absence of ambiguity, and location.

TABLE 2. Structure of the questionnaire and reliability data.

DIMENSIONS/ SCALES	FIRST-LEVEL SUBDIMENSIONS/SUBSCALES	SECOND-LEVEL SUBDIMENSIONS/SUBSCALES
1. COGNITIVE 33 items α = .91 ω = .88	1. Managing information effectively α = .87 ω = .85	1.1. Searching for and selecting information α = .71; ω = .71
		1.2. Attention in class. Note taking α = .70; ω = .70
		1.3. Establishing connections between what is learning and what is learned α = .63; ω = .63
		1.4. Preparing and organising information α = .66; ω = .67
		1.5. Comprehensive memorisation α = .70; ω = .70
		1.6. Information retrieval α = .63; ω = .62
		1.7. Organising information to retrieve it in exams and pieces of work α = .56; ω = .56
	2. Communication skills α = .90 ω = .90	2.1. Oral communication/expression skills α = .85; ω = .86
		2.2. Communicating in foreign languages α = .88; ω = .88
	3. Using ICT α = .75 ω = .76	
	4. Critical and creative thinking α = .77 ω = .77	
2. METACOGNITIVE 12 items α = .90 ω = .85	5. Knowledge of objectives, evaluation criteria, and strategies α = .72 ω = .72	
	6. Planning, organising, and managing time α = .72 ω = .73	
	7. Self-evaluation, control, self-regulation α = .64 ω = .64	
	8. Solving problems α = .66 ω = .67	

3. AFFECTIVE AND MOTIVATIONAL 16 items $\alpha = .86$ $\omega = .87$	9. Intrinsic motivation $\alpha = .72$ $\omega = .72$	
	10. Tolerating frustration. Resilience $\alpha = .63$ $\omega = .63$	
	11. Internal attributions $\alpha = .62$ $\omega = .63$	
	12. Self-concept, self-esteem, self-efficacy $\alpha = .73$ $\omega = .74$	
	13. Physical and emotional well-being $\alpha = .77$ $\omega = .77$	
	14. Anxiety $\alpha = .73$ $\omega = .73$	
4. SOCIAL/ RELATIONAL 15 items $\alpha = .90$ $\omega = .90$	15. Social values $\alpha = .75$ $\omega = .74$	
	16. Attitudes of cooperation and solidarity. Interpersonal relationships $\alpha = .74$ $\omega = .74$	
	17. Teamwork $\alpha = .84$ $\omega = .84$	17.1. Working with and helping classmates $\alpha = .77$; $\omega = .77$
		17.2. Teamwork. Personal engagement $\alpha = .75$; $\omega = .75$
	18. Controlling environmental conditions $\alpha = .70$ $\omega = .70$	
5. ETHICS 9 items $\alpha = .86$ $\omega = .86$	19. Social responsibility in learning $\alpha = .71$ $\omega = .71$	
	20. Values. Honesty and respect $\alpha = .78$ $\omega = .78$	
	21. Respecting ethical and deontological codes (ítems 83, 84 y 85) $\alpha = .71$ $\omega = .71$	

The questionnaire's construct validation was checked through confirmatory factor analysis (CFA) (Gargallo-López et al., (2021) using the lavaan program (Rosseel 2012), as there was a theoretical model whose validity was to be tested and given that there was a clear idea of what items comprised each dimension and subdimension of the instrument (Lloret-Segura et al., 2014). The indicators of fit of the model at the level of each dimension are adequate, as is that of the questionnaire at a global level (see Figure 1 and Tables 3 and 4). Furthermore, regarding the reliability of the dimensions and the global reliability of the questionnaire, values greater than .70 were obtained for all of the dimensions and globally, based on Cronbach's α and McDonald's ω (1999) (see Table 5), and so the internal consistency of the scale is appropriate. Therefore, the CFA of the questionnaire was satisfactory and supports the evidence for the validity of the internal structure of the questionnaire. For more detail of the results of the validation of the questionnaire, see Gargallo-López et al. (2021).

FIGURE 1. Model of the LtL construct. confirmatory factor analysis.
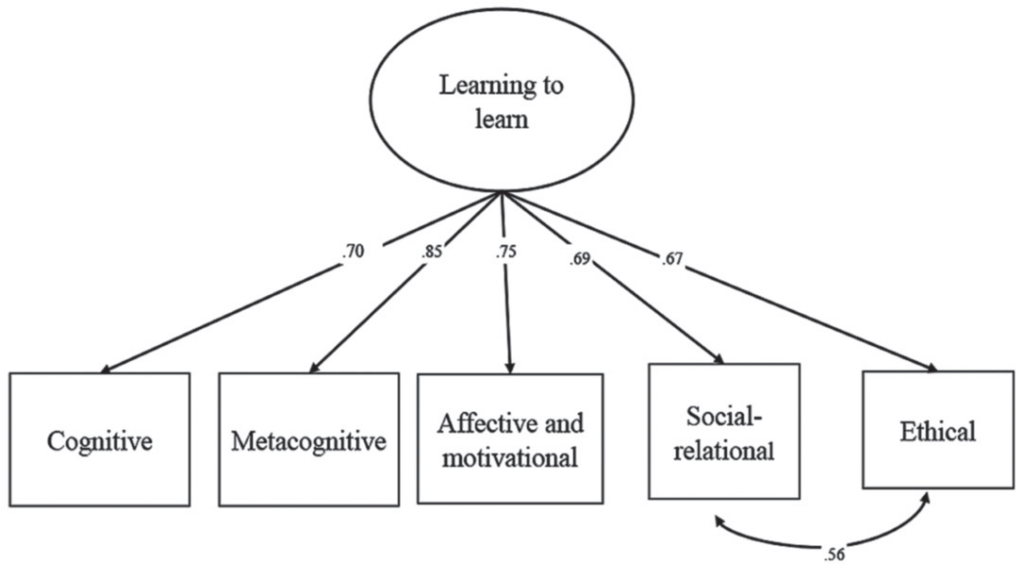
TABLE 3. Indicators of fit of the LtL construct.

χ² RMSEA							
χ²	df	p	RMSEA	Int 90%	Pclose	CFI	SRMR
2.659	4	.616	.000	(.000-.036)	.994	1.000	.021

TABLE 4. Indicators of fit of the LtL dimensions.

Dimensions or scales	χ²			RMSEA				
	χ²	df	p	RM-SEA	Int 90%	Pclose	CFI	SRMR
Cognitive	1564.417	482	.000	.043	(.040-.045)	1.000	.954	.053
Metacognitive	63.122	50	.101	.015	(.000-.025)	1.000	.997	.030
Affective and motivational	288.564	98	.000	.040	(.034-.045)	.999	.966	.047
Social-relational	71.461	84	.833	.000	(.000-.010)	1.000	1.000	.032
Ethical	14.491	24	.935	.000	(.000-.006)	1.000	1.000	.023

TABLE 5. Global Cronbach's α and MacDonald's ω coefficients and Cronbach's α and MacDonald's ω coefficients of the dimensions of the questionnaire.

Dimensions	Coefficients
Global	α = .91 ω = .88
Cognitive	α = .91 ω = .88
Metacognitive	α = .90 ω = .85
Affective and motivational	α = .86 ω = .87
Social-relational	α = .90 ω = .90
Ethical	α = .86 ω = .86

2.4. Process

The data were collected online in the first trimester of the 2022–2023 academic year. The students responded in a single ordinary class session through an online application. The requirements of the Ethics Committee of the Universidad de Valencia were taken into account: the students were informed of the aims and process of the research, and participation was voluntary. Before answering, they gave informed consent and then completed the questionnaire, including demographic data, but no data that personally identified them, in order to respect their anonymity.

2.5. Data analysis

The data analysis includes descriptive statistics, cluster analysis, χ2 test and the Mann-Whitney U test, using the SPSS 26.0 program.

The cluster analysis used the two-step method, which produces similar results to latent class analysis (Benassi et al., 2020).

The factor scores for each dimension and subdimension were calculated using the mean obtained for the items from each one. This makes it possible to maintain the same metrics for the scale and make comparisons between dimensions and subdimensions (DiStefano et al., 2009). Each dimension and subdimension is unifactorial, and the loadings of the items generally do not differ (Abad et al., 2011).

3. Results

The results section comprises three parts. The first includes descriptive statistics for the LtL dimensions/subdimensions. In the second, the profile of the students depending on how they manage the competence, specifying the characteristics of the groups. The third relates academic achievement to group profiles.

3.1. Descriptive statistics of the LtL competence

As the aim is to evaluate the level of management of the competence of the students studied, it is appropriate to analyse the mean scores in the dimensions and subdimensions of the competence. Considering the sample as a whole, the students' mean scores display a medium-high level (Table 6), with the high-

est in the social-relational and ethical dimension, followed by the affective-motivational, metacognitive, and cognitive ones, in which it is medium-high. The subdimensions with the highest scores are attitudes of cooperation and solidarity (4.48 out of 5); values, honesty, and respect (4.41); social values (4.32); and respect for ethical codes (4.31). The subdimensions with a lower level of competence are controlling anxiety (3.05), and planning (3.19). The value of the standard deviation indicates considerable homogeneity in the responses.

In the cognitive dimension, the Information management subdimension has the highest competence level with higher means in elaboration and organisation (4.00) and in making connections (3.93), and lower in organising for retrieval (3.74). In the other three subdimensions, there is adequate ICT management (3.81), and intermediate competence in critical and creative thinking (3.62) and in communication skills (3.55 and 3.52).

In the metacognitive dimension, the competence level is medium-high in three subdimensions: self-evaluation (3.97), knowledge of objectives (3.95), and problem solving (3.92). In contrast, it is medium in planning (3.19).

In the affective-motivational dimension, the competence level is high in intrinsic motivation (4.19) and internal attributions (4.26), medium-high in self-concept and self-esteem (3.98), and physical and emotional well-being (3.83). In tolerating frustration, it is medium, and in controlling anxiety it is medium-low.

In the social-relational dimension, the competence level is high in all of the subdimensions, with the highest means in attitudes of cooperation and solidarity (4.48) and social values (4.32). The lowest mean was in controlling environmental conditions (4.07), although this score was still high.

In the ethical dimension, the competence level is high in the three subdimensions, with the highest level in values, honesty, and respect (4.41), and the lowest in social responsibility (4.06).

TABLE 6. Descriptive statistics of the LtL competence dimensions/subdimensions.

| | Mean | SD | Asymmetry | Kurtosis | Kolmogorov-Smirnov normality test | |
					Statistics test	Asyptotic significance
COGNITIVE	*3.70*	*0.52*	*-0.286*	*0.378*	*0.022*	*.200*
Information management	3.83	0.49	-0.569	1.068	0.036	.001
Data search and selection	3.77	0.69	-0.532	0.342	0.126	.000
Pay attention in class	3.78	0.89	-0.782	0.403	0.177	.000

Making connections	3.93	0.75	-0.674	0.624	0.178	.000
Elaboration and organisation	4.00	0.85	-0.927	0.614	0.14	.000
Comprehensive memorisation	3.72	0.86	-0.634	0.107	0.121	.000
Data retrieval	3.86	0.75	-0.56	0.341	0.127	.000
Data retrieval organisation	3.74	0.75	-0.472	0.29	0.107	.000
Communication skills	*3.54*	*0.78*	*-0.331*	*-0.405*	*0.049*	*.000*
Oral Skills	3.55	0.87	-0.44	-0.106	0.117	.000
Communication in foreign languages	3.52	1.05	-0.467	-0.53	0.102	.000
ICT management	3.81	0.86	-0.643	0.016	0.129	.000
Critical and creative thinking	3.62	0.75	-0.335	-0.083	0.091	.000
METACOGNITIVE	***3.76***	***0.54***	***-0.388***	***0.766***	***0.051***	***.000***
Knowledge of objectives	3.95	0.75	-0.639	0.286	0.132	.000
Planing, organising	3.19	0.95	-0.272	-0.402	0.093	.000
Self-assessment, self-control, self-regulation	3.97	0.66	-0.69	0.966	0.139	.000
Problem solving	3.92	0.64	-0.701	1.468	0.144	.000
AFECTIVE-MOTIVACIONAL	***3.82***	***0.49***	***-0.585***	***1.651***	***0.037***	***.001***
Intrinsic motivation	4.19	0.72	-1.19	2.062	0.144	.000
Frustration tolerance	3.63	0.89	-0.511	0.148	0.143	.000
Internal attributions	4.26	0.72	-1.28	2.412	0.186	.000
Self-concept, self-steem, self-efficacy	3.98	0.66	-0.739	1.49	0.143	.000
Physical and emotional well-being	3.83	0.80	-0.661	0.323	0.139	.000

Controlling anxiety	3.05	1.06	0.035	-0.798	0.083	.000
SOCIAL-RELATIONAL	*4.26*	*0.51*	*-1.622*	*6.492*	*0.074*	*.000*
Social values	4.32	0.66	-1.348	3.183	0.152	.000
Cooperation and solidarity attitudes	4.48	0.58	-1.943	7.049	0.185	.000
Working and helping colleagues	4.15	0.72	-1.038	1.686	0.155	.000
Teamwork. Personal involvement	4.18	0.67	-1.03	2.223	0.133	.000
Controling enviromental conditions	4.07	0.74	-0.943	1.29	0.158	.000
ETHICAL	*4.26*	*0.53*	*-1.406*	*5.142*	*0.080*	*.000*
Social responsibility	4.06	0.73	-0.859	1.168	0.129	.000
Values. Honesty and respect	4.41	0.63	-1.54	4.472	0.180	.000
Respect for ethical codes	4.31	0.61	-1.378	3.728	0.146	.000

3.2. Student profiles in LtL and their characteristics

We set out to establish competence management profiles to define the groups that emerged from them, with a view to determining possible differences between these groups in relevant variables and also in academic achievement. To obtain the profiles of the students in the learning to learn competence, a cluster analysis was performed using the two-step process. Given the non-normality of the variables and the skew and kurtosis indices (Table 6), we opted for the maximum likelihood estimation method.

The optimal number of groups that the method estimates is 2, having tested options with 3 and 4 groups. The two-group cluster is most parsimonious as it is the clearest and has the most solid grouping. The two groups are of a similar size (Table 7), with a clear separation between the two (Figure 2), one with a high competence level and another with a lower average competence level.

TABLE 7. Groups of LtL competence.

Group	N	%
Average	634	51.4%
High	600	48.6%
Total	1234	

FIGURE 2. The group profiles in the LtL competence

Respect for ethical codes

Values. Honesty and respect

Social responsibility in learning

Controlling environmental conditions

Team work. Personal involvement

Working/helping colleagues

Attitude of cooperation and solidarity

Social values

Controlling anxiety

Physical and emotional well-being

Self-concept, self-esteem, self-efficacy

Internal attributions

Frustration tolerance

Intrinsic motivation

Problem solving

Self-assessment, self-control

Planning, organising

Knowledge of objectives

Critical and creative thinking

TIC managment

Communication in foreign language

Oral skills

Data retrieval organisation

Data retrieval

Comprehensive memorisation

Elaboration

Make connections

Pay attenntion in class

Data searches

High

Medium

The characteristics of both groups are as follows:

– Intermediate competence group. This is the larger (51.4% of the students) and displays an intermediate competence level. The pattern of the group is similar to the general pattern discussed above (Figure 2). In both the ethical dimension and the social-relational one, the level is medium-high, being lower in the other three dimensions (cognitive, metacognitive, and affective-motivational).

In the subdimensions, the maximum and minimum values follow the general pattern.

– High competence group. This is the smallest (48.6% of the students) and it has a high level. The pattern is similar to the general one (Figure 2). The ethical and social-relational dimensions have the highest means. The other three are lower but are still high. Similarly, the maximum and minimum values of the subdimensions are consistent with those of the general pattern.

TABLE 8. The groups' characteristics.

	Average group	High group
Gender	Males: 209 (33.2%)	Males: 182 (30.3%)
	Females: 425 (66.8%)	Females: 418 (69.7%)
Age	17-18: 97 (15.3%)	17-18: 131 (21.8%)
	19-22: 460 (72.3%)	19-22: 384 (63.9%)
	=> 23: 79 (12.4%)	=> 23: 86 (14.3%)
Study year	1st: 250 (40.0%) Average age = 19.86	1st: 326 (54.7%) Average age = 20.21
	2nd: 173 (27.7%) Average age = 20.31	2nd: 135 (22.7%) Average age = 19.99
	3rd: 147 (23.5%) Average age = 21.32	3rd: 86 (14.4%) Average age = 22.01
	4th: 55 (8.8%) Average age = 22.58	4th: 49 (8.2%) Average age = 24.27
Study area	Health sciences: 236 (37.1%)	Health sciences: 161 (26.8%)
	Engineering and architecture: 229 (36.0%)	Engineering and architecture: 229 (35.3%)
	Education: 171 (26.9%)	Education: 228 (37.9%)

Once the groups were established, it was necessary to identify their characteristics and analyse possible differences between them according to a range of relevant variables, as mentioned in the study objectives. To do so, we considered the personal and contextual variables of gender, age, year, and field of study. With regards to gender (Table 8), in the medium competence group, the percentage of males is higher than the percentage of females. The inverse is the case in the high competence group. Pearson's $\chi 2$ (.987) is not statistically significant ($p = .321$), and so there is no association between gender and competence group.

In relation to age, in the medium competence group, the mean is 20.60, slightly below that of the high competence group, which has a mean of 20.78. As the assumption of normality is not fulfilled, we used the Mann-Whitney U test, and found statistically significant differences between the means of the two groups ($Z = -1.960$; $p = .050$). Consequently, the learning to learn competence increases as age increases.

With regards to the year, in the medium group the percentage of students in the second, third, and fourth years is greater than that of the high group, while in the high group, the percentage of students from the first year is greater than in the medium group. Pearson's $\chi 2$ (32.318) is statistically significant ($p < .001$), meaning there is an association between the year and the competence group.

Nonetheless, it is necessary to bear in mind when analysing the sample that in the first year there is a large group of students who are older than their fellow students, 17–18 years. Given the characteristics of the sample and the previous result for differences by age, we compared the age in the two LtL groups within each year group. As Table 8 shows, the mean age of the high competence group is higher than that of the medium competence group in each year, with the exception of the second year, although the Mann-Whitney U test did not show any statistically significant differences in any year between the two groups.

It appears then that the greater or lesser proportion of students in the higher competence group is also mediated by age and not just by their year.

Finally, considering the field of study, in the medium competence group, health science subjects are more numerous by percentage, followed by engineering and architecture and education, while in the high competence group, the field with the highest percentage is education, followed by engineering and architecture and health sciences. Pearson's $\chi 2$ (21.994) is significant ($p < .001$), giving an association between the area of study and the competence group. Both groups differ in their composition, with a higher percentage of education and lower in health sciences in the high competence group and the inverse in the medium group.

3.3. LtL and academic achievement

Multiple regression analyses and analyses of differences between the two groups were performed to study the relationship between the command of the competence

and academic achievement, as stated in the study objectives.

3.3.1. Regression

To analyse the influence of the LtL dimensions on academic achievement according to whether the subjects were from the higher or lower competence group, we implemented a complete multiple regression model for each group, with the criterion being academic achievement and the predictors the five LtL dimensions.

The proposed regression model was significant in the medium group ($F_{5.563}$ = 3.740, p = .002), with an explanation by the predictors for academic achievement of 2.3% (adjusted R^2 = .023). It was also significant in the high group ($F_{5.563}$ = 9.183, p <.001), with an explanation of 6.8% (adjusted R^2 = .068).

As for significant predictors that contribute to the explanation of the model (Table 9), only the metacognitive dimension was significant in the medium group. In the case of the high group, they were all significant except for the ethical dimension, with the cognitive dimension having the greatest contribution and the social-relational dimension the smallest. They were all positive, apart from the social-relational dimension, which was negative.

TABLE 9. Regression model.

Group		B	Error Dev.	Beta	t	Sig.
Overall	(Constant)	4.708	.303		15.561	.000
	Cognitive	**.305**	**.079**	**.140**	**3.863**	**.000**
	Metacognitive	**.284**	**.086**	**.135**	**3.319**	**.001**
	Affective-motivational	**.241**	**.086**	**.103**	**2.800**	**.005**
	Social-Relational	-.121	.101	-.054	-1.195	.232
	Ethical	-.041	.093	-.019	-.440	.660
Average	(Constant)	4.983	0.52		9.582	.000
	Cognitive	0.227	0.122	0.084	1.867	0.062
	Metacognitive	**0.263**	**0.127**	**0.105**	**2.069**	**0.039**
	Affective-motivational	0.128	0.125	0.05	1.026	0.305
	Social-relational	-0.004	0.14	-0.002	-0.03	0.976
	Ethical	-0.048	0.13	-0.022	-0.367	0.714
High	(Constant)	5.61	0.997		5.629	0
	Cognitive	**0.397**	**0.134**	**0.136**	**2.971**	**0.003**
	Metacognitive	**0.336**	**0.137**	**0.116**	**2.453**	**0.014**
	Affective-motivational	**0.386**	**0.142**	**0.119**	**2.724**	**0.007**
	Social-relational	**-0.462**	**0.191**	**-0.111**	**-2.419**	**0.016**
	Ethical	-0.152	0.165	-0.042	-0.924	0.356

3.3.2. Differences in achievement by competence group

The relationship obtained in the cluster analysis that explains students' academic achievement by the LtL management group to which they belong is presented here. To do so, we used the Mann-Whitney U test, as the assumption of normality is not fulfilled.

The high-competence group has a higher mean academic achievement (7.37) than the medium-competence group (6.92) (Table 10). Furthermore, according to the Mann-Whitney U test, the difference between both means is statistically significant, and has a small effect size (.040). Consequently, the better the learning to learn competence, the better the academic achievement obtained.

TABLE 10. Academic performance according to group.

Group	Mean	Standard deviation	t	Sig.	Partial eta squared
Average	6.92	1.10	-6.997	.<001	.040
High	7.37	1.12			

4. Discussion

Our aim in this work was to analyse the profiles of university students in LtL competence management and its potential relationship with academic achievement. We also set out to evaluate the level of management of the competence: considering for all of the sample that the mean scores for the dimensions and subdimensions of the competence reflected an acceptable level of competence. This was higher in the social-relational and ethical dimensions than in the others, in which the mean scores were also moderately high, with the sole exception of planning in the metacognitive dimension and controlling anxiety in the affective-motivational one.

Another objective of the work was to establish competence management profiles. Using cluster analysis, we found two

similar-sized groups of students with different levels of LtL competence management, one of them with a medium competence level and another with a high level. In the higher competence group, all of the mean scores for the subdimensions of the competence were greater than 4, with just three exceptions, which were greater than the mean of 3: planning, tolerating frustration, and controlling anxiety. In the lower competence group, the mean of the scores was above 3, with two exceptions below 3: planning and controlling anxiety.

We also set out to establish the influence of the different dimensions of the competence on academic achievement. The regression analysis showed that the metacognitive dimension was essential in relation to academic achievement, as it appeared in both groups.

Three more dimensions appeared in the high group that explained the achievement. The two most important dimensions were the cognitive and the affective-motivational. The other two contributed slightly less, albeit with higher scores than the medium group, with the social-relational being negative.

Therefore, in the high group, information management from critical and creative thinking is fundamental in the construction of knowledge, always from an internal attribution and intrinsic motivation (Figure 2). This group also possesses a high command of the social-relational competence, better than that of the intermediate group. Nonetheless, the negative relationship with academic achievement suggests that for the construction of knowledge, personal information management is fundamental even when supported by teamwork (Table 9).

Another objective was to assess whether there was a difference in academic achievement between the groups that manage the competence differently. It was found that the students from the group with the higher command of the competence obtained higher scores than those from the other group and the results were statistically significant. We have not found studies that specifically analyse the LtL competence and its relationship with academic achievement in university students, and so this is an important contribution by our work. There are studies that consider the relationship between learning strategies and self-regulated learning (constructs that are connected to LtL) and achievement, and their influence has been verified. These include the works by Ergen and Kanadli (2017), Hye-Jung et al. (2017), Lucieer et al. (2016), Lugo et al. (2016), Ning and Downing (2015), Piovano et al. (2018), Sahranavard et al. (2018) and Yip (2019).

We also set out to analyse possible differences between the groups with differing levels of management of the competence depending on different relevant variables.

When analysing this relationship, we found that female subjects had a better command of the competence, albeit without statistically significant differences, in line with other studies (Ray & Garavalia, 2003; Virtanen & Nevgi, 2010). With regards to age, the scores were very similar, with the mean age of the subjects with more competence being higher, in this case with significant differences.

Contrary to expectations, the percentage of students from the second, third, and fourth years was higher in the medium competence group than in the high-level group and in the high-competence group, the percentage of first-year students was higher than in the medium-competence group. In this case, the differences were statistically significant, and there is an association between year and level of competence, with a higher percentage of year-1 students in the high competence group

than in the other years. This is striking because there are studies that confirm that students start university insufficiently prepared for LtL (Cameron & Rideout, 2020; Furtado Rosa & Machado Tinoco, 2016; Viejo & Ortega-Ruiz, 2018; Zhu & Schumacher, 2016) and it is assumed that they will learn to learn at university. Further research with larger samples would be necessary to see whether these results are confirmed. If this were the case, it would be necessary to reflect in-depth on the reasons why the level of LtL competence does not increase in higher years as would be expected as students progress through their university training.

In any case, we have already seen in the analyses that being in the higher competence group also depended on age, given that in all cases the high competence group in each year was older than the medium competence group.

Moreover, although we have not found works that study evolution of the LtL competence through the years of the degrees, there are some studies that are close in subject matter. Lynch (2006) analysed the relationship between various learning strategies and academic level, depending on year in the degree programme, finding that students in higher years did better in effort and self-efficacy while those from the first year were associated more with extrinsic motivation. Gargallo-López et al. (2012) studied the evolution of learning strategies during the first year of university in excellent and intermediate students. They found

that the excellent students had better mean scores than the overall means for metacognitive, affective, and information processing strategies and that both groups increased their extrinsic motivation, their anxiety, and their external attributions and they placed less value on the tasks, at the end of this year. Higgins et al. (2021) studied the changes that occurred in self-regulated learning in a sample of Australian students over three years and they found that, in the first year, from the first to the second semester, the self-efficacy, sense of value and academic competence scores, learning strategies (which included searching, preparing, organising, critical thinking, and self-regulation) time management and place of study all worsened. Nonetheless, in the second semester of the third year, the self-efficacy and learning strategies scores improved, although not the other two, which had reduced since the first measurement, taken in the first term of the first year.

Although the measurement instruments are not the same and neither is the type of study, as the first one is transversal like ours while the other two are longitudinal, it is true that we observed that no improvement occurs in them in any of the scores relating to learning strategies and self-regulated learning, as the students' progress move through the years, given that in some cases there are advances and in others reversals.

So, studies are needed that consider in more depth what we have found in the present work, and it would be appropriate

to do so, because there are important questions that merit an answer.

With regards to field of study, a greater percentage of students from educational sciences were in the high competence group, followed by those from engineering and architecture and those from health sciences, and a greater percentage of this last group is in the medium competence group. In this case, the differences are also statistically significant, with an association between the study area and competence group. These results are also peculiar, because the students who access the health science specialities (medicine, nursing and physiotherapy), at the Universidad de Valencia, from which the sample from this area of study is taken, need very high grades to enter these programmes, and further study is needed on why their achievement in LtL is apparently lower than that of other areas that do not have such high entry requirements.

5. Conclusions, limitations of the study, and future research

The results of this work prove the influence of command of the LtL competence on academic achievement, and so it is possible to assume that an increase in this competence could improve academic performance. This possibility leads us to suggest that university teachers should work on this competence in their modules to foster its improvement in their students. Although the sample includes one group of students with a relatively high level of management of the compe-

tence, it is true that the other group has a lower level. And there are subdimensions of the competence that it is necessary to work on, because of their importance and because the scores in them are relatively low: this is the case of planning, organisation, and time management (it is important to bear in mind, with the data from the study, that metacognitive strategies, which include planning, are the clearest predictor of achievement, as they fulfil this role in both groups), also the case of critical and creative thinking, oral communication skills, attention in class, comprehensive memorisation, and communication in foreign languages, tolerating frustration, and controlling anxiety.

Teachers' commitment would be needed to implement curriculum designs that integrate the components of competence into the teaching of the subjects, along with the other content taught in them, specifying these (teamwork, planning, critical thinking, information management, etc.) in learning outcomes and including teaching and evaluation procedures. We believe that this is the best option, contrasting with the application of specific training programmes for learning strategies and self-regulation in short periods, of which we have examples in the literature (Hernández et al., 2010; Hofer & Yu, 2009; Norton & Crowley, 1995; Ryder et al., 2017; Wibrowski et al., 2017; Yan et al., 2020). Although this would be an acceptable option, it is by integrating the teaching and evaluation of LtL in the subjects that the teachers deliver that an effective improvement

in the competence can be achieved by working on their components in context, thus favouring their use and transfer.

To achieve this and tackle these tasks, it is vital to train university teachers. Developing educational innovation projects and implementing courses and workshops on the LtL competence and on its teaching and evaluation appear to be necessary initiatives for making them widespread in the organisation.

Finally, we should note some limitations of this work. The main one is that the sample is not representative of the university population, as the data were collected from degrees in several areas of study at three universities in the city of Valencia, and it would be advisable to compare our results with those from samples that are representative. It is true that the sample is broad and, although it is not representative, it is sufficiently representative of these study areas.

Furthermore, the data were collected using a self-report questionnaire, in which the students comment on the basis of their perception, interpretation, and evaluation of the statements of the items in the instrument, which does not always reflect whether what the students say they do is what they really do when they learn. However, it is true that this limitation is shared by all of the many studies that use this type of instrument, as using them is the most practical way of collecting data from broad samples.

Despite all of this, we believe that our study provides data on an important subject that has been little studied, and it raises new questions that should be considered in subsequent works.

An approach to the subject that features a multi-methodological design that integrates quantitative methodology, (with information collected through the questionnaire used in this study) and a qualitative methodology (using phenomenographic-type methods [interview, observation, discussion groups] and authentic evaluation approaches in order to analyse use of the LtL competence when doing real tasks [portfolios, essays, groups work, and the outcomes resulting from it, etc.]) is a challenge that this team hopes to tackle, while also encouraging others to do likewise.

Notes

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Authors' biographies

Bernardo Gargallo-López is a Professor of Theory of Education at the Universidad de Valencia. First National Prize for Educational Research in 2000 and 2002. His current line of research and the competitive projects he has directed centre on teaching and learning in the university setting. He runs the GIPU-EA group.

https://orcid.org/0000-0002-2805-4129

Gonzalo Almerich-Cerveró is an Associate Professor in the Department of Educational Research Methods at the Universidad de Valencia. His research centres on the integration of information and communication technology (ICT) in education, 21st-century competences, the learning processes of students, educational measurement, and educational research methodology.

https://orcid.org/0000-0002-8952-4104

Fran-J. García-García is an Associate Professor in the Department of Theory of Education, Universidad de Valencia.

He won the Special Master's Prize in Special Education. His most recent works cover online learning, university pedagogy, and higher-education students' learning.

https://orcid.org/0000-0002-6267-0080

Inmaculada López-Francés has a doctorate in education from the Universidad de Valencia and is an Associate Professor. Licentiate Degree and Doctoral prizes from the Universidad de Valencia. Her lines of research include sexual, affective, identity, and gender diversity and university pedagogy.

https://orcid.org/0000-0003-1178-9054

Piedad-M.ª Sahuquillo-Mateo has a doctorate in Education from the Universidad de Valencia and is an Associate Professor of Theory of Education. Her research interests centre on the family and the minor and on university pedagogy.

https://orcid.org/0000-0002-8450-2475

Teaching morality as an inclusive competence in higher education: Effects of dilemma discussion and contribution of empathy

Enseñando moralidad como competencia inclusiva en educación superior: efectos de la discusión de dilemas y contribución de la empatía

Gemma FERNÁNDEZ-CAMINERO, PhD. Assistant Professor. Universidad de Córdoba (*gemma.fernandez@uco.es*).

José-Luis ÁLVAREZ-CASTILLO, PhD. Professor. Universidad de Córdoba (*jlalvarez@uco.es*).

Hugo GONZÁLEZ-GONZÁLEZ, PhD. Associate Professor. Universidad de Córdoba (*hugo.gonzalez@uco.es*).

Luis ESPINO-DÍAZ, PhD. Assistant Professor. Universidad de Córdoba (*luis.espino@uco.es*).

Abstract:

Inclusive pedagogies belong to the diversity agenda in higher education and so their teaching methodologies should be tested to ensure the effective training of students in democratic and inclusive citizenship competencies, such as moral competence. Moral-dilemma based methods have proven to be effective in learning about morals in specific programmes, but there is still no evidence for their cross-cutting application in regular courses. These methods could also be enriched by strategies aimed at learning competences that have been identified as predictive factors in theories of moral judgement and development, such as empathy. The current study examines the effects of a 10-hour teaching intervention on learning moral competence using a version of the Konstanz Method of Dilemma Discussion (KMDD), either applied in isolation or using a mixed strategy of dilemma discussion and narrative persuasion activities, this last method with the aim of verifying the contribution of empathy to moral learning. The hypotheses regarding the two methodological approaches were tested using a quasi-experimental pre-test-post-test design with a control

group in the ecological context of the first semester of teacher training. Data were collected using the Moral Competence Test and were analysed with linear mixed models. The results did not support the expected empathy-induced moral learning. However, significant progression in moral competence when using KMDD is shown. The discussion considers the disassociation between empathy/altruism and moral competence in order to interpret the ineffectiveness of the mixed strategy. The need to apply pedagogies with a more experiential focus is suggested in order to foster moral learning by means of activities in community diversity environments.

Keywords: higher education, inclusive pedagogies, moral competence, empathy, teacher education.

Resumen:

Las pedagogías inclusivas se han incorporado a la agenda de la diversidad de la educación superior y, por consiguiente, sus metodologías docentes deben ser evaluadas para garantizar la formación efectiva de los estudiantes en competencias de ciudadanía inclusiva, como es el caso de la competencia moral. Los métodos basados en discusión de dilemas han demostrado su efectividad sobre los aprendizajes morales en programas específicos, pero se carece de evidencia relacionada con su aplicación transversal. Por otro lado, estos métodos podrían enriquecerse mediante estrategias orientadas al aprendizaje de competencias que han sido identificadas como factores predictores en teorías de juicio y desarrollo moral, tales como la empatía. El presente estudio analiza los efectos de una intervención docente de 10 horas sobre el aprendizaje de la competencia moral a través de una variante del método Konstanz de discusión de dilemas (KMDD), bien aplicando únicamente esta metodología, bien usando una estrategia mixta de discusión de dilemas y actividades de persuasión narrativa —estas últimas con objeto de verificar la contribución de la empatía al aprendizaje moral—. Las hipótesis sobre ambas aproximaciones metodológicas se comprobaron mediante un diseño cuasiexperimental pretest-postest con grupo de control en el contexto ecológico del primer curso de formación de maestros. Los datos se recogieron con el test de competencia moral y se analizaron con modelos lineales mixtos. Los resultados no apoyaron la expectativa de aprendizaje moral inducido empáticamente. Sin embargo, se evidenció una progresión significativa de la competencia moral mediante el uso del KMDD. En la discusión se plantea la disociación entre empatía/altruismo y competencia moral para interpretar la inefectividad de la estrategia mixta, y se sugiere la necesidad de aplicar pedagogías con un foco más experiencial con objeto de potenciar la competencia moral mediante actividades en entornos comunitarios de diversidad.

Descriptores: educación superior, pedagogías inclusivas, competencia moral, empatía, formación de profesorado.

1. Introduction

Universities play a vital role in relation to diversity (Smith, 2020) in the context of higher education's social mission. Evidence shows that, while there is a range of discourses of educational diversity and inclusion discourses (Brooks, 2020; García-Cano et al., 2021), advances are

being made in practices (Álvarez-Castillo et al., 2021), with inclusive pedagogies being among the areas of this progression (i.e., how to teach competences relating to diversity from a focus of inclusion) (Stentiford & Koutsouris, 2021).

Attention to inclusive pedagogies is important because university practice frequently disregards the teaching of personal and social competences, focussing instead on professionalising competences that are specific to the modules (Sanderse & Cooke, 2021). Ethical or moral competence is an inclusive citizenship capacity that is potentially neglected in university education (Gasser & Althof, 2017), even though higher education institutions recognise its importance (Mayhew et al., 2012) and many of the most prestigious universities explicitly mention the development of values as an educational objective in their mission statements (Brooks & Villacís, 2023). Similarly, in regions such as Europe, moral learning has been linked to the key competences for lifelong learning, including those that should be taught in higher education (Council of the European Union, 2018). Most of these capacities consist of a knowledge, skill or attitude associated with awareness of and respect for diversity and the consideration and application of ethical principles, as well as conflict resolution through democratic means and respect for the common interest and human rights. In other words, education in morality is at the heart of lifelong learning.

Given the relevance of moral competence in a diverse world, the present study aims to verify the efficacy of a brief teaching methodology to develop, in a way that is integrated with the specific capacities of a university module, moral competence in students who have recently started university (the first term of the first year) with the aim of studying a teacher-training plan, also testing the effects of including empathy training in this methodology. University centres for training primary schoolteachers also do not pay great attention to moral training (Orchard, 2021; Sanderse & Cooke, 2021), despite the low level of moral competence of future teachers (Bronikowska & Korcz, 2019; Meza-Pardo & Guerrero-Chinga, 2016). The present study is committed to this need, supporting the transversal teaching of the moral competence in university modules.

2. Moral competence and empathy

Although numerous theories have been developed to explain the different dimensions of morality (see the review in Garrigan et al., 2018), we could start from a concept of morality as the capacity to resolve conflicts and take decisions in accordance with one's own principles, which, in all cases, transcend self-interest or submission to conventional rules, being aligned with universal ethical ideals such as equity, justice or fundamental human rights. Kohlberg (1964) was the first to define morality in terms of the capacity to take decisions and make moral judgements based on inner principles, and Caro-Samada et al. (2018) found a precursor to competence-based education in his theories.

The present article also considers relational and emotional dimensions as determinants of moral life, without this preventing a defence of the need for and relevance of rational argumentation, and without assuming that motivations and behaviour of a similar sense automatically derive from moral judgements. This understanding is associated with the neo-Kohlbergian postulates that have, in various ways, modified Kohlberg's general position and in so doing have revealed important components of morality (sensitivity, motivation, and action) that differ from moral judgement (Rest, 1986); supported an approach to a common and not merely individualist morality when resolving ethical problems (Narváez, 2005; Rest et al., 1999); qualified the universalist position (Rest et al., 1999) and invoked the capacity of intermediate concepts, which are not independent from contextual factors, to generate moral decisions (Bebeau & Thoma, 1999; Thoma, 2014; see also Walker, 2022; Walker et al., 2021); made the stages of moral development flexible in terms of schema through which students progress continuously (Rest et al., 1999, 2000); defined new methods for evaluating moral judgement, which include its tacit dimension when not admitting that participants have the capacity to explain explicitly how they reach a moral judgement (Narváez, 2005; Rest et al., 1999, 2000; Thoma, 2014); and recognised the role of affect in moral functioning (Walker & Thoma, 2017). The neo-Kohlbergian focus has developed into educational applications that are consistent with different models, and character education stands out among these (Narváez, 2005; Thoma *et al*., 2013; see an up-to-date review of this moral education model in the monograph by Ibáñez-Martín & Ahedo, 2023).

As a new development of the Kohlbergian concept, the German psychologist Georg Lind (2019) argued that moral competence is acquired by means of conflict resolution strategies through processes of moral reasoning that happen in discussions with people who think differently, thus facilitating democratic coexistence. This cognitive capacity would be one of the dimensions of the theory of the dual aspect of moral behaviour (Lind, 2008, 2019), in parallel with the affective dimension that links the person to particular principles or ideals. Consequently, morality would comprise both adhesion to ideals and the competence to resolve conflicts and take moral decisions.

For its part, empathy is a social disposition which, despite lacking a unanimously agreed definition (Hall & Schwartz, 2019), at least has components of perspective taking, affective sharing, and empathic concern (Decety & Cowell, 2015), and it is associated with moral competence (Decety & Cowell, 2015; Eisenberg, 2000; Harari & Weinstock, 2021; Hoffman, 2000; Mestre et al., 2019; Ortega-Ruiz & Mínguez-Vallejos, 1999). One of the most coherent theorisations of this relationship is given by the empathy–altruism hypothesis, developed over several decades by Daniel Batson (1987, 2011, 2017). This model

predicts that empathic concern results in a motivation to improve the well-being of another person who is in need as an end goal. That is to say, the motivational component of empathy would be a factor that induces altruism. However, not all of the effects are positive or moral, and not all of the effects of moral motivation are altruistic. Indeed, Batson (2011) differentiates between egoism, altruism, and morality as three different motivational types. The fact that individuals are motivated to achieve their own well-being or that of another person as an end goal (egoism and altruism, respectively) does not mean that the behaviours generated by one or other motivation have effects that are necessarily immoral or moral. So, for example, the egotistical motivation to benefit more than other citizens from access to social resources would be judged to be just if the person pursuing his or her own benefit were in a vulnerable position compared to the majority of the population. On the other hand, the altruistic motivation to satisfy the needs of a specific person can be in detriment to the satisfaction of the needs of other people, something that would not be considered just for them. If this independence of motivations is linked to the empathy–altruism hypothesis, it would be deduced that immoral effects could also derive from empathic concern through altruism (e.g., when someone in a position of power gives favourable treatment to a person in need with whom he or she empathises). Accordingly, the link between empathy and altruism is not identified with the link between empathy and morality, although in a structured teaching context their convergence could be fostered.

3. Teaching moral competence and empathy

Moral competence has been the subject of teaching and learning using a number of methodologies, among which stand out ones based on the concept of moral dilemmas, initially proposed by Kohlberg (1958). The methodology for developing moral judgement from moral dilemmas was originally proposed by Moshe Blatt in his doctoral thesis, which he presented in 1969 and which Kohlberg supervised at Harvard (see the procedure of the method in Blatt and Kohlberg, 1975). This was essentially a matter of posing moral dilemmas that created disagreements between students in a morally heterogeneous group with the expectation of stimulating the moral development of someone who is at a lower stage. One strategy derived from the methodology Blatt proposed is the Konstanz Method of Dilemma Discussion (KMDD), developed by Lind (2002, 2006, 2019). The KMDD displays a series of characteristics that distance it from Blatt's initial method. It uses counterarguments, not higher-order arguments, although Kohlberg (1984) also proposed dilemmas and counter suggestions in his interview method to mediate moral judgement; it allocates the role of facilitator to the teacher — not the role model figure as in the original method — and increases the students' active role; it extends the duration of individual sessions beyond the 45 minutes of the initial

strategy, as well as the total duration of the programme, increasing the time interval between the sessions; and it uses semi-real moral dilemmas that can cause conflicts for and between people, eliciting moral emotions that encourage learning but are not intense enough to block it. As for the measurement of moral competence, Kohlberg uses external standards in accordance with his six-stage model of moral development (only participants whose judgements match stage 6 receive the highest score). Lind (2019), however, argues that not all solutions to conflicts require a type-6 argument, instead many of them can be resolved with arguments typical of lower stages. Ultimately, KMDD reformulates Blatt's methodological proposal, achieving large effect sizes (Lind, 2006).

In turn, a variety of methodologies have been used to develop empathy, but narration stands out among them. This method can be particularly useful to help students be attuned with other people's internal states, and its persuasive impact in changing beliefs, attitudes, intentions, and behaviour has been recognised in the fields of psychology and communication (Braddock & Dillard, 2016). A written, oral or audiovisual narrative can transport us to different times and places, activating emotions and motivations that can change something in our cognitive, emotional or motivational universe. This narrative transportation is similar to real experience (Green & Brock, 2000), and so would be classed as a type of experiential learning when used in a formative setting. Green and Brock

(2000) drew on the theories of Daniel Gilbert (1991), which predicted that people tend to believe what they read or hear by default, while any process of rejection involves effort. The thesis for which Green and Brock (2000) found evidence is that once people are involved in a process of narrative transportation, they are less motivated to reject or critically analyse the ideas in the narrative, and a process of change in beliefs can begin with the evaluations of the characters being more positive (see also Ratcliff & Sun, 2020). A second mechanism that has been proposed to explain the effects of narrative persuasion is emotional identification with characters (Hoeken et al., 2016), which can cause real feelings of empathic concern for them, as well as the adoption of their goals and perspectives in the context of the narration (Cohen, 2006) and, consequently, altruistic reactions (Batson, 2017). This could become an effective mechanism for education of moral emotions, which is so necessary from pre-university stages (Bisquerra Alzina & López-Cassà, 2021), and it would also be very useful for emulating the qualities of the *good character* that are present in the protagonists of great works of literature (e.g., from a model of character education, see the seven groups of qualities that Ibáñez-Martín [2023] identifies in don Quijote).

4. Aims and hypotheses of the study

This study starts from the assumption that moral competence can be taught transversally, incorporating this capacity

into the ordinary teaching of university courses. Furthermore, it is a competence that is not just developed through specific teaching procedures, but these procedures can be combined with empathic induction strategies. Considering these initial ideas, the following objectives are proposed: 1) to evaluate the effectiveness of a short moral dilemma based methodology inspired by KMDD for learning moral competence in the ecological context of the teaching of a teacher training module; and 2) to evaluate the effectiveness of a mixed method combining narrative persuasion with moral dilemmas in the same setting. Methodological effects in both cases are hypothesised: 1) using a variant of KMDD in the framework of the teaching of the ordinary competences of a teacher training module for a brief period (one hour per week for 10 weeks) will be of use in the learning of moral competence; and 2) the mixed use of narrative persuasion techniques and moral dilemmas in the ecological training context and with the stated duration, will also increase students' moral competence.

5. Method

5.1. Design

A quasi-experimental design with three natural groups of students (two experimental and one control) with pre-test and post-test was used. A second post-test (follow-up measure) was initially planned, but had to be cancelled because of the emergency measures in Spain in March 2020 in response to the Covid-19 pandemic. The experimental sequence started by measuring the moral competence and various sociodemographic variables in the pre-test (week 1); it continued with the intervention, carried out during weeks 2-11 in accordance with the initial plan; and it ended with the post-test in week 12.

5.2. Sample groups

Three academic groups were purposively selected from future school teachers at the Universidad de Córdoba, to whom the authors of this study delivered a module on the theoretical-historical foundations of education, the content and teaching methodology of which were equivalent in the first year of the degrees in primary education and early-childhood education. The experimental conditions (KMDD variant [KMDDv] and Mixed Methodology [MM]) and control were randomly assigned to the groups with KMDDv and control corresponding to the two primary-education groups and MM to the early-childhood education group. Although the initial sample size in the pre-test was 194 participants, this was reduced owing to two factors: 1) students who did not participate in both moments of measurement and in at least 80% of the methodological sessions were excluded; and 2) it was not possible to match some students owing to self-identification errors in the two moments of measurement. The final sample comprised 161 participants (n_{KMDDv} = 72; n_{MM} = 39; n_C = 50), 78.26% of whom were female. The mean age was 19.0 years (SD = 2.98) and the mode was 18 years.

5.3. Instrument

The measurement used was the Moral Competence Test (MCT), initially called

the *Moral Judgment Test* (Lind, 1978). This has been suitably validated and translated into many languages (Lind, 2008, 2019). Lind (2020) gives the results of the validations corresponding to 28 of these translations, including the one by Luis Trechera in 1996 on a sample from Spain. The test involves presenting two moral dilemmas: in the first, workers from a factory illegally enter the management offices to find evidence about their suspicions that the workers are being spied on, which is also against the law; in the second, a doctor gives a morphine overdose to a patient who is terminally ill with cancer and asks for help dying. In each dilemma the participants are asked to take a position in favour of or against the behaviour of the protagonists on a Likert-type bipolar scale (-3 = strongly disagree; +3 = strongly agree). They are then asked to accept or reject, again on a bipolar scale (-4 = strongly reject; +4 = strongly accept), twelve arguments (six for and six against) representing six different types of moral orientation corresponding to the stages of Kohlberg (Kohlberg, 1958, 1976). The calculation of the C-score reflects the extent to which participants accept or reject arguments related to the dilemmas on the basis of the moral quality of the arguments, and not from their subjective opinion of the behaviour of the protagonists or other non-moral criteria (Lind, 2019).

The MCT was administered in face-to-face sessions using Google Forms for both the pre-test and the post-test. The participants accessed them through the link provided on the screens in the computer room and they gave their informed consent and stated which academic group they were in, as well as their gender, age, the levels of studies of their father and mother, and the occupations of their father and mother. The gender and level of studies items used a multiple choice answer format, while the age and profession were free response. They then completed the MCT.

5.4. Intervention

The intervention in each of the experimental groups, as well as the methodology implemented in the control group, comprised 10 one-hour sessions (one per week). Each group in the design was divided into three subgroups for the practical classes of the module in which the study was carried out.

The intervention aimed at developing moral competence involved adapting the KMDD, as the practical work in the module was aimed at the acquisition of specific competences relating to the comprehension and analysis of theoretical-pedagogical problems. So, except for the first session, in which KMDD was used with a certain degree of strictness, a variant was used in sessions 2-9. Specifically, a methodology was implemented that can be summarised in the following five phases: 1) the teacher, while remaining neutral, articulated the dilemma conceptually with two opposing positions; 2) the students voted on which position to adopt and the teacher provided the groups with news stories from the press that included real stories in favour of one or another contradictory option;

3) each group of students presented their argument, and the debate began; 4) each group acknowledged the best opposing arguments, congratulated the other group for it and a new vote was held; and 5) the session ended with an individual written reflection in which the students set out the arguments presented. Session 10 deviated from this methodology to propose an activity based on cooperative learning, in which small groups planned an inclusion project for an educational centre. The proposals were then shared to develop a single integrated project and individually analyse how coherent it is with the results of the debates on the moral dilemmas of the nine previous sessions (introspective element). This analysis of coherence was particularly relevant in relation to the sessions of debate on conceptual dilemmas in which the principle of inclusion was directly involved (e.g., special education centres *vs* general education centres, lay schools *vs* religious schools, schools with an open environment *vs* schools with a closed environment) or methodologies close to this principle (e.g., cooperation *vs* competition in the school). Ultimately, this session integrated and applied moral competence that had been the object of training in previous sessions. This methodology was used with the KM-DDv group and in five of the sessions with the MM group.

In the MM group's remaining five sessions, an active methodology based on narrative persuasion was used. The teacher acted as a guide in the session, introducing the key concepts, directing its phases and facilitating essential resources, while the students participated with some au-

tonomy, both through their involvement in the story and in the interactive in small and large group debate. The methodological sequence for each session comprised five stages: 1) the teacher introduced the key theoretical concept; 2) the students accessed the narrative resource selected by the teacher, taking the perspective of the vulnerable protagonists; 3) in small groups, the students carried out an activity based on perspective taking, affective sharing, or empathic concern, which was directed at cognitively, emotionally, or motivationally elaborating the individual effort made in the previous phase to put themselves in the place of the vulnerable protagonists of the narration (e.g., the participants had to imagine what a normal day in the life of one of the protagonists would be like — children or their family members — from their cultural perspective; similarly, they were asked to anticipate, from the empathic concern of a primary school teacher, different professional behaviours to support the children's learning in collaboration with the families); 4) in the whole group, the students discussed the perspectives, emotions, and motivations experienced in the previous two phases and, where applicable, on courses of action aimed at prevention or educational improvement of the situations of vulnerability; and 5) each participant elaborated the experience cognitively and emotionally.

The activities implemented in the control group solely used the module's normal methodology and moral dilemmas were not used nor was empathy induced through narrative persuasion in any case.

Their general phases were as follows: 1) the teacher introduced the key theoretical concept; 2) the students accessed the audiovisual or text-based resource chosen by the teacher in which the arguments associated with the theoretical concept were developed; 3) the students worked in small groups on a task set by the teacher based on the resource presented in the previous phase (e.g., searching for and selecting information on educational practices that would exemplify the theoretical concept); 4) in the whole group, the students discussed the results of the task carried out in the previous phase and its suitability; and 5) the session ended with an individual written reflection in which the students set out and evaluated the conclusions reached. One fundamental methodological difference between the experimental groups and the control group is that the control group did not start from life stories in real contexts, as was done in phase 2 with the moral dilemma and narrative persuasion activities. Instead, the resource from this phase was used to present arguments that justified the theoretical concept with the aim of then proceeding to the identification of applications (deductive procedure).

6. Results

The hypotheses were compared using linear mixed-model analysis (LMM, implemented using the SPSS v.25 program), a technique that adapts very well to data with repeated measures in unequal groups (Muth et al., 2016). Before the critical results, some preliminary tests are presented, as are the basic descriptive statistics.

6.1. Preliminary and descriptive results

The data from two participants were eliminated in one of the measurement moments as a result of systematic answer bias. Subsequently, the calculation of the individual scores (Lind, 2008) was carried out, which emulated that of a MANOVA with a $2 \times 2 \times 6$ factorial design (two decision contexts [work and medical], two groups of opinions on each context [for and against], and six types of moral orientation for each opinion group). The distributions of C-scores resulting from the pre-test and the post-test, which displayed positive asymmetry, were transformed logarithmically with the aim of smoothing the curves and conforming them more closely to the normal distribution.

In addition, as these were unequal groups, the relationship between the sociodemographic variables and the dependent variable was tested taking the pretest data as a reference (the information about professions was previously coded on the basis of the European Classification of Skills/Competences, Qualifications and Occupations [https://ec.europa.eu/social/main.jsp?catId=1326&langId=en], creating ordinal variables with a small group of categories with different levels of qualification). None of the variables correlated significantly with moral competence ($p >$ .05 in all cases), and so the unequal size of the groups was less relevant in the levels of these variables.

Table 1 shows the basic descriptive statistics for moral competence in the three groups and two measurement moments of the design.

TABLE 1. Descriptive statistics corresponding to moral competence by groups and measurement moments.

Time	KMDDv			Mixed Methodology			Control			TOTAL		
	M	*DT*	*N*	*M*	*DT*	*N*	*M*	*DT*	*N*	*M*	*DT*	*N*
Pre-test	13.47	7.34	69	12.88	7.30	37	14.89	11.20	50	13.79	8.73	156
Post-test	29.26	17.23	72	19.51	12.77	38	21.85	16.58	49	24.64	16.54	159

Note: The statistics correspond to the distribution of C-scores (without logarithmic transformation).

6.2. Results of the LMM analysis

After establishing the absence of differences between the groups in moral competence in the pre-test, $F(2, 153) = 0.036$, $p = .965$, two hypothetical models were initially formulated for the LMM analyses:

1. The first only included fixed effects. In terms of the representation of the function, the total moral competence score of the participant i was modelled in the measurement moment j and the group k ($y_{ij(k)}$) by the parameter δ_i of each participant i, the effect β_j of time j, the effect γ_k of the group k, the interaction $\beta\gamma_{jk}$ between the moment of measurement j and the group k, and the error $\varepsilon_{ij(k)}$.

$$y_{ij(k)} = \delta_i + \beta_j + \gamma_k + \beta\gamma_{jk} + \varepsilon_{ij(k)}$$

$\varepsilon_{ij(k)} \sim N(0, \alpha^2)$: residuals

2. The second model added random intercepts linked to the participants. So, as well as the effects of the first model, an estimate could be obtained of the variance of the random intercepts across the subjects, representing the intercept as a function of the total mean and of the conditional deviations with regards to it. On the other hand, random slopes for the repeated measures variable were not included because this fact was not relevant to the hypotheses formulated and, furthermore, a number of just two levels in the time variable presented limitations (Gelman & Hill, 2007).

$$y_{ij(k)} = \delta_i + \beta_j + \gamma_k + \beta\gamma_{jk} + b_a + \varepsilon_{ij(k)}$$

$b_i \sim N(0, \omega^2_B)$: random effects of the subjects

$\varepsilon_{ij(k)} \sim N(0, \alpha^2_w)$: residuals

Table 2 shows the values corresponding to three information criteria in the two proposed models (fixed and mixed effects): the Akaike information criterion (AIC); the Hurvich and Tsai corrected version of the AIC (AICc), which is appropriate for the study data because of the low ratio of the number of observations ($N = 161$) to the number of parameters ($n = 7$, $n = 8$); and the Schwarz Bayesian criterion (BIC). The mixed effects model fits the data better.

TABLE 2. AIC, AICc, and BIC information criteria in the fixed effects model and in the mixed effects moral competence model.

	Fixed effects model			Mixed effects model		
	AIC	AICc	BIC	AIC	AICc	BIC
Moral competence	253.74	253.75	257.47	236.80	236.84	244.27

The restricted maximum likelihood estimation method was used for the analysis. Furthermore, a scaled identity error covariance structure was selected for the repeated measures as a result of the prominence given to fixed effects compared with random ones to confirm the hypotheses, also establishing globally higher values for the information criteria in other covariance structures.

As for fixed effects, analysis of the interaction of the group with the moment of measurement gave a value of $F_{(2, 156.71)} = 5.49$, $p = .005$, meaning that the null hypothesis that the means of the groups had changed in an equivalent way between the two measurement moments could be rejected. When observing the estimates of the fixed effects corresponding to the different parameters (Table 3), the improvement of the KMDDv group in the post-test in relation to the base line is apparent: $\beta = 0.222$; $p = .003$; 95% CI = 0.075, 0.370. As it is difficult to offer a value on the effect size in models with multiple error terms, a small size would be inferred from the proximity to 0 of the lower limit of the confidence interval of the estimate. Hypothesis 1 would be verified with this assessment of the magnitude. However, the same progression is not observed in the MM group, which is not significantly distant from the base line, and so hypothesis 2 is not confirmed. Figure 1 shows the interaction found between the group and time. Figure 2 shows the differences in the variability of the scores between the two measurement moments, also highlighting the development of the KMDDv group.

TABLE 3. Estimates of fixed effects in the LMM analysis on the moral competence data (logarithmic transformation).

Parameter	Estimate	Dev. Error.	df	t	Sig.	95 % Confidence interval	
						Lower limit	Upper limit
Intercept	1.046	0.049	278.30	21.142	.000	0.948	1.143
KMDDv	-0.001	0.065	280.04	-0.021	.983	-0.129	0.126
Mixed Methodology	-0.019	0.076	282.21	-0.256	.798	-0.168	0.130
Post-test	0.112	0.057	154.69	1,958	.052	-0.001	0.225
Post-test × KMDDv	0.222	0.075	155.32	2.978	.003	0.075	0.370
Post-test × Mixed Methodology	0.021	0.087	157.08	0.237	.813	-0.152	0.193

Note. Redundant parameters have been omitted.

FIGURE 1. Evolution of the means (C-scores) of the three groups in moral competence between the pre-test and post-test, and standard error of the means.
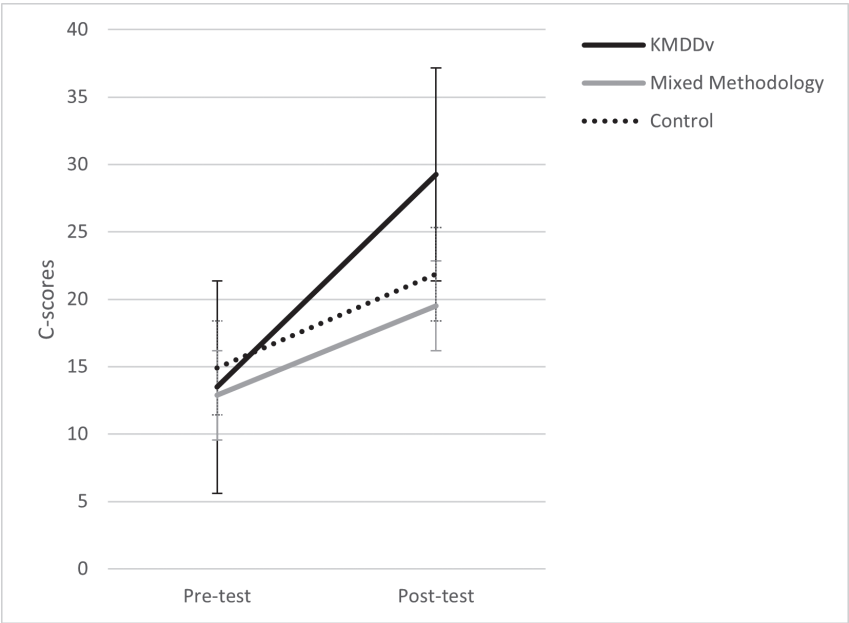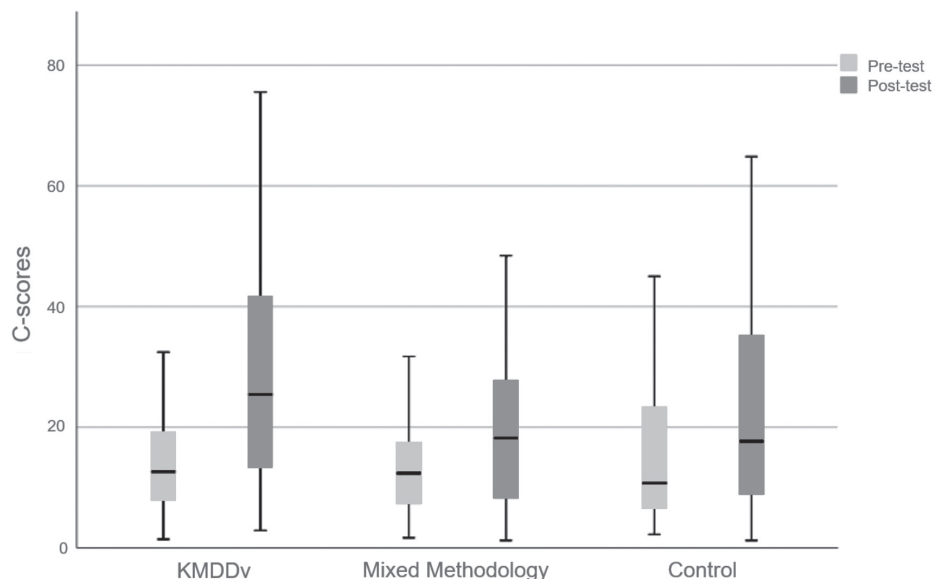
FIGURE 2. Interquartile range in moral competence (C-scores) of the three groups in the pre-test and post-test.

For their part, in the analysis of the estimates associated with the random effects of the model, a significant variance was identified by the Wald test, both through repeated measures ($Z = 8.76$, $p < .001$), and in reference to the random intercepts across the subjects ($Z = 4.01$, $p < .001$).

7. Discussion and conclusions

The results of this study confirm the teaching potential of a variant of Lind's Konstanz Method of Dilemma Discussion (2002, 2006, 2019) which, when used in the teaching of specific competences on a university module, was able to increase in just 10 sessions the moral competences of first semester students who were starting their training as school teachers (hy-

pothesis 1). However, when dilemmas and narrative persuasion activities were integrated into these sessions in a balanced way, the increase in moral competence compared to the base line was not statistically significant (hypothesis 2), despite the important role assigned to empathy in theories of morality (Decety & Cowell, 2015; Eisenberg, 2000; Harari & Weinstock, 2021).

The most significant conclusion of the study would, therefore, refer to the possibility of shaping moral competence through discussion of dilemmas (specifically, the variant of the KMDD evaluated) in the context of teaching regular modules, starting from the limited level of training of the students on primary and early childhood teaching degrees when

they start university. Transversal teaching of ethical or moral abilities would be particularly indicated for this type of population, both in relation to their own education in citizenship in contexts of diversity, which forms part of the definition of the key competences for lifelong learning (Council of the European Union, 2018), and in their future role as educators of citizens. If a moral education that is deliberate, well planned, and implemented through active methodologies is not provided during the university years, there is a risk that future teachers will reach the end of their university studies with a low or medium-low moral profile (Meza-Pardo & Guerrero-Chinga, 2016), which would limit their capacity both to teach morally (that is to say, to be just and honest in their teaching actions) and to teach morality (Gasser & Althof, 2017).

Nonetheless, the moral dilemma-based intervention was probably not the only explanatory factor for the progress in moral competence of the KMDDv group. If the comparison between groups is dispensed with and the change in this competence between the two measurement moments is evaluated, both in the MM group and in the control group, a tendency to significant progress is apparent (the value of t is associated with $p < .10$). Based on this result, it is possible to assume that time also has an effect on the increase in scores from the KMDDv group. This factor could be realised in the development of the students' moral identity in a phase of transition from adolescence to post-adolescence (Helwig, 2018), in combination

with the "college effect" (Rest & Narváez, 1991/2014). That is to say, both the maturation and cognitive stimulation that the university setting provides, especially on socioeducational courses, could partly explain the intragroup variance in moral competence.

Interpreting the results from the second hypothesis in the study is more difficult: the methodology loses its effectiveness when half of the activities with moral dilemmas are replaced by narrative persuasion sessions. It could be that the empathic training elicited emotional and automatic reactions more than cognitive ones, even though the stimulation of perspective taking of the vulnerable protagonists of the narrations was also an aim, this capacity being necessary for the development of moral judgement (Garrigan et al., 2018; Kohlberg, 1976). On the other hand, it was hoped that identifying with vulnerable people in particular would inspire true feelings of empathic concern (Cohen, 2006; Hoeken et al., 2016) which in turn would generate altruistic motivations of cooperation and care (Batson, 2017). Either this sequence of effects did not occur (Sassenrath et al., 2022) or they did occur but the participants disassociated altruistic motivations from moral ones (Batson, 2011), despite the predictive capacity that empathic concern has for prosocial moral reasoning (Gülseven et al., 2020) and, in general, for ethical or moral competence (Pohling et al., 2016). Consequently, the second conclusion of the study suggests that a methodology aimed directly at facilitating moral

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reasoning could be more effective than one that combines it with more indirect strategies (e.g., persuasive narration, the direct objective of which would be to promote empathy). These, in a reduced number of sessions, would not achieve the ultimate aim of significantly increasing moral competence.

The potential disassociation between empathy/altruism and morality would also have occurred despite the teachers' efforts to relate the narratives presented in the activities with principles such as inclusion, democracy, equity and social justice, and to adapt the interventions to the profile of quality learning settings in higher education. For example, with the methodological activities, efforts were made to facilitate well-structured representations of the practical content to be covered in each session; set the students cognitive and emotional challenges; provide opportunities to apply the knowledge in real or semi-real settings; consider the interests and goals of the participants; create opportunities for group work; and foster the development of metacognitive learning processes through continuous self-evaluation of emotional reactions and cognitive argumentation (Smith & Baik, 2021). Several of these traits of quality also appear in the results of research into inclusive teaching methodologies (Hockings, 2010), in which great importance is given to the use of conflicts linked to real contexts of diversity in which the students move, as well as to the teachers' expertise to facilitate participation, suggest key ideas, and promote metacognition.

Given these results, it may be necessary in future to increase the amount and quality of experiential learning when educating inclusive competences and, particularly, morality. Problem-based learning with inclusion aims (e.g., Grier, 2020) or service learning (Leung & Yung, 2022; Santos-Rego et al., 2020) could stimulate students' autonomy and their experiential learning in real scenarios of diversity even more, facilitating perspective taking and empathic concern for people who are in situations of social exclusion or at risk of it. In service-learning in particular, university students acquire a responsibility or commitment through direct contact with the people they serve which, combined with the reflexive intrapersonal activity associated with the moral principles of professional activities, would not only strengthen the altruistic motivation of empathic concern, but also moral competence. In other words, it would be a learning scenario that links moral ideals to moral reasoning and behaviour (i.e., the two dimensions of Lind's dual model [2008, 2019]) or, to put it another way, theory with practice, a nexus that is always essential when training teachers in inclusion (Sharma & Mullick, 2020).

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Authors' biographies

Gemma Fernández-Caminero has a doctorate from the Universidad de Córdoba, a licentiate degree in Pedagogy from the Universidad de Burgos and a diploma in Social Education from the Universidad de Valladolid. She is currently Assistant Professor in the Department of Educational at the Universidad de Córdoba. Before working in higher education, she held various posts as an educator in areas of non-formal education. Her research interests centre on diversity and inclusion in education.

https://orcid.org/0000-0003-2241-9104

José-Luis Álvarez-Castillo has a doctorate in Philosophy and Educational Science from the Universidad Pontificia de Salamanca. He is currently Professor in the Department of Education at the Universidad de Córdoba. His research interests centre on diversity and inclusion in education and particularly in intercultural education and in strategies for reducing prejudice in the training of professional educators. He has directed various national research projects. He coordinates the "Education, Diversity, and Society" group of the Plan Andaluz de I+D+I, which has formed part if the "University, Innovation, and Learning in the Knowledge Society" Excellence Network (Ref. EDU2017-90651-REDT).

http://orcid.org/0000-0001-7493-4664

Hugo González-González has a doctorate from the Universidad de Córdoba, a licentiate degree in Physical Activity and

Sports Science from the Universidad de Granada, and a diploma in Primary Education and Teaching from the Universidad de Córdoba. He is currently Associate Professor in the Department of Education at the Universidad de Córdoba. His research interests centre on diversity and inclusion in education, particularly in intercultural education.

 https://orcid.org/0000-0002-7537-1514

Luis Espino-Díaz has a doctorate and a licentiate degree in Educational Psychology from the Universidad de Córdoba. He is currently Assistant Professor in the Department of Education at the Universidad de Córdoba. He has worked as a religious education teacher in secondary education. His research interests centre on values education and religious and interreligious education.

 https://orcid.org/0000-0002-9929-6889

Joaquín Xirau's pedagogy:
Between tradition and modernity

La pedagogía de Joaquín Xirau:
entre la tradición y la modernidad

Jaime VILARROIG-MARTÍN, PhD. Associate Professor. Universidad CEU Cardenal Herrera (*jaime.vilarroig@uchceu.es*).

Abstract:

The aim of this work is to examine the pedagogical work of this Catalan philosopher (teacher, never better said) and offer a summary of his thought. The methodology comprises an exhaustive review of the primary sources (complete works) adding secondary sources that are considered relevant. As a result, we identify the sources he draws on for his pedagogy: primarily Cossío, but also Husserl, Scheler, Fichte, Vives, Llull, Rousseau, and Bergson. We then trace what his systematic pedagogy might be: the final cause, the efficient cause (the teacher), the material cause (the student), the method, the educational action and the pedagogical antinomies. On the one hand, we discuss the content that education should have and the values that should guide it, and, on the other hand, the three basic stages of the educational process, primary, secondary and higher education, according to how Xirau conceptualises them. To conclude, we analyse some common commonplaces from then and now in the world of education, to which Xirau pays particular attention.

Keywords: pedagogy, philosophy of education, Joaquín Xirau, School of Barcelona, Spanish philosophy.

Resumen:

El objetivo de este trabajo es profundizar en la obra pedagógica del filósofo (maestro, nunca mejor dicho) catalán, haciendo una exposición sinóptica de su pensamiento. La metodología seguida es la revisión exhaustiva de las fuentes primarias (obras completas) más aquella bibliografía secundaria que se ha considerado pertinente. Como resultados, señalamos las fuentes de las que bebe su pedagogía: Cossío, sobre todo, pero también Husserl, Scheler, Fichte, Vives, Llull, Rousseau o Bergson. Luego trazaremos lo

que podría ser su pedagogía sistemática: la causa final, la causa eficiente (el maestro), la causa material (el alumno), el método, la acción educativa y las antinomias pedagógicas. Discutiremos, por un lado, los contenidos que debe tener la educación y los valores que deben orientarla y, por otro lado, las tres etapas básicas del proceso educativo: enseñanza primaria, media y superior, según los piensa Xirau. Como conclusión, analizaremos algunos tópicos habituales de ayer y hoy en el mundo de la educación, en los que se detiene especialmente el autor.

Descriptores: pedagogía, filosofía de la educación, Joaquín Xirau, Escuela de Barcelona, filosofía española.

1. Introduction

The work of Joaquín Xirau (1895-1946), which was cut short both by his exile as a result of the Spanish Civil War and by his premature death, has been rediscovered and systematically studied in recent years, above all thanks to the publication of his complete works. Although Xirau's three major centres of interest were the philosophy of values, pedagogy, and hispanism, the plethora subjects in his short biography is remarkable: law (Rousseau, philosophy of values), psychology (Gestalt, Viqueira, Emilio Mira), philosophy of biology (Pi i Sunyer), aesthetics (analysis of the smile, of art, etc.), and politics (Pi i Margall, Campalans, the peace process following the Second World War, and Ibero-America). For reasons of space, we will not consider the author's biography. A general outline of it can be found in the work of Vilanou (2001).

2. Sources of Xirau's pedagogical thought

Joaquín Xirau's relationship with pedagogy is not circumstantial but essential (Sáiz & Sáiz, 2010). During his doctoral studies in Madrid (1918–1919) he came into contact with Bartolomé Cossío, a disciple of Giner de los Ríos, who in turn was a disciple of Sanz del Río. From 1923 to 1935 he collaborated in the *Revista de Pedagogía*. In Barcelona he organised the journal *Psicologia i Pedagogia*, the university courses in primary school teaching and the pedagogy seminar. As we will see below, he was deeply concerned with the university training of future teachers at any level. In his exile he did not abandon this link with pedagogy but instead transplanted it to all of Ibero-America, being an adviser to the Secretariat for Public Education of the Mexican government, and above all through his disciple Joan Roura-Parella (Vilanou, 2002-2003; Álamo, 2012). Although the main source of Xirau's pedagogical thought was the Institución Libre de Enseñanza (ILE), through the figure of Cossío, other figures contributed to his pedagogical philosophy, such as Husserl, Scheler, Fichte, Vives, Llull, Rousseau, and Bergson.

Cossío's influence is so great that, as with Socrates' thought reflected through his disciple Plato, it is never entirely clear what is Cossío's and what is Xirau's (and it could even be said that it is not known what

comes from Giner, or from Sanz del Río). To educate is to vivify, both for Cossío and for Xirau. Cossío was Giner's magnum opus; and for Xirau, Cossío was a true teacher, in the full meaning of the word. Xirau dedicates the longest work of all the ones he wrote to Cossío and he underlines the human quality of the teacher, contrasting it with the egotism of Unamuno or Ortega y Gasset (some authors inexplicably put Xirau in the area of influence of Ortega). For Cossío, education is a spiritual work, a task of salvation, and the teacher is a missionary of culture (Xirau, *OCII*[1], 1999, p. 95); therefore, it is no surprise that Cossío was the main promoter of the pedagogical missions, based on the religious popular missions promoted by the Jesuits and other religious orders that were so common in that period. Nonetheless, on some occasions Xirau does not avoid the esprit de corps of the thinkers of the orbit of the Institución Libre de Enseñanza: magnifying the impact of its founder, he appears to take on Giner's statement, according to which "if fifty per cent of the Spanish do not walk on all fours, it is because of the presence of Julián Sanz del Río"; or when he said that the protagonists of the ILE "worked tirelessly to wash away the traditional 'grime' from the Spain in which they lived their lives" (Xirau, *OCII*, 1999, p. 18; see also Llopart, 2002-2003, p. 436).

Although Husserl's thinking does not in itself have anything to do with pedagogy, in Xirau it is essential to take it into account to understand some of his positions. For Xirau, Husserl represented the great bastion against the contemporary relativism that threatened the world of thought

and culture. This relativism also affected any formative theory because education depends on the conception of the world (Xirau, *OCIII*, 2000, p. 162). Xirau's pedagogy decisively backed truth (Xirau, *OCI*, 1999, pp. 3-76) against relativism. But truth cannot exclusively be certainty as modernity purports, nor mere coherence, nor much less utility: "The truth does not purport to be anything other than the coincidence of my subjectivity with the being in itself" (ibid). Xirau's thought and his pedagogy must be conceived from the Husserlian attempt to overcome the relativism that always threatens the world of thought.

Scheler was also not directly a pedagogue but there is no doubt that his philosophy of values influenced Xirau's philosophy of education, and was later followed by other authors in Spain, who did not always explicitly acknowledge their debt to Xirau (Marín, 1968, p. 117). The clearest point is the reflections on values and the meaning of life that the Catalan philosopher constantly offers in his pedagogical writings: He often repeats that "only a life dedicated to ideal values is worth living" (Xirau, *OCI*, 1998, p. 326). Education is not limited to life but must provide life with the end to aim at:

> The fundamental error of vitalism is that it defines life as the maximum values. (…) Life is not valuable in itself, but instead is at the service of a valuable idea. In itself, it is pure nature, mechanics, indifferent to value, and it depends in its value on culture. It acquires value if it participates in the values that are raised above life (Ibid. p. 324).

And again, in contrast with relativism, not all values are worth the same: "In fact, there are hierarchies. It is necessary that they exist. It is only through them that a spiritual culture is possible. To eliminate them would be equivalent to sinking into barbarism and, ultimately, pure animality" (Xirau, OCII, 1999, p. 439).

Fichte was indeed a thinker whose attention was focussed on pedagogy, among other things. Therefore, Xirau dedicates to him an introductory study to a selection of pedagogical texts (Xirau, *OCII*, 1999, p. 395). The German philosopher was living proof that pedagogy is not a second order subject or one that is of little importance, unsuited for philosophers with grand ambitions. Fichte's favourite subject, around which he developed his pedagogy, was freedom. Philosophy that starts from the object becomes dogmatic; it is only by starting from the subject that we have a philosophy of freedom (and hence Fichte's idealism). However, neither Fichte nor Xirau understood freedom as whim: because there can be no freedom without law nor autonomy without *nomos* (Xirau, *OCII*, 1999, p. 465). For Fichte, if the two elements of the subject are the representation and love, education will be aimed at knowledge and morality respectively (below we will see the importance of love for the pedagogy of Xirau).

Juan Luis Vives, according to Xirau, also proposed morality as the essential aim of education (Xirau, OCII, p. 505-512), and he undoubtedly attracted our author's attention as one of the philosophers who had written on pedagogy with the most intensity. For Xirau, if the hu-

manism of Erasmus is more aristocratic, that of the Vives is more popular. His ideal of a Christian prince opposed to Machiavelliansm, the rejection of war, eternal bringer of evil, the prudence and moderation of his thinking, could not fail to catch Xirau's attention. The humanist education of Vives, seen as an ideal of humanity, coincides with the Greek *paideia* (on which Jaeger wrote his classic monograph, which Xirau himself started to translate in Mexico as Delgado notes [1998, p. 293]), and in this sense it coincides with the objective of all education. Another Christian philosopher from the same crucible as Vives was Ramón Llull, to whose pedagogical ideas Xirau devotes little in-depth examination, despite his extensive body of work and the close attention he paid to it (Xirau, *OCII*, 1999, pp. 215-351). At most, the pursuit of clarity (fables, poetry, visual artifices) and the confidence in reason (the general art) of the Mallorcan philosopher attracted Xirau's attention, as they attract the attention of anyone who approaches his works.

Other less important authors influenced Xirau's pedagogical ideas, such as Rousseau and Bergson. Although Rousseau is a key figure in pedagogy, Xirau barely mentions him and whenever he does it is to deny that to educate is just to let live. Xirau's pedagogical references to Rousseau go no further, even though he wrote a Mallorca thesis on his philosophy of politics and the law (*OCIII*, vol. 1, 2000, pp. 35-73). In the case of Bergson, however, we do find a clearer influence, above all in the opposition to any form of mechanism in favour of organicism (Xirau, *OCIII*, vol. 2, 2000, pp. 5-74), the basis of his criticism

of Communist education in Russia (Xirau, *OCII*, 1999, p. 381-385).

3. The pedagogy of Joaquín Xirau

Having seen the author's sources, we can now systematise his thinking. The first step will be to see what the aim of education is, and then we will consider the educator and the learner; afterwards we will examine the Mallorca method and particularity of the educational action, and conclude by mentioning the peculiar method of presenting pedagogy by means of antinomies.

Before setting out what the end of education is, one asks oneself if it is possible and necessary. Does it make sense to ask ourselves what we educate for? For Xirau this is not just an important issue; in fact, it is the foundation of pedagogy, which, as well as being a science, is also an art; and art is related to the purpose (Xirau, *OCII*, 1999, p. 355). The question, being obvious, is often forgotten, but it is the essential challenge of all pedagogy: Before us is a child, what will we do with it? Because once this is decided, the technical problem is secondary (Xirau, *OCII*, 1999, p. 377). But neither is the question obvious nor the answer trivial: "What will we do with the child? Sceptic or believer, blacksmith or scientist, artist or merchant … In what hierarchy of values will we educate it?" (Xirau, *OCII*, 1999, p. 358).

And here there are three basic conceptions of how to proceed with a child (or an adult, which in this case is the same thing): we attempt to mould it according to a preconceived idea we have; we let it do what it wants; or we encourage it to develop its full potential. To put it another way: replacing what the other is with something I want it to be; letting it live and without placing limitations on it; or helping it to find its plenitude (Xirau, *OCI*, 1998, p. 133-263). Although Xirau does not say it, we could associate the first position with certain pessimistic thinkers (Hobbes) and the second with progressive and utopian thinking (Rousseau). Clearly, the goal of education for Xirau is in the second option, between tradition and modernity: Carrying this life to its fullest realisation (Xirau, *OCII*, 1999, p. 376).

> The only aim of teaching, in the classroom and outside it, is to take the pupil out of the obscurity of torpidity and elevate him, through dialogue and closeness, to free investigation, to personal work, and to the straight orientation of his behaviour (Xirau, OCII, p. 74).

To educate is to "lead every life to the fullness of its own essence" (*idem*, p. 88).

An additional problem, once it is accepted that this life is worthwhile and that there are values to which education aims (beauty, justice, truth, or sanctity), is whether we educate for this life or for the other (*idem* p. 106). Do we educate for Earth or Heaven? Here we find all of the clash between religious education and a lay one; a clash that Xirau resolves following Cossío:

> To live is to strive, to dedicate oneself. Only by educating for this life, in what is spiritual and lasting within one, is it possible to educate for the eternal life. Eternity

is implicit in each and every moment of temporality" (*idem* p. 107).

The efficient cause of education is the educator. We have already seen how in Cossío the function of the teacher is identified with that of the missionary, but its object is the realm of culture and not so much the kingdom of God. Two contrasting attitudes are possible: either the educator moulds the mind of the child to a great extent (as Herbart thought), or the educator is only a minimal circumstance who should tend towards nothing in the education of the child (as Rousseau thought). According to the end of education seen above, for Xirau the educator places the learner in the optimal conditions to be educated (on the line of Froebel, Pestalozzi, and Fichte). To do their task, educators need a vocation (love), knowledge (science) and will (determination), because if not we have indifferent, ignorant, or apathetic educators, that is to say, non-educators. Speaking of the educator, it would even be necessary to refer to God, given that the relative always leads to the absolute (*idem* p. 105). The reference is not out of place since, just as ancient cosmogonies narrate the journey from chaos to the cosmos, so in education there is a movement from shapeless matter to order through the work of the educator: "The naked animality of the child must be turned into humanity" (Xirau, *OCII*, 1999, p. 358).

However, the teacher is at the service of the pupil, who is the material cause of education; but it is a living material because education exclusively concerns living beings; therefore, Xirau often speaks of pedagogy as a problem of biology (but this is understood in a very broad sense, as we will see). The learner lives in society: on the one hand, it resembles the others and, on the other hand, it has something specific that distinguishes it; that said, will we shape it for the social or the individual? For the generic or the specific? For the common or what is proper to each individual? (Xirau, *OCII*, 1999, p. 103). If in antiquity the individual was not distinct from the state, as modernity progresses, the person becomes ever more individualised. Ultimately, it is a clash between socialism and anarchism: to educate for society or educate for the individual (*idem* p. 107). Although he does not go so far as to say so, Xirau would be wholly in agreement with the personalist view that the person is neither a fully autonomous individual, nor completely subordinate to society, but instead is a being able to cooperate freely with others.

This child we are going to educate, what is it like? According to the possible ends of education identified above, for some it is bad by nature (and so pedagogy would take charge of correcting it); for others it is good by nature (and so pedagogy should refrain from acting). Xirau repeats in various places (for example, in "*Idees fonamentals d'una pedagogia* [Fundamental ideas of a pedagogy]", *OCII*, pp. 443-445) that the student, the human being, is neither good nor bad by nature, but rather indifferent (Delgado, 1994, p. 751). The learner must be vivified, and this coincided marvellously with the etymology of alumnus (*alere*): to feed, nourish, enable, give powers for life. However, the fact that students are neither good nor bad but instead *neutral*, does not mean that

they are all the same; nothing could be further from Xirau's personal vision. Speaking of the peace process following the Second World War, Xirau says that the League of Nations is destined to fail because it treats all countries equally, when no country is equal to another: the convention of considering all nations as equal individualities is a fundamental error (Xirau, *OCIII*, 1999, p. 316). Is the application of this example to pedagogy and to the child not clear? Because to educate is to "find the individual's ideal, to encounter the individual's idea, the individual's content, to achieve full conscience of a destiny and of a mission to fulfil" (Xirau, *OCII*, 1999, p. 97).

What will the method of pedagogy be? Above all, as people belong to both the animal world and the specifically human one, they would be subject to purely natural laws and to other cultural or specifically human ones. All of them should be taken into account (Xirau, *OCII*, 1999, p. 377). Natural laws and cultural laws alike should be understood as the laws of life in a broad sense. Therefore, pedagogy is another chapter in biology, so long as the *bios* is understood in a non-reductive sense. Considering this, we could divide such laws into general and special ones.

We educate by "vivifying, without any doubt, feeding and nourishing the original sources of life" (Xirau, OC II, p. 108). The general law here is that it is not a matter of holding back or of giving free rein, because humans are neither good nor bad. Freedom is not given from the start but instead at the end point; it is something conquered rather than something given from the start.

Education moves in the dynamic equilibrium between impulse and inhibition (*idem* p. 110): the former must be favoured and guided but controlled when there is a risk of overflowing. If the child were good, it would be enough to stimulate; if the child were bad, it would be enough to rein it in, but it neither one thing nor the other. This idea is very interesting because it makes it means that pre-set forms that are the same for everyone can be eschewed. In the image of this dynamic balance, a fundamental law of education, between exaltation and control (Dionysus and Apollo), others are established between education for today and perennial education (past, present, and future); or education rooted in the homeland and cosmopolitan education (*idem*, p. 111). In all of these cases it is a matter of seeking a dynamic balance.

The special laws of the pedagogy of Cossío, which Xirau takes from his oral classes (*idem*, p. 77), consist of adapting to the personality of each student, because no two are the same. For this reason, there is "a need for the educator to have love and tact to adapt his own individuality to the personality of the individual in his care. If this is lacking, all else goes to waste" (*idem*, p. 114). The special laws refer to the health and illness of the student (natural level), and then to the three spiritual areas of every human being (cultural level) — feeling, loving, and knowing — which can respectively be valued according to quality and quantity. Depending on the student's intelligence of the student, he or she moves between truth and error; depending on the student's will, between what one is and what is other (authenticity-inauthenticity); depending on

the student's sensitivity between excess and lack. The teacher must adapt to each student, according to whether they are strong or weak, fast or slow, masculine of feminine (*idem,* p. 116). Following the classical norm, the principal command of the teacher is that "the child is owed the maximum reverence" (*maxima debetur puero reverentia*, Juvenal, Satires, XIV, 47).

Xirau, as a good phenomenologist, pauses to describe the educational action. What type of action do some living beings perform to shape others? There are four types of influence on other beings (*idem,* p. 86):

1. Action of resolution: the agent is confused with the subject of the action.

2. Action of contemplation: the material is impassible before the agent, who is external to it.

3. Action of fabrication: the agent and the material are distinguished and even opposed.

4. Action of feeding, suggestion or illumination: the agent creates the favourable or indispensable conditions for the full development of the material.

Starting again from the idea that education's function being to "vivify, capacitate, give powers for life" (*idem,* p. 99), it is clear that the relationship that develops between the educator and the learner is a relationship of the last type; different from purely theoretical influence, which is unilateral and not bilateral as in education.

But nor is it sentimental, because it does not tend towards confusion between the one who loves and the one who is loved. What is distinctive about the educational relationship is active stimulation.

In Xirau's thought, some of the antonymies that he considers with regards to the pedagogy of Cossío repeatedly appear (and that he takes from his oral teaching, as Xirau himself admits, *OCII*, 1999, p. 77). We have already seen some: do we educate by encouraging or inhibiting?; for the community or for the individual?; for today or for always?; for one place or for the whole world?; for this life or for the other? Others that Xirau suggests are: does pedagogy encompass the whole person or just part of it?; does one educate consciously or unconsciously?; for rebellion or for submission?; according to nature or according to the spirit? The question, Xirau acutely notes, only makes sense for those who understand these concepts as contradictory (*idem,* p. 83). It is surprising to observe the affinity between this approach and that of R. Guardini regarding polarity as constitutive of reality (Guardini, 1996).

Moreover, is pedagogy a science or an art? It is vital to eschew false dichotomies given that although science is not needed to practice the art, it is in order to achieve perfection (*idem,* p. 91). For the intellectualist, it is enough to know things to know how to do them; for the pragmatist, only one who knows how to do things knows them. But the error lies in separating theory from practice (*idem* p. 92). Facts (art) and the laws of the facts (science) are overcome by values, which should guide

everything, as Xirau observes and which we will consider below (*idem,* p. 97). We will then consider this false clash in greater depth with regards to some common commonplaces in the world of teaching.

4. The content of education

Having set the general framework of the pedagogy that Xirau proposes, it is necessary to examine what the content of education is. What are we going to teach? First we will see what we should attempt to transmit to each person. Next we will cover a specific question that appears in his works and is also related to education: religion.

On at least two occasions, Xirau speaks of the curriculum that any education should encompass. In so doing, he follows the thread of the great classical works, like a good student of Greek philosophy. We should educate in truth, and for that we have science; we should educate for good, and for that we have morality; we should educate for beauty, and for that we have art. Along with these three major ideals that should guide education (truth, goodness, beauty) there is the culture of means such as the economy or law, which are not ends in themselves but which help the previous ideals; these are what belong to utility. Finally, there is the relationship with the All, which should also be the object of education and is what belongs to religion (Xirau, *OCII*, 1999, pp. 356-357; 378-379). Again, the influence of the philosophy of values of Max Scheler can be seen in these considerations. Schematically it would look like this:

SANCTITY (Religion)		
TRUTH (Science)	GOODNESS (Moral)	BEAUTY (Art)
UTILITY (Law, Economics, etc.)		

The value of sanctity, as pertaining to religion, deserves some clarification. Can it be taught? Should it be taught? Xirau (and the Institución Libre de Enseñanza in general) felt that the answer was yes, but without dogmatisms and respecting the conscience of the teacher. Xirau often reflects on commonplaces that pertain to religion or are connected to it (Xirau, *OCII*, 2000, p. 295; Arada et al., 2014, pp. 13-50). He criticises the dogmatism of Spanish confessional education with the same force that he criticises the secularist atheism propagated in the schools of the USSR for being "dogmatic and unyielding. To the old dogmas it opposed the hypotheses of Darwin and Marx, sublimated and turned into undeniable truths; to the teaching of religion, the obligatory teaching of irreligion" (Xirau, *OCII*, 1999, p. 384). Xirau argues not for a non-religious school (much less an irreligious one) but rather a non-dogmatic one. Two claims about this can be found in Xirau's works, as in

"El principi de llibertat i la consciència moral" [The principle of freedom and the moral conscience] (Xirau, *OCII*, 1999, pp. 396-400): firstly, the child must be educated in religious values such as sanctity, but in a non-dogmatic way; secondly, the teacher should be free to be able to teach or not teach the Catholic religion (remember that at that time teachers' duties included teaching Christian doctrine). Following the reflection of Vatican II on religious freedom and therefore of the freedom of teaching recognised for parents, and not conflating religious education classes and catechism, the divergence is not so much with the current positions of the Catholic Church itself.

5. Stages of the educational process

At various points in his work, Xirau discusses the different stages in the educational process. These can be summarised in the three familiar ones: primary education, secondary education, and the university. His work on Cossío dedicates a whole chapter to examining the state of the different educational levels in Spain before the Republic, and this serves as an excellent introduction to the history of education in Spain. Two educational stages fall outside Xirau's interests: early childhood education, as this was not yet regarded as a true educational stage when he wrote his book; and professional education or technical teaching in general. These two educational stages do not deserve his attention.

Xirau understands that education is as necessary in childhood as in adolescence.

Therefore, with Cossío, he has various proposals: aligning the salaries of teachers with those paid in higher education; coeducation of boys and girls; extending the educational period in which the foundations of the subsequent education are laid; the school as place of play (Xirau, *OCII*, 1999, p. 117); increasing the number of rural schools; and proposing pedagogical missions to raise the level of schooling in Spain. What should we propose in this stage?

The school should make the child better, stronger, more intelligent, agile in spirit and body, full of interest in beautiful and just things, capable of the highest undertakings and the most noble ideals, giving him a personality that is robust and firm, energetic and confident (Xirau, *OCII*, 1999, p. 371).

If he had to reduce it to two words, Xirau says, the teacher should teach music and gymnastics: spirit and body, according to the Greek and Platonic ideal. Everything else is an addition, as he states in "La formación universitaria de Magisterio [Teacher training at the university]" (Xirau, *OCII*, 1999, pp. 438-442).

Calls for teachers to have a university education were continuous, and Xirau himself contributed to this, as noted above, by organising the degree in teaching and the pedagogy seminar at the Universidad de Barcelona. The fundamental reason for this is that he felt it to be absurd that the education of children should be less important than that of adults: we do not entrust children to healers because they are younger but rather to doctors with all of their

academic training; why do we not demand the same in education? Taking Cossío's idea, he says: "If the age of the student, which is all that changes, were to be the basis of the purported hierarchical order of the teaching role, we would find ourselves in the absurd position, which you all reject, of regarding a paediatrician as inferior to a doctor who treats adults" (Xirau, *OCII*, 1999, p. 141). People are moved by ideas, and pedagogy is done through ideas; therefore, teachers must have a solid university intellectual grounding, because "if pedagogy disregards these and similar problems it is no more than empty pedantry and rigid vanity" (Xirau, *OCIII*, 2000, p. 267).

Secondary education, Xirau says, has set out to imitate university education and the harm has been more serious; therefore, pedagogical reform has started with this stage, as he affirms in "Sentido de la Universidad [Meaning of the university]" (Xirau, *OCII*, 1999, pp. 467-498). The reason for the above is historical, as secondary education derived from the old university faculties of arts. According to Xirau, the fact that this educational stage has been in private hands is to be deplored, a situation that was often encouraged by the state itself because this situation was advantageous for it. As innovations, following the ideas of Cossío, Xirau suggests doing away with dividing subjects by year as this does not favour the organic development of the child's intelligence; doing away with confessional teaching of religion because the children will experience the divisions caused by religion when they are adults; putting an end to discipline conducted by

people who are not teachers, as happened in Jesuit colleges, as this implies that discipline is less important than the theoretical lesson (although in reality this measure introduced by the Jesuits was more intended to prevent abuses); doing away with exams because all of the education focusses on them deforming, its meaning; and doing away with boarding schools because children should be with their families. This period should also be extended, as should primary education.

Finally, there is university or higher education, which Xirau turned his attention to on various occasions. For example, he explains the evolution of universities from Greco-Roman higher education (Plato's Academy, Aristotle's Lyceum, etc.), where education in the Greek meaning of *scholé*, leisure (*otium*), opposed to business (*negotium*, *nec-otium*), was predominant. The medieval university, in turn, was another corporation at the service of a hierarchical and organic society, functioning as another guild (Xirau, *OCII*, 1999, pp. 471-472). In addition, there were three European traditions of universities: the Latin one more concerned with professional training; the British more concerned with general culture, and the German concerned with research. Moreover, in nineteenth century Spain there were few faculties (philosophy and letters, sciences, law, social sciences, medicine and pharmacy), and the faculty of theology was abolished during the First Republic. For Xirau the very large number of exams that led to student discontent, the low wages of teachers, who had to seek an income elsewhere, and the elitism of the students, who ran the risk of falling into

snobbery, were unacceptable, as he argues in "La reforma universitaria [University reform]" (Xirau, *OCII*, 1999, pp. 420-434).

There are three conceptions of what a university should provide: professional training, general culture, and research; Xirau associates these ideas with the three European traditions mentioned above. This disciple of Cossío, with the instinct of a phenomenologist, tries to determine the exact content of these three vague insights and raise them to the rank of concepts (*idem*, p. 470). These three functions can only occur in the free spiritual communion between teachers and students (*idem*, p. 480). With regards to research and professional training, there is again no dichotomy, because there is no separation between theory and practice, at least not in the sense that is often intended. It goes without saying that in our university of the twenty-first century, teachers are often expected to emphasise teaching understood as professional training and research, often neglecting the role of providing culture. And what is culture for? As Xirau says:

> The whole world is full of its shining traces. Palaces and temples, cities and pantheons, codes, poems, statues, symphonies … are living witnesses to that age-old effort. They make up the atmosphere that we breathe. Only because in culture and through culture, it nourishes, man is a man and is separated from bare animality (*idem*, p. 492).

Without it, we would be animals: "What the human spirit does in thousands of years of history, each man does

in marvellous miniature in his short evolution" (Xirau, *OCII*, 1999, p. 356).

6. Old and new commonplaces regarding education

In this last section we review some of the commonplaces that afflict pedagogy. We have identified six that Xirau addresses in his work and which can be summarised in the following slogans: "being practical is what matters"; "pedagogy is not a science"; "educating is just a technique"; "what matters is content"; "education inhibits the freedom of the child"; "school is useless".

The first commonplace states that theory is of no use: we must be practical. In pedagogy this means that a law student must know how to win cases, a student of medicine how to put on a bandage, etc. Xirau affirms in "Pedagogía y practicismo" [Pedagogy and practicality] (Xirau, OCII, p. 360) that people think this way because they believe that ideas follow life, theory follows practice; or to put it another way: that what is true, good or beautiful must be subject to what is useful (*idem*, 360-361). But the fact is that theory improves practice: to do something, it is not enough to do it, it must be done well; and to do it well, theoretical knowledge is needed (*idem*, p. 363). As Xirau liked to say, in Italian, *"La teoría è il capitano, e la prattica sono i soldatti"* (The theory is the captain, and the tactics are the soldiers). In fact, if people had only concerned themselves with being practical and the utility of what they did, without dedicating themselves to pure speculation, we would still be carving rocks as we did in prehistory (*idem*, p. 364).

The second commonplace affirms that pedagogy is not a science. In a lively essay, Xirau provides a thorough analysis of the type of scientific propositions that pedagogy uses. Indeed, we would go so far as to say that this is one of the first attempts at analytic philosophy in Spain, although in Xirau, it is certainly an isolated example, and it does not stop him doing it from phenomenology (and yet he was one of the first translators of Russell). He starts by establishing that an educational theory comprises a system of rules that do not say how things are, but how they should be (Xirau, *OCII*, 1999, p. 365). The propositions of pedagogy are of the type "A should be B" (the child should be free, the child should be courageous, etc.). But for this precept to be a rule, its foundation must be sought in reason (*idem,* p. 366). The foundation of the rules is their value: A should be B because it is valuable. Yet value is not something that is "perceived" or "known", instead it is something that is "esteemed" (again Scheler here). Nonetheless, values (should be) refer to absolutes that are governed by what is, not by what should be. From the proposition "The child must be courageous", which is practical, we pass to theoretical ones of the type: "courage is a value" (*idem* p. 368). In summary: pedagogy comprises normative judgements, these entail duty and duty is based on a value.

The third commonplace argues that educating is a similar technique to the one that human beings use with the things of the world, and so love does not have formative relevance. We could summarise this by saying: "education is a question of technical skill". In the final chapter of his magnum opus, "Amor y mundo [Love and world]", Xirau pauses to consider this question; to do so he analyses the expression "to educate is to love" and tries to see if there is something of truth in it (Xirau, *OCI*, 1998, p. 262). Xirau starts by separating love from physiological processes, because even though human love is related to them, it is not reduced to them. "Education tends to improve a given reality, to lead a thing from what it is to what it should be, to introduce into the world of education qualities that it does not have but that it is necessary that it has, and to eliminate defects it possesses and that it should not possess" (Xirau, *OCI*, 1998, p. 127-128). Educating is not just letting someone live but vivifying, because "a life that only consists in surviving is no life" (*idem,* 129). And technique is not enough to vivify and lead someone to their perfection: it is necessary to love.

The fourth commonplace we have identified holds that what matters in education is content, and that it is not the role of the school to impart values. Xirau responds to this by saying: "To the psychophysiological problems that rightly concern any educator worthy of the name, we must add the grave problems raised by the fact that human life is wholly immersed in and vividly polarised by the ideal field of values" (Xirau, *OCII*, 1999, p. 404). Xirau again poses the question that guides all of his pedagogy: before us is a child, what do we do with it?; what values do we place highest? We cannot forego setting values because "man always lives for something that claims him, in an

insatiable striving that leads him beyond himself and devotes him to something that makes life worth living. This is what differentiates educating people from raising animals" (Xirau, *OCII*, 1999, p. 461). So, as well as transmitting content, education is radically directed by values, and we have seen above what its hierarchy of values is.

The fifth commonplace would be to think that education restricts the child's freedom. According to this one, any educational undertaking entails repression; the child should be left to roam freely, with as little intervention as possible. But what this entails, according to Xirau, is delineating a concept of freedom that goes beyond merely indulging whims; conciliating arbitrariness with necessity (Xirau, *OCII*, 1999, p. 418). The fact is that for our author there is no dichotomy between freedom and authority because only freely accepted authority is legitimate; instead the dichotomy is between arbitrariness and authority. Education is a mediation that helps the child be free: "To educate the will is to give it a particular and invariable law, on which one can rely" (*ibid*). He shows us that there is no freedom without law nor is there autonomy without *nomos*, in the Kantian mode.

The last commonplace holds that the school is useless. Here Xirau would, to some extent, agree, as Nussbaum (2010) also states. As is well known, the word school comes from the Greek *scholé*, *otium* in Latin, which is the opposite of business (*neg-otium*) (Xirau, *OCII*, 1999, p. 83). So, in such a place, people are taught the type of activities that are valuable in them-

selves, and that are not at the service of others: "The school is in contrast with the workshop as leisure is with work, disinterested perfection with interested production, theory with practice, contemplation with action" (*idem*, p. 84).

7. Conclusion

We have established Xirau's humanistic (Quintana, 2009, p. 223) and pedagogical influences. We have also analysed his pedagogical ideas and his focus on the values of utility, truth, goodness, beauty, and sanctity. We have noted what is specific to the different educational stages and finally have analysed a series of current pedagogical commonplaces and the response Xirau would give. It is in this last section that we can best appreciate the relevance of the Catalan thinker. Given that the commonplaces are by nature commonplaces, it is surprising how much they are still resent in our time, as much as in the time of Xirau. Xirau is positioned on the watershed between modernity and postmodernity, drawing on pedagogical currents that preceded him and opening up pathways to new ways of rethinking pedagogy, situating the person at the centre of the whole of the educational process.

Note

[1] The citations are from the edition of his complete works (*Obras Completas – OC*) published by Fundación Caja Madrid/Anthropos, followed by the volume (I, II or III, which in turn comprises two parts), and the page, as is normal. All translations are by the author of the present work. The reference list includes all works cited in this article.

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Author's biography

Jaime Vilarroig-Martín is an Associate Professor at the Universidad CEU Cardenal Herrera, with two recognised six-year periods of research activity. He teaches philosophical anthropology and other subjects on the degrees in primary teaching and nursing. He is an occasional collaborator with the Universitat Jaume I and the Centro Superior de Estudios Teológicos Mater Dei in Castellón. He has published a handbook of philosophical anthropology and of applied ethics. His publications in collaborative works and journals consider different authors and subjects linked to Spanish philosophy.

 https://orcid.org/0000-0003-2612-475X

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Notes

Ana Romero-Iribas, & Celia Camilli-Trujillo
Design and validation of a Character Friendship Scale for young adults

**Begoña García-Domingo, Jesús-M. Rodríguez-Mantilla,
& Angélica Martínez-Zarzuelo**
An instrument to evaluate the impact of the higher education accreditation system:
Validation through exploratory factor analysis

Judit Ruiz-Lázaro, Coral González-Barbera, & José-Luis Gaviria-Soto
The Spanish History test for university entry: Analysis and comparison among
autonomous regions

Juan-F. Luesia, Juan-F. Plaza, Isabel Benítez, & Milagrosa Sánchez-Martín
Development and validation of the Test of Spelling Competence (TCORT)
in incoming university students

Design and validation of a Character Friendship Scale for young adults

Diseño y validación de una Escala de Amistad de Carácter para jóvenes

Ana ROMERO-IRIBAS, PhD. Associate Professor. Universidad Rey Juan Carlos (*ana.romero.iribas@urjc.es*).
Celia CAMILLI-TRUJILLO, PhD. Associate Professor. Universidad Complutense de Madrid (*ccamilli@ucm.es*).

Abstract:

Friendship is an important bond in the personal and social growth of an individual and plays a prominent role during youth. Most scales to measure it are aimed at children and adolescents but none measure *character friendship*, a type of selfless friendship with ethical traits an d Aristotelian roots. Therefore, the aim of the research is to design and validate the youth Character Friendship Scale (CFS) in a sample of 1587 young Spanish people. The final version of the CFS is composed of 35 items distributed over three dimensions: "Selfless love and intimacy" (21), "Trust" (7) and "Respect and forgiveness" (7) with ordinal reliability coefficients of 0.94, 0.79 and 0.7 respectively and good model fits (CFI = 0.986; TLI = 0.986; RMSEA = 0.043; SRMR = 0.054; GFI = 0.997). It is concluded that the CFS is a scale with good psychometric properties for measuring character friendship in young adults. The results obtained from its application will lead to a better understanding of the importance of character friendship for the socioemotional development or happiness of young adults and will enable the development of intervention programmes that enhance aspects of friendship such as trust, respect, forgiveness or mutual knowledge, which can facilitate collaborative relationships and contribute to social cohesion.

Keywords: friendship, character friendship, ethics, selflessness, young adults, validation, scale, factorial analysis.

Resumen:

La amistad es un vínculo importante en el crecimiento personal y social del individuo y tiene un papel destacado durante la juventud. La mayoría de escalas para medirla se dirigen a niños y ado-

lescentes, pero ninguna mide la a*mistad de carácter*, un tipo de amistad desinteresada y de rasgos éticos y raíces aristotélicas. Por ello, el objetivo de la investigación es diseñar y validar la Escala de Amistad de Carácter para jóvenes (EAC) en una muestra de 1587 jóvenes universitarios españoles. La versión final de la EAC la componen 35 ítems distribuidos en tres dimensiones: «Amor desinteresado e intimidad» (21), «Confianza» (7) y «Respeto y perdón» (7), con coeficientes de fiabilidad ordinal de 0.94, 0.79 y 0.7 respectivamente y ajustes buenos del modelo (CFI = 0.986; TLI = 0.986; RMSEA = 0.043; SRMR = 0.054; GFI = 0.997). Se concluye que la EAC es una escala con buenas propiedades psicométricas para medir la amistad de carácter en jóvenes. Los resultados obtenidos de su aplicación ayudarán a comprender mejor la importancia de la amistad de carácter para el desarrollo socioemocional o la felicidad de los jóvenes, y permitirán desarrollar programas de intervención que trabajen aspectos de la amistad, como la confianza, el respeto, el perdón o el conocimiento mutuo que pueden facilitar relaciones colaborativas y contribuir a la cohesión social.

Descriptores: amistad, amistad de carácter, ética, desinterés, jóvenes, validación, escala, análisis factorial.

1. Introduction

Both in philosophy and in psychology and education, friendship has traditionally been viewed as a significant bond in people's lives for their flourishing and personal and social development, which clearly shows the importance of having instruments to evaluate it.

Education is taking a fresh look at friendship (Romero-Iribas y Martínez Priego, 2017, 2022; Pérez-Guerrero, 2021) by addressing topical issues, such as its idiosyncrasies in the virtual environment (Healy, 2021; Kristjánsson, 2021; Stevic et al., 2022) or its development among students with special educational needs (Hoffman et al., 2021; O'Connor et al., 2022).

Among the branches of psychology that are directly related to education, social psychology reveals that friendship facilitates prosocial behaviour (Dovidio et al., 2017) and helps to alleviate loneliness and isolation (Cacioppo & Cacioppo, 2018). According to developmental psychology, friends facilitate the transition to university by increasing the sense of belonging (Pittman & Richmond, 2010) and they possess a value and quality that cannot be matched by social chatbots (Croes & Antheunis, 2021). Personality psychology views friendship as important because the development of personality requires other people (Deventer et al., 2019) and friends play a key role in this process (Hoyos-Valdés, 2018).

Another significant line of research from the perspective of educational purposes associates friendship with life satisfaction (Taniguchi, 2015) and with happiness in the sense of eudaemonic well-being (Ryff & Singer, 2002). As described by Martínez-Priego and Romero-Iribas (2021), friendships provide emotional support (Demir et al., 2014) and a context where basic needs are satisfied (Demir & Özdemir, 2010). Additionally, happiness is positively associated

with the authenticity of friends (Peets & Hodges, 2018), frequent interaction with them (Li & Kanazawa, 2016) and making an effort to keep them (Sánchez et al., 2018).

Traditionally, different types of friendship have been defined by philosophy (friendships of utility, pleasure and virtue; Aristotle, ca. 350 B.C.E./1999), psychology (close friends, casual friends, acquaintances; Mendelson & Aboud, 1999) or sociology (social friendship, family friendship, communicative friendship; Little, 2000).

Character friendship (hereinafter CF) is the term used by Cooper (1980) to refer to the Aristotelian friendship of virtue, whilst clarifying that it is also possible among people who are not completely virtuous. As Kristjánsson (2020) summarises, an intrinsically valuable friendship is that which involves sharing joys and sorrows, spending time together and in which the friend is perceived as "another self" (Aristotle, ca. 350 B.C.E./1999). It is based on the friends' mutual appreciation of their good characters, of their moral and intellectual qualities (Hoyos Valdés, 2018) and implies affection, mutual goodwill and wishing good for the friend for their own sake (Aristotle, ca. 350 B.C.E./1999), which requires friends to develop virtues. They wish for and seek the best for each other, not only out of the affection they feel for one other but also because of a character disposition. Therefore, this sort of friendship has a major ethical component that requires time and attention, mutual knowledge and trustworthiness (Aristotle, ca. 350 B.C.E./1999). Rather than highlighting the *function* it holds in the person's individual and social development, it emphasises the selfless nature of the relationship because

it has no interest in anything other than the friend themself, nor does it seek any benefits as other types of friendship do; this does not mean there may not be benefits but they are not sought and are secondary to the friendship. CF is currently addressed by philosophy (Kristjánsson, 2019; Romero-Iribas, 2021), social psychology (Anderson & Fowers, 2019; Martínez-Priego & Romero-Iribas, 2021; Walker et al., 2016) and education (Hoyos-Valdés, 2018; Kristjánsson, 2020).

There is a wide field of instruments that exist to measure and evaluate friendship and — as far as we know — they can be classified in two groups. The first, focusing on studies that design and/or validate friendship scales, measures:

a) Friendship quality: scales developed by Mendelson and Aboud, (1999), Bukowski et al. (1994) and the instrument designed by Weiss and Smith (2002) that evaluates the quality of sports friendships.

b) Intimate friendship: Sharabany (1994) and Wilkinson (2008), who understands this type of friendship as a relationship of attachment.

c) Friendship as perceived social support (González & Landero, 2014).

The second group, with a more heterogeneous content and without aiming to be exhaustive, refers to scales that relate friendship to other variables, such as:

d) Social factors such as isolation, loneliness or social dissatisfaction (Hawthorne & Griffith, 2000; Parker & Asher, 1993).

e) Personal factors such as friendship and emotional adjustment (Demir & Urberg, 2004); friendship and psychological adjustment (Simpson & Mc Bride, 1992); friendship, happiness and personality (Demir & Weitekamp, 2007); or individual differences when choosing trust-value friendships (Rotenberg & Morgan, 1995).

f) More specific scales such as those that study the influence of friends on physical activity (Jago et al., 2009).

This research relates to the instruments for friendship evaluation and measurement. Its objective is to design and validate a scale to measure CF and among young adults specifically, as we have not found a scale for both purposes in the literature reviewed. Either because they do not specifically measure CF (none of the scales do) or because, despite measuring a similar type of friendship, they are aimed at children (Bukowski et al., 1994; Sharabany, 1994). Neither have we found original instruments in Spanish to measure friendship (only a certain validation of other scales, such as Rodríguez et al. 2015), so in consequence the transfer and applicability of Spanish-speaking contexts could provide a response to the theoretical and methodological gap identified in the literature reviewed.

Of the scales reviewed, only the one designed by Mendelson and Aboud (1999) is aimed at young adults, but it measures friendship quality by its *function* in the person's development, in the sense that "from a functional perspective, a friend is seen as a source of social, emotional and instrumental resources that the person seeks" (p. 2).

Although friends play an important role in the individual's development, in this study we do not wish to focus on the functional character of the relationship but rather its intrinsic gratuity, which is the essence of CF. For this reason, it is not possible to adapt the content of the scale developed by Bukowski et al. (1994) as, even though it measures a similar type of friendship (the quality of friendship that children use as a basis to define a best friend), the dimensions evaluated do not refer to the specific aspects of a selfless friendship.

CF is a selfless love, more than a relationship of attachment (Wilkinson, 2008); of affection (Mendelson & Aboud, 1999); or of perceived social support (González and Landero, 2014). Attachment, affection and social support are aspects of friendship covered by the scale designed and validated in this research, but with the emphasis on the relationship's "selflessness" (dimensions of Selfless love-Knowledge, Respect-Forgiveness), which is less evident in other instruments. The intimate friendship scale designed by Sharabany (1994), or the friendship quality scales developed by Bukowski et al. (1994) or Rodríguez et al. (2015) are conceptually close to CF but they are aimed at children and/or adolescents, not young adults.

As selflessness is a trait of CF at an ethical level, the instrument has been considered from a multidisciplinary — psychological and ethical — perspective, in accordance with the nature of the relationship. Bukowski and Sippola (1996) suggested that "friendship is facilitated (...) by constructs (...) such as generosity, honesty, kindness,

loyalty and authenticity" (p. 242). And according to Walker et al. (2016) the ethical dimensions of friendship can be studied by means of rigorous methodological procedures. According to these same authors, the psychological and philosophical perspectives of friendship balance and involve each other, so that developing an instrument to measure CF is a contribution both to these two disciplines and to the education that feeds on them. Additionally, in view of it being an intimate relationship, we coincide with how it is measured by Sharabany (1994) and Kriesman (1969), who do so using the terms of self-revelation, willingness to ask friends for help, closeness and frequency of interaction, among others.

To design the scale, and based on the above description of CF, the construct was defined as a mutual love based on sharing, which wishes good for the friend for their own sake, and is, therefore, selfless. As the friend is "another self", CF involves trust (voluntarily agreeing to share one's most innermost self) and requires virtues such as respect, sincerity, loyalty and forgiveness.

This definition covers aspects that are psychological such as intimacy, socio-emotional and ethical such as forgiveness, or purely ethical such as respect and selflessness. Scales that explicitly cover ethical traits of friendship are: Sharabany (1994) who includes three moral dimensions (frankness, giving and sharing, loyalty); Weiss and Smith (2002), who include one (loyalty); and other such as Parker and Asher (1993) or Mendelson and Aboud (1999) who include dimensions that are directly related to ethics, although they are not strictly moral (e.g. conflict resolution or reliable alliance).

2. Method

2.1. Sample

1,587 young Spanish adults participated in the research (78.1% women, 21.7% men and 0.2% unspecified), aged between 18 and 29 years old (mean = 20.3, standard deviation = ± 2.5), and studying at 19 public universities (95.9%) and 18 private universities (4.1%)

The majority of these young university students are studying a single degree course (85.9%). Among the predominant degrees are Education (48.7%), Business Studies and Law (22.3%) and, to a lesser extent, Arts and Humanities (4.4%) and Engineering (4.1%), among others. Thus, we tried to cover the greatest possible number of disciplines by means of convenience sampling. The only eligibility criterion was that participants should be Spanish and studying at university.

The sample was randomly divided into two subsamples of equal size, in line with the recommendations by Henson and Roberts (2006), as it would not be logical to study the structure of a data set and try to confirm this structure using the same data source. There were 795 subjects in the first subsample, for which we analysed the characteristics and properties of the items and conducted an exploratory factor analysis (EFA). The second contained 792 subjects for the confirmatory factor analysis (CFA), with no statistically significant differences between the two subsamples (Table 1).

TABLE 1. Characteristics of the sample and subsamples.

		Total		EFA Sample		CFA Sample		p-value
		n=1587		n=795		n=792		
Age (mean ± deviation)		20.3 ± 2.5		20.4 ± 2.5		20.2 ± 2.4		0.154
Gender	Male	341	21.7%	168	21.3%	173	22.1%	0.768
	Female	1227	78.1%	619	78.6%	608	77.7%	
	Unspecified	3	0.2%	1	0.1%	2	0.3%	
Degree course	Single degree course	1353	85.9%	669	84.9%	684	84.9%	0.281
	Dual Degree	223	14.1%	119	15.1%	104	15.1%	
Degree course (single degree)	Education	768	48.7%	393	58.7%	375	54.8%	0.409
	Arts and Humanities	70	4.4%	39	5.8%	31	4.5%	
	Social Sciences	352	22.3%	164	24.5%	188	27.5%	
	Sciences	24	1.5%	9	1.3%	15	2.2%	
	Engineering	65	4.1%	27	4.0%	38	5.6%	
	Agriculture	4	0.3%	3	0.4%	1	0.1%	
	Health and social services	62	3.9%	30	4.5%	32	4.7%	
	Tourism	8	0.5%	4	0.6%	4	0.6%	
Degree course (dual degree)	Education/Pre-school Education, Primary Education and Pedagogy	64	4.1%	43	36.1%	21	20.2%	0.196
	Education/Arts and Humanities	13	0.8%	6	5.0%	7	6.7%	
	Education/Administration and Business Management	11	0.7%	6	5.0%	5	4.8%	
	Education/Sciences	4	0.3%	3	2.5%	1	1.0%	
	Arts and Humanities/ Administration and Business Management	9	0.6%	4	3.4%	5	4.8%	
	Administration and Business	109	6.9%	52	43.7%	57	54.8%	
	Management/Law	8	0.5%	3	2.5%	5	4.8%	
	Administration and Business Management/ Engineering	4	0.3%	1	0.8%	3	2.9%	
	Administration and Business Management/ Tourism	1	0.1%	1	0.8%	0	0.0%	
Place currently studying	Spanish students currently studying in Spain	1557	99.7%	781	99.9%	776	99.6%	0.374
	Spanish students currently studying abroad	4	0.3%	1	0.1%	3	0.4%	
Type of university	Public universities	1493	95.9%	751	96.2%	742	95.6%	0.591
	Private universities	64	4.1%	30	3.8%	34	4.4%	

The size of the sample follows the standard recommendation of a minimum ratio of 10 respondents per parameter (Byrne, 2009), and 15 in stricter cases (Hair et el., 1999), and also other more recent recommendations: when the coincidence rate is low, around 0.30, and the number of variables per factor is at least 3 items, a minimum sample of 400 cases is required (Conway and Huffcutt, 2003).

This research meets the ethical standards of the Comité de Ética de la Investigación (*Research Ethics Committee*) at the Universidad Rey Juan Carlos (Spain) and also complies with the Declaration of Helsinki in 1964 and its subsequent amendments.

2.2. Instrument

The CFS aims to achieve precise measurement of the indicators related to CF in view of the fact that none of the scales reviewed addresses the specific features of a selfless friendship (González & Landero, 2014; Jago et al., 2009; Mendelson & Aboud, 1999; Parker & Asher, 1993; Rotenberg & Morgan, 1995; Sharabany, 1994; Weiss & Smith, 2002; Wilkinson, 2008). This allows us to focus on dimensions such as sharing, intimacy or loyalty. For this reason, the theoretical benchmark matrix includes 55 items distributed over four dimensions: "Selfless love" (17); "Sharing intimacy and sincerity" (14); "Trust and loyalty" (10) and "Respect and forgiveness" (14). The answer format was an 8-point Likert scale (0=never and 7=always) in line with Mendelson and Aboud (1999).

This first version underwent a double review process consisting of expert judgement and a pilot study, to ensure content validity and the applicability of the instrument.

2.2.1. Expert judgement

Following the guidelines developed by Drost (2011), four experts in evolutionary psychology, emotions and interpersonal relationships, philosophy and statistics, were responsible for evaluating the items and dimensions relating to friendship by focusing on the criteria of clarity, adjustment and relevance (Navarro et al., 2014). The main suggestions were to change the terms associated with the Likert scale of 0 to 7 points, to 0 = completely disagree and 7 = completely agree, and to word some items negatively.

Taking these suggestions into account, the instrument was expanded to 59 items without modifying the dimensions, and the negative items were increased to 33.9% of the total. Authors such as Fabrigar et al. (1999) state that, as a general rule, the greater the number of items that measure a factor accurately, the better that factor will be defined and the more stable the factorial result will be. The recommendation for 3 or 4 items per factor only applies if there are at least 200 cases, a number which this research exceeds.

2.2.2. Pilot study

In the pilot study for this research, 43 students participated (9 from Arts and Humanities, 15 from Education, 11 from Social Sciences, 5 from Engineering

and 3 from Health Sciences), with the objective of representing, as far as possible, the final sample. The evaluation of the scale was conducted in terms of the format, wording and comprehension of the instructions, general specifications and items. The evaluation was positive if the instructions indicated that, to respond to the scale, the student had to choose one of their best friends and answer with this person in mind, a procedure endorsed by Mendelson and Aboud (1999). Although specific items were not eliminated, some suggestions were: (1) clarification of the wording of the item "I dedicate myself to my friend without thinking about who contributes the most", and "I dedicate myself to my friend without thinking about who contributes the most", and (2) the creation of an online version, if necessary, to facilitate its dissemination.

Therefore, after the expert judgement and pilot study, and prior to the EFA, the draft of the friendship scale

contained 59 items distributed over four dimensions as defined in the construct: "Selfless love"; "Sharing intimacy and sincerity"; "Trust and loyalty"; and "Respect and forgiveness".

In accordance with the definition of CF, selfless love includes affection (Sharabany, 1994), reciprocal goodwill and wishing good for the friend for their own sake. Sharing (Sharabany, 1994; Weiss and Smith, 2002) intimacy (Mendelson & Aboud, 1999; Parker & Asher, 1993; Weiss & Smith, 2002) shows that an intimate or close friendship is involved. Additionally, as a selfless relationship, it requires the friends to possess virtues such as sincerity ("frankness" in Sharabany, 1994), Loyalty (Sharabany, 1994; Weiss & Smith, 2002), forgiveness (Parker & Asher, 1993; Weiss & Smith, 2002) and respect.

Table 2 shows the number of items in each dimension, as well as the items with positive and negative wording.

TABLE 2. Version of the scale before the EFA (theoretical model).

Dimension	Total n. items	N. positive items	Nº negative items
1. Selfless love	16	11, 14, 16, 18, 24, 30, 41, 49, 53, 55, 59	3, 6, 9, 39, 43
2. Sharing intimacy and sincerity	7	2, 12, 25, 42, 44	33, 56
	6	5, 26, 40, 51	19, 34
	3	29, 45	13
3. Trust and loyalty	6	8, 17, 28, 46	35, 52
	6	4, 21, 36, 48	27, 31
4. Respect and forgiveness	7	1, 10, 20, 23	37, 47, 58
	8	15, 32, 38, 50, 57	7, 22, 54

2.3. Statistical analysis

The data were analysed using the statistical software package SPSS version 22.0 (IBM, Chicago, IL), the EFA was conducted with the FACTOR programme (Lorenzo-Seva and Ferrando, 2006) and the CFA was performed with the R package 'lavaan' (Rosseel, 2012).

2.4. Description of the sample and homogeneity

We used the mean and standard deviation to describe the quantitative data, and the absolute and relative frequencies for the qualitative data. Univariate analysis was used to study the homogeneity between the samples for the EFA and the CFA. The differences between the qualitative variables were checked using the Chi-square test or Fisher's exact test, and the differences between the quantitative variables were checked by means of Student's t-test for independent samples.

2.5. Characteristics and properties of items

To analyse the characteristics and properties of the items, we calculated the percentage of valid responses, the percentage of responses at the lower limit (floor effect), the percentage of responses at the upper limit (ceiling effect), the mean, the standard deviation and the indices of asymmetry and kurtosis, as well as the corrected item-total correlation (item-total correlation excluding the item under analysis) using polychoric correlation. The items with values lower than 0.3 were rejected.

2.6. Exploratory factor analysis and confirmatory factor analysis

In order to extract the factors in the EFA and the CFA, we used the weighted least squares method (Jöreskog, 1977) and the matrix of polychoric correlations (Bandalos & Finney, 2010) owing to the ordinal nature of the items (Likert scale of 0 to 7, polytomous items) and in the non-normality of many of them (high indices of asymmetry and kurtosis). Several EFA analyses were conducted by fixing the number of extracted factors between 2 and 4. The direct Oblimin rotation method was used (Clarkson & Jennrich, 1988) because it accepts correlated factors and rejects items with low loadings (<0.3).

In order to evaluate the adequacy of the data for the factor analysis, we calculated the Kaiser-Meyer-Olkin (KMO) measure (Kaiser, 1970) in which an index is considered inadequate if it is below .50 and satisfactory if it is over .80. To establish the model fit, we consulted the RMSA (*Root Mean Square Error of Approximation*), SRMR (*Standardized Root Mean Square Residual*), CFI (*Goodness of Fit Index*), TLI (*Tucker-Lewis Index*) and GFI (*Goodness of Fit Index*). The indices that represent a good fit between the model and the data are as follows: RMSEA < .06, SRMR < .08, CFI > .95 and TLI > .95 (Xia & Yang, 2018, 2019). GFI values of over 0.95 are indicators of a good model fit (Ruiz et al., 2010).

As measures of reliability, the ordinal alpha reliability coefficient (Zumbo et al., 2007) was calculated to estimate reliability in ordinal items and the omega reliability coefficient (Green & Yang, 2009).

3. Results

3.1. Exploratory analysis of the properties of the items

A descriptive analysis was conducted on the 59 items (Table 3). The non-response rate for all the items was below 5% and half of the items presented significant deviations from normality (high indices of asymmetry and kurtosis, greater than 2). Four redundant items were rejected. 15 (=7), 19 (=26), 33 (=25) and 36 (=27).

Authors such as Ferrando and Anguiano-Carrasco (2010) state that redundant items degrade the resulting factorial structure, although they are used to evaluate the consistency of the subjects and also to increase the internal consistency of the scales. We also excluded items with a corrected item-total correlation of <0.3. This led to the elimination of 11 items (6, 9, 10, 16, 20, 22, 27, 31, 37, 43, 58).

TABLE 3. Characteristics and properties of the items.

ITEM	No response		Floor effect (answers at lower limit)		Ceiling effect (answers at upper limit)		Descriptive statistics				Corrected item-total correlation
	N	%	N	%	N	%	Mean	Standard deviation	Asymmetry	Kurtosis	
1	0	0.0%		0%	611	75%	6.63	0.77	-2.80	10.35	.550
2	0	0.0%	21	2.6%	375	46%	5.63	1.75	-1.34	1.15	.310
3	3	0.4%	36	4.4%	223	27.5%	4.54	2.24	-0.50	-1.04	.340
4	0	0.0%	35	4.3%	618	75.8%	6.31	1.67	-2.85	7.24	.510
5	0	0.0%		0%	618	75.8%	6.62	0.82	-2.77	8.96	.610
6	2	0.3%	474	58.4%	7	0.9%	0.81	1.32	2.29	5.93	-.500
7	3	0.4%	16	2%	246	30.3%	5.03	1.99	-0.82	-0.48	.370
8	0	0.0%	3	0.4%	411	50.4%	6.16	1.14	-1.85	4.38	.420
9	4	0.5%	58	7.2%	286	35.3%	4.87	2.30	-0.84	-0.60	.230
10	1	0.1%	32	3.9%	113	13.9%	4.45	1.88	-0.59	-0.37	.280
11	38	4.8%	26	3.4%	331	42.7%	5.56	1.80	-1.45	1.59	.440
12	5	0.6%	16	2%	427	52.8%	5.82	1.75	-1.67	2.05	.390
13	5	0.6%	20	2.5%	467	57.7%	5.93	1.70	-1.87	2.95	.450
14	4	0.5%	1	0.1%	481	59.3%	6.35	1.01	-2.08	5.56	.660
15	1	0.1%	1	0.1%	237	29.1%	5.47	1.41	-0.80	0.07	.350
16	3	0.4%	44	5.4%	74	9.1%	4.14	1.83	-0.48	-0.32	.220
17	4	0.5%	1	0.1%	622	76.7%	6.63	0.87	-3.49	15.35	.560
18	4	0.5%	17	2.1%	293	36.1%	5.44	1.72	-1.23	1.10	.490
19	3	0.4%	4	0.5%	556	68.5%	6.23	1.49	-2.30	4.66	.600
20	6	0.8%	188	23.2%	58	7.2%	2.90	2.28	0.19	-1.20	-.160
21	9	1.1%	4	0.5%	559	69.4%	6.43	1.13	-2.69	8.39	.570

22	12	1.5%	90	11.2%	114	14.2%	3.67	2.27	-0.08	-1.18	.230
23	9	1.1%	13	1.6%	280	34.7%	5.51	1.63	-1.31	1.40	.450
24	10	1.3%		0%	261	32.4%	5.58	1.38	-0.89	0.21	.440
25	12	1.5%	1	0.1%	339	42.2%	5.94	1.23	-1.37	1.98	.450
26	11	1.4%	1	0.1%	523	65%	6.33	1.19	-2.31	5.77	.660
27	10	1.3%	39	4.8%	111	13.8%	3.82	2.00	0.01	-0.88	.270
28	12	1.5%	10	1.2%	442	55%	6.07	1.43	-2.06	4.57	.630
29	9	1.1%	4	0.5%	390	48.4%	6.08	1.22	-1.79	4.08	.590
30	9	1.1%	1	0.1%	642	79.7%	6.68	0.81	-3.83	18.84	.690
31	25	3.1%	141	17.8%	56	7.1%	2.86	2.10	0.29	-0.85	-.110
32	26	3.3%	1	0.1%	332	42.1%	5.87	1.33	-1.33	1.57	.580
33	36	4.5%	4	0.5%	307	39.4%	5.64	1.60	-1.27	0.95	.350
34	33	4.2%	33	4.2%	542	69.3%	6.15	1.76	-2.47	5.28	.550
35	27	3.4%	17	2.2%	506	64.2%	6.05	1.74	-2.04	3.25	.450
36	28	3.5%	102	13%	373	47.4%	4.95	2.62	-0.92	-0.79	.210
37	32	4.0%	52	6.6%	175	22.3%	4.14	2.26	-0.23	-1.17	.240
38	26	3.3%	2	0.3%	306	38.8%	5.89	1.23	-1.39	2.30	.620
39	25	3.1%	82	10.4%	366	46.3%	5.20	2.40	-1.18	-0.06	.380
40	25	3.1%	1	0.1%	540	68.4%	6.44	1.04	-2.49	7.33	.680
41	29	3.6%	1	0.1%	443	56.4%	6.19	1.18	-1.80	3.71	.670
42	34	4.3%	1	0.1%	648	83%	6.75	0.68	-4.35	26.55	.730
43	27	3.4%	31	3.9%	143	18.1%	4.50	1.93	-0.52	-0.49	.220
44	28	3.5%		0%	675	85.8%	6.80	0.59	-4.27	24.32	.740
45	28	3.5%		0%	475	60.4%	6.34	1.05	-1.98	4.25	.690
46	27	3.4%	5	0.6%	481	61%	6.32	1.19	-2.65	8.46	.510
47	29	3.6%	28	3.6%	152	19.3%	4.51	2.05	-0.50	-0.88	.340
48	31	3.9%	5	0.6%	426	54.3%	6.18	1.23	-2.14	5.50	.560
49	27	3.4%	1	0.1%	496	62.9%	6.44	0.92	-2.28	7.31	.610
50	31	3.9%	13	1.7%	168	21.4%	5.00	1.71	-0.87	0.25	.320
51	30	3.8%	4	0.5%	573	73%	6.53	1.04	-3.34	13.67	.720
52	35	4.4%	17	2.2%	391	50.1%	5.62	1.81	-1.28	0.88	.370
53	31	3.9%	2	0.3%	524	66.8%	6.51	0.89	-2.75	11.04	.730
54	28	3.5%	17	2.2%	363	46.1%	5.67	1.73	-1.47	1.64	.530
55	29	3.6%	8	1%	424	53.9%	6.00	1.50	-1.87	3.28	.480
56	28	3.5%	28	3.6%	485	61.6%	5.97	1.82	-2.03	3.30	.370
57	29	3.6%		0%	459	58.4%	6.29	1.09	-1.95	4.14	.660
58	29	3.6%	36	4.6%	128	16.3%	4.02	2.07	-0.11	-1.02	.250
59	28	3.5%	11	1.4%	490	62.3%	6.20	1.39	-2.30	5.63	.580

3.2. Exploratory factor analysis

The EFA was conducted on 44 items. All of the models extracted in the EFA present good fit indices, with a KMO index of 0.9144, which indicates that the data are suitable for the factor analysis (Table 4).

TABLE 4. Fit of model indices in the EFA analysis according to the number of factors extracted.

Number of factors extracted	4	3	2
KMO: Kaiser-Meyer-Olkin test	0.914	0.914	0.914
GFI: Goodness of Fit Index	0.987	0.984	0.979
CFI: Comparative Fit Index	0.995	0.993	0.99
RMSR: Root Mean Squared Residual	0.0408	0.0453	0.0517
RMSEA: Root Mean Squared Error of Approximation	0.026	0.029	0.034
NNFI: Non-normed Fit Index (Tucker-Lewis Index)	0.994	0.992	0.989

The model with 3 factors presented the best fit with the initial theoretical dimensions and showed factors with more than 2 items with loadings. For the result of the direct Oblimin rotation, we obtained three correlated factors of 26, 6 and 5 items with loadings, 3 non-loading items (12, 13, 47) and 4 wrongly-identified items (14, 38, 46, 54) (Table 5).

TABLE 5. EFA with three factors (omitting loadings of <0.3).

ITEM	F 1	F 2	F 3
1. I feel that my friend acts like themself with me.	0.517		
2. Although we have just left each other, we are still in touch on social media.	0.499		
3n. Although I know my friend well, when it is their birthday, I cannot think of presents that they would like.	0.322		
4. I would not do anything to harm my friend even if somebody suggested it.	0.311		
5. In conversations with my friend, I also talk about my ideas, my values or experiences that have been important for me.	0.595		
8. If I agree with my friend that I will take care of something (a task, a present, etc.) they know I will do it.	0.33		
11. I dedicate myself to my friend without thinking about who contributes the most.		0.305	
12. I do not mind being silent with my friend.			
13n. If something is not right in our friendship, I prefer to tell my friend on social media.			
14. My friend brings out the best in me.	0.568	0.303	

15. If my friend does something that hurts me, I forgive them.		0.5	
17. I keep my friend's secrets, even if things are not good between us.			0.462
18. If I lose focus in my studies or I am notworking, my friend makes sure I get back on track.	0.432		
21. If I were included in a Whatsapp group where my friend was criticised or excluded from a plan, I would express my disagreement.	0.49		
23. When I do not agree with my friend's ideas, I express my opinion calmly and do not raise my voice.		0.344	
24. When we go out and we do not want to follow the same plan, I know how to give in.		0.456	
25. My friend and I share values or we have similar ideas.	0.386		
26. I tell my friend my most personal things.	0.805		
28. I trust my friend enough to tell them things about myself that I am ashamed of.	0.663		
29. If at any time my friend has done something which was not right, I have told them frankly.	0.577		
30. My friend is special for me even if they are not for others.	0.624		
32. If we argue, I do not let the annoyance last and I try to make up.		0.497	
34n. When something good happens, I do not like sharing it with my friend.	0.542		
35n. If my friend asks me not to tell people something, I only tell my group of closest friends.			0.705
38. When I am mistaken about my friend, I recognise it and demonstrate this in some way so that they know.	0.353	0.317	
39n. When my friend does well in something (studies, popularity, flirting…) and I do not, it is hard for me to be happy that things are going well for them.			0.44
40. I talk to my friend about my plans for the future, for work, etc.	0.657		
41. If I am asked for my friend's 5 most important qualities, I know what to say.	0.666		
42. I like spending time with my friend.	0.925		
44. I have fun with my friend.	0.905		
45. If something is wrong with my friend, I talk about it sincerely.	0.614		
46. I am discrete about my friend's personal issues and I do not tell anybody, even if they ask me directly.	0.371		0.38
47n. I put up with my friend's defects or the things that annoy me about them.			
48. I defend my friend when other people speak badly of them, even when they do so on social media.	0.595		

49. If my friend is annoyed, worried, happy, etc., I notice it even if they do not tell me.	0.603	
50. I quickly forget my friend's mistakes.		0.395
51. I know I can tell my friend anything.	0.704	
52n. If my friend tells me that we like the same boy/girl, I try to win.		0.428
53. I help my friend to solve their problems, if it is within my power, even if it is difficult to do so.	0.59	
54n. If my friend betrays my trust, I feel free to do the same back to them, even if it is only in a chat or on social media.		0.314 0.566
55. I can say 5 things that my friend does not like.	0.596	
56n. They are my friend because we go out partying and we have fun, although we do not see each other apart from this and we do not have much in common.		0.319
57. I ask my friend for forgiveness when I have hurt their feelings and/or I have behaved badly.	0.399	
59. If I have not spoken to my friend for 2 weeks, I miss them.	0.672	

The wrongly-identified items were assigned a factor in accordance with the initial theoretical dimensions and 6 items of the higher-order factor were rejected as this improved the ordinal reliability index.

Finally, we obtained a scale of 35 items divided into 3 dimensions with 21, 7 and 7 items, and an ordinal reliability coefficient with values of 0.95, 0.74 and 0.75 respectively (Table 6).

TABLE 6. Final version of the scale after EFA.

Dimensions	Total n. items	Former items	New items	Ordinal alpha reliability coefficient
Selfless love and intimacy	21	5, 14, 26, 29, 30, 34, 40, 41, 42, 44, 45, 49, 51, 53, 55, 59	1, 21, 28, 48, 57	0.95
Trust and loyalty	7	17, 35, 46, 52	39, 54, 56	0.74
Respect and forgiveness	7	15, 23, 32, 38, 50	11, 24	0.75

3.3. Confirmatory factor analysis

On the basis of the structure obtained by the analysis described above, we considered three correlated latent variables that corresponded to the dimensions "Selfless love and intimacy", "Trust" and "Respect and forgiveness", with the 35 variables observed (items) (Figure 1). All the estimated standard loadings are higher than 0.4 and the estimated correlations between the latent variables are between 0.7 and 0.8.

FIGURE 1. Confirmatory factor analysis.
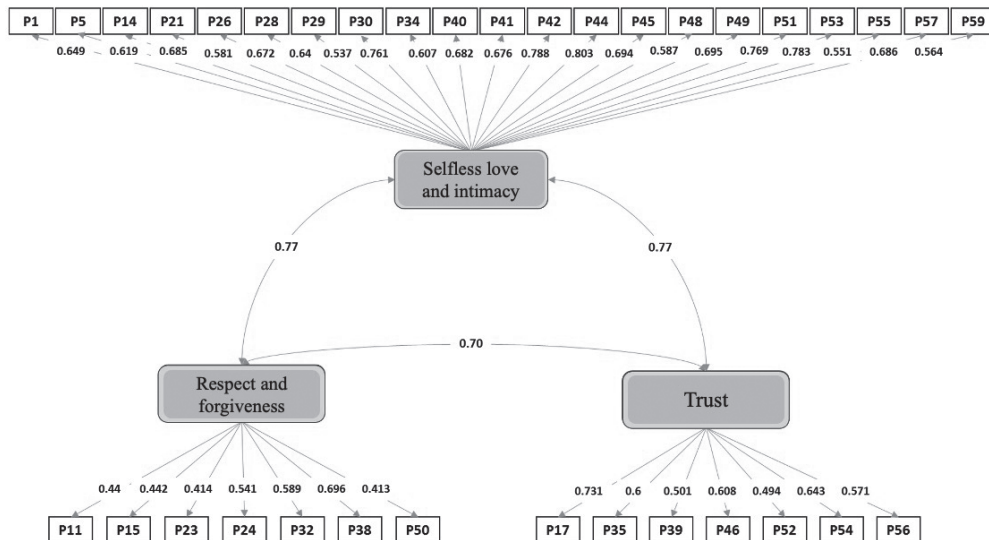
The alpha values of the ordinal reliability coefficient are higher than 0.7 but the omega coefficients are approximately 0.6 in two variables. The values of the fit indices indicate a good fit (Table 7).

TABLE 7. CFA: standard loadings, standard error,
critical value and reliability coefficients.

		Factor loading	Standardised loading	Standard error	Critical value	Percentage of variability explained by the latent factor	Ordinal reliability Cronbach's alpha	Composite reliability Omega coefficient
Selfless love and intimacy	P1	1	0.649			42.1%	0.94	0.891
	P5	0.954	0.619	0.025	38.831	38.3%		
	P14	1.056	0.685	0.026	40.692	46.9%		
	P21	0.895	0.581	0.024	37.61	33.8%		
	P26	1.037	0.672	0.026	40.365	45.2%		
	P28	0.987	0.64	0.025	39.466	41.0%		
	P29	0.827	0.537	0.023	36.044	28.8%		
	P30	1.174	0.761	0.028	42.493	57.9%		
	P34n	0.935	0.607	0.024	38.459	36.8%		
	P40	1.052	0.682	0.026	40.629	46.5%		
	P41	1.042	0.676	0.026	40.464	45.7%		
	P42	1.215	0.788	0.028	43.039	62.1%		

	P44	1.238	0.803	0.029	43.34	64.5%		
	P45	1.069	0.694	0.026	40.914	48.2%		
	P48	0.906	0.587	0.024	37.837	34.5%		
	P49	1.071	0.695	0.026	40.949	48.3%		
	P51	1.185	0.769	0.028	42.644	59.1%		
	P53	1.207	0.783	0.028	42.946	61.3%		
	P55	0.849	0.551	0.023	36.567	30.4%		
	P57	1.058	0.686	0.026	40.722	47.1%		
	P59	0.87	0.564	0.023	37.051	31.8%		
Respect and forgiveness	P11	1	0.44			19.4%	0.709	0.638
	P15	1.004	0.442	0.043	23.229	19.5%		
	P23	0.942	0.414	0.042	22.513	17.1%		
	P24	1.23	0.541	0.049	25.326	29.3%		
	P32	1.339	0.589	0.051	26.096	34.7%		
	P38	1.582	0.696	0.058	27.42	48.4%		
	P50	0.938	0.413	0.042	22.475	17.1%		
Trust	P17	1	0.731			53.4%	0.791	0.666
	P35n	0.821	0.6	0.024	34.27	36.0%		
	P39n	0.686	0.501	0.022	30.858	25.1%		
	P46	0.831	0.608	0.024	34.498	37.0%		
	P52n	0.676	0.494	0.022	30.593	24.4%		
	P54n	0.88	0.643	0.025	35.527	41.3%		
	P56n	0.781	0.571	0.023	33.342	32.6%		

Comparative Fit Index (CFI): 0.986

Tucker-Lewis Index (TLI): 0.986

Root Mean Square Error of Approximation (RMSEA): 0.043

Standardized Root Mean Square Residual (SRMR): 0.054

Goodness of Fit Index (GFI): 0.997

4. Discussion and conclusions

This study on CF in young adults is part of a currently active debate in education, which considers it to be a type of friendship that can exist from childhood (Walker et al., 2016), a means of moral education (Kristjánsson, 2020), an alternative relationship to role modelling that enables the cultivation of virtue (Hoyos-Valdés, 2018) and an area of self-knowledge that facilitates character building (Romero-Iribas, 2021). Psychology addresses CF through its characteristic emotions (Author, 2021a) and its relationship to happiness (Anderson & Fowers, 2019), which are significant aspects in education.

The research objective was to design and validate the CFS in a sample of Spanish university students. After the expert judgement and pilot study, the initial the-

oretical model contained four dimensions and 59 items. As a result of the EFA and CFA, the validated scale consisted of 35 items in three dimensions: "Selfless love and intimacy" (21), "Trust" (7) and "Respect and forgiveness" (7) with ordinal reliability coefficients of 0.94, 0.79 and 0.7 respectively, which indicates satisfactory values of internal consistency. These results coincide with other scales, such as that developed by Bukowski et al. (1994) with ratios of between .68 and .77, or the study of the psychometric properties of the same scale (version 4.1) in Spanish, with alpha values of between .63 and .83 (Rodríguez et al., 2015). The model fit indices for the CFA are good, with values higher than the recommended cut-off points (CFI = 0.986; TLI = 0.986; RMSEA = 0.043; SRMR = 0.054; GFI = 0.997).

In comparison to the initial theoretical model, the final version of the scale has a reduced number of dimensions and items. The dimension "Selfless love" combines with "Sharing intimacy and sincerity" to form the dimension "Selfless love and intimacy". The explanation for this regrouping is that CF is a close and intimate friendship where friends behave loyally and speak with sincerity.

The dimension "Trust and loyalty" has been renamed "Trust" because it focuses on confidence in the friend and the degree to which they can be trusted to keep secrets. This may be due to the fact that the items corresponding to loyalty are included in a friendship that wishes good for the friend for their own sake (selfless love). In this respect, DeSousa et al. (2014) estab-

lish that the subscales that measure positive aspect of friendship are closely linked to each other, so that individuals who score highly in one dimension of friendship tend to have a similar score in the other dimensions.

We conclude that the CFS possesses good psychometric properties, making it a valid, reliable instrument in Spanish to measure CF in young adults. The CFA demonstrates the validity of the factorial structure previously obtained by the EFA and, therefore, the validity of the theoretical deductions resulting from this structure (Pérez-Gil et al., 2000).

The main limitation of this work is the representativeness of the sample, as it was not possible to make a random selection of the universities. However, different samples were used for the EFA and the CFA, which is not common practice but is deemed necessary (Henson & Roberts, 2006).

The results obtained by applying the scale will lead to a better understanding of the importance of character friendship for the socio-emotional development, ethical growth or happiness of young adults. Furthermore, it will enable the development of educational intervention programmes that enhance aspects of friendship such as trust, respect, forgiveness or mutual knowledge, which can facilitate collaborative relationships and contribute to social cohesion.

In future research, it would be interesting to replicate this scale in other cultures,

contexts and languages, as this is a continuous exercise in quality (Cohen, 1960), with the aim of consolidating it theoretically and methodologically.

It would be advisable to pay greater attention to the aspects related to measurement, as recent meta-analysis indicates that there is a prevalence of inventories, interviews and observation in the measurement of CF, whereas there is a lack of other instruments, such as self-reports, which are necessary for the advancement of knowledge (Chung et al., 2018; Kochendorfer & Kerns, 2019).

In this respect, although some contemporary neo-Aristotelians are sceptical since it is difficult to be objective about oneself (Kristjánsson, 2020), self-reporting is as important as peer reporting as it offers a unique and individual perspective (internal and external) of CF, although it may be insufficient. A complete evaluation of CF would include the application of this scale as a self-reporting measure, along with a peer report conducted by a friend using the same instrument, where A completes the scale as a self-report and then B evaluates A, as A's friend. This is, therefore, another potential line of research.

ANNEX 1. Validated Character Friendship Scale for young adults (CFS).

This is the initial theoretical model composed of 59 items subjected to the EFA. The final 35 items that constitute the CFS are shown in bold.

1. **I feel that my friend acts like themself with me.**

2. Although we have just left each other, we are still in touch on social media.

3. Although I know my friend well, when it is their birthday, I cannot think of presents that they would like.

4. I would not do anything to harm my friend even if somebody suggested it.

5. **In conversations with my friend, I also talk about my ideas, my values or experiences that have been important for me.**

6. I arrange to meet my friend and help them when I have time.

7. If my friend has behaved badly towards me, I do not trust them like I did before, even if they apologise.

8. If I agree with my friend that I will take care of something (a task, a present, etc.) they know I will do it.

9. When my friend is telling me something important for them, I listen to them carefully, although I look at my mobile phone when they are speaking to me.

10. Even if I am annoyed with my friend, I am nice to them.

11. **I dedicate myself to my friend without thinking about who contributes the most.**

12. I do not mind being silent with my friend.

13. If something is not right in our friendship, I prefer to tell my friend on social media.

14. **My friend brings out the best in me.**

15. **If my friend does something that hurts me, I forgive them.**

16. If we argue about something, I give in without always wanting to be right.

17. **I keep my friend's secrets, even if things are not good between us**

18. If I lose focus in my studies or I am not working, my friend makes sure I get back on track.

19. I avoid talking about personal issues with my friend.

20. I am too direct with my friend and that makes them get annoyed with me.

21. **If I were included in a Whatsapp group where my friend was criticised or excluded from a plan, I would express my disagreement.**

22. If my friend does something that hurts me, I forgive them but I do not forget it.

23. **When I do not agree with my friend's ideas, I express my opinion calmly and do not raise my voice.**

24. **When we go out and we do not want to follow the same plan, I know how to give in.**

25. My friend and I share values or we have similar ideas.

26. **I tell my friend my most personal issues.**

27. If I found myself involved in a conversation where they were saying something bad about my friend, but they were right, I would support what they were saying too.

28. **I trust my friend enough to tell them things about myself that I am ashamed of.**

29. **If at any time my friend has done something which was not right, I have told them frankly.**

30. **My friend is special for me even if they are not for others.**

31. If my friend did something that was against the law, I would cover up for them.

32. **If we argue, I do not let the annoyance last and I try to make up.**

33. My friend and I do not agree on almost anything.

34. **When something good happens, I do not like sharing it with my friend.**

35. **If my friend asks me not to tell people something, I only tell my group of closest friends.**

36. I do not criticise my friend, not even on social media, even if it is just this group of trusted friends.

37.   To avoid conflict with my friend, I avoid talking about issues that we do not agree on.

38.   When I am mistaken about my friend, I recognise it and demonstrate this in some way so that they know.

39.   When my friend does well in something (studies, popularity, flirting…) and I do not, it is hard for me to be happy that things are going well for them.

40.   I talk to my friend about my plans for the future, for work, etc.

41.   If I am asked for my friend's 5 most important qualities, I know what to say.

42.   I like spending time with my friend.

43.   When my friend suggests doing something that is not good (it is not right), I do it despite everything because they are my friend.

44.   I have fun with my friend.

45.   If something is not right with my friend, I talk about it sincerely

46.   I am discrete about my friend's personal issues and I do not tell anybody, even if they ask me directly

47.   I put up with my friend's defects or the things that annoy me about them.

48.   I defend my friend when other people speak badly of them, even when they do so on social media.

49.   If my friend is annoyed, worried, happy, etc., I notice it even if they do not tell me.

50.   I quickly forget my friend's mistakes.

51.   I know I can tell my friend anything.

52.   If my friend tells me that we like the same boy/girl, I try to win.

53.   I help my friend to solve their problems, if it is within my power, even if it is difficult to do so.

54.   If my friend betrays my trust, I feel free to do the same back to them even if it is only in a chat or on social media.

55.   I can say 5 things that my friend does not like.

56.   They are my friend because we go out partying and we have fun, although we do not see each other apart from this and we do not have much in common.

57.   I ask my friend for forgiveness when I have hurt their feelings and/or I have behaved badly.

58.   When my friend and I think differently about issues that I think are important, I try to change their mind.

59.   If I have not spoken to my friend for 2 weeks, I miss them.

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Authors' biographies

Ana Romero-Iribas holds a PhD in Philosophy from the Universidad de Navarra and is Associate Professor at the Universidad Rey Juan Carlos, where she teaches Educational Ethics. Fullbright Fellow at Harvard (2022-2023). Member of the Research and Educational Improvement (IMEI) and AVANTE Teaching Innovation groups at the URJC. Her research focuses on the ethics of education and the philosophy of friendship and interpersonal relationships. Visiting Scholar at the universities of Harvard, Leeds and Navarra.

https://orcid.org/0000-0002-5693-0026

Celia Camilli-Trujillo. PhD in Education from the Universidad Complutense de Madrid. Associate Professor in the Department of Research and Psychology in Education (UCM) in Research Methodology subjects. Member of the Adaptive Pedagogy Research Group (PROFICIENCyIn+EDU, RTI2018-096761-B-I00. MCI/AEI/FEDER, UE, PROFICIENCyIn+E, EDU 2015-63844-R. MINECO/FEDER). Her lines of interest focus on systematic reviews, qualitative research, and mixed methods research.

https://orcid.org/0000-0001-7181-0068

An instrument to evaluate the impact of the higher education accreditation system: Validation through exploratory factor analysis

Instrumento para valorar el impacto del sistema de acreditación en educación superior: validación mediante análisis factorial exploratorio

Begoña GARCÍA-DOMINGO, PhD. Assistant Professor. Universidad Complutense de Madrid (*mariab40@ucm.es*).
Jesús M. RODRÍGUEZ-MANTILLA, PhD. Associate Professor. Universidad Complutense de Madrid (*jesusmro@ucm.es*).
Angélica MARTÍNEZ-ZARZUELO, PhD. Associate Professor. Universidad Complutense de Madrid (*angelica.martinez@ucm.es*).

Abstract:

Introduction: interest in evaluating the improvements resulting from external evaluation processes in higher education has revealed that there is a lack of objective instruments available for this purpose. Consequently, this study presents the design and validation of an instrument for evaluating the improvement effect of the accreditation system of Spanish university degrees. Methodology: a 108-item questionnaire was prepared and was applied to a sample of 1964 subjects from different university groups (students, teachers, management, etc.). Its reliability and construct validity were analysed using exploratory factor analysis (EFA). Results: analysis of the instrument's technical characteristics showed high reliability, both overall and at the dimensional level, with Cronbach's α and McDonald's ω being greater than .95. The EFA identified eight factors that contained the 105 items finally included, explaining 77.37% of the variance in R. Discussion and conclusions: these results all indicate that the instrument designed is reliable and valid, with a solid multidimensional structure that makes it possible to evaluate the impact of the accreditation system on various aspects of Spanish university degrees.

Keywords: measurement instrument, evaluation of impact, accreditation, higher education, exploratory factor analysis.

Resumen:

Introducción: el interés por evaluar los efectos de mejora derivados de los procesos de evaluación externa en educación superior ha puesto de manifiesto la escasez de instrumentos objetivos disponibles para este fin. Así, este trabajo presenta el diseño y la validación de un instrumento que permite valorar el impacto de mejora del sistema de acreditación de los grados universitarios españoles. Metodología: se elaboró un cuestionario de 108 ítems que fue aplicado a una muestra de 1964 sujetos de diferentes audiencias universitarias (estudiantes, profesores, equipos directivos, etc.). Se analizó su fiabilidad y validez de constructo a través de un análisis factorial exploratorio (AFE). Resultados: el análisis de las características técnicas efectuado mostró la elevada fiabilidad del instrumento, tanto a nivel global como dimensional, con coeficientes α de Cronbach y ω de McDonald superiores a .95. El AFE identificó ocho factores que agrupaban los 105 reactivos finalmente incluidos, lo que explicó el 77.37 % de la varianza de R. Discusión y conclusiones: todos estos resultados indican que el instrumento diseñado es una herramienta fiable y válida, con una sólida estructura multidimensional que permite evaluar el impacto del sistema de acreditación sobre diversos ámbitos de los grados universitarios españoles.

Descriptores: instrumento de medida, evaluación del impacto, acreditación, educación superior, análisis factorial exploratorio.

1. Introduction

The Sorbonne (1998) and Bologna (1999) declarations laid the foundations for the European Higher Education Area (EHEA), the origins of which are in the *Magna Charta Universitatum*, which was signed in 1988, in Bologna, by the rectors of various European universities. One of the principal objectives of this new way of understanding higher education in Europe was to adopt an education system that would make it possible to align qualifications between countries, thus favouring employability and the mobility of professionals and students, also increasing the competitiveness and international recognition of our higher education compared with that of the rest of the world (Ibáñez-López et al., 2020).

This "educational globalisation" required monitoring that would ensure ongoing alignment with the change to which the affiliated countries (49 at present) had committed. So, Matarranz (2021) states that, following the meeting of ministers in Prague in 2001, some operational aspects were added to the six initial objectives of the Bologna Process, notably the need to develop quality assurance systems and certification and accreditation mechanisms. In this context, the European Quality Assurance Register for Higher Education (EQAR) was established in Brus-

sels in 2008 with the aim of harmonising these mechanisms and offering guidance on them. The quality agencies of thirty different countries, which have committed to comply with the current *Standards and guidelines for quality assurance in the European Higher Education Area* (ENQA, 2015), are registered in it.

In this regard, and although implementation of the EHEA in Spain did not start until 2008 with the first bachelor's degree qualifications, the Agencia Nacional de la Calidad y la Acreditación (National Quality and Accreditation Agency, ANECA) was founded in 2002. It is one of the Spanish bodies that is a member of EQAR, along with nine other agencies from some of Spain's autonomous communities. Its central objective is "to promote and assure the quality of Spain's higher education system through processes of guidance, evaluation, certification and accreditation, contributing to the development of the European Higher Education Area" (Royal Decree 1112/2015, p. 6).

Since its foundation, ANECA's mandates have included monitoring whether the qualifications offered by Spanish higher education institutes (HEIs) comply with the European norm (something known as the *verification system*) and to do so it carries out the ensuing monitoring to ensure that the verified reports (official documents setting out the content of degree programmes) are complied with (*accreditation system*) through the ACREDITA programme launched in 2014 (Galindo, 2014). In this sense, the recent Organic Law 2/2023, of 22 March, on the University System, states that:

> The functions of accreditation and evaluation of university teachers, institutional accreditation, evaluation of university qualifications, monitoring of results and reporting in the university sphere, and any others attributed by the laws of the state and of the autonomous regions, correspond to the national quality evaluation and accreditation agency (ANECA) and to the evaluation agencies of the autonomous regions that are entered in the European Quality Assurance Register (EQAR). (p. 18)

The great importance placed on all of these quality assurance systems is illustrated by the fact that they have been the object of direct attention in the legislative changes that have taken place in Spain since they were first mentioned in 2001 at the Prague meeting. Although listing these changes goes beyond the objectives of this study, it is enough to note that the most recent update in this regard appears in Royal Decree 822/2021, in which chapter VII proposes procedurally reconsidering the verification, monitoring, and renewal of the accreditations of qualifications with the aim of simplifying the processes involved and reducing their level of bureaucracy.

In this way, and in the specific case of the accreditation process in Spanish HEIs, which is the main focus of this work, they are renewed every six to eight years depending on the number of credits in the degree, while master's qualifications are accredited every four years and doctoral ones, every six. In this sense, Vázquez (2015) and Díaz et al. (2019) affirm that this pe-

riodical monitoring has made it possible to achieve a double objective: establishing an institutional culture of quality and putting into practice the instruments and systems needed to be able to guarantee it.

Outside Spain, Ulker and Bakioglu (2018) found that external evaluations appear to contribute to improving institutional processes and practices (especially in institutions that have been operating for under 20 years), also indicating that the initial accreditation is more effective than the successive re-accreditations. Martínez-Iñiguez et al. (2020), however, obtained results that indicate that these evaluation processes essentially mean that HEIs accumulate evidence that enables them to comply with the quality indicators proposed by the external bodies, even if they doubt the effective impact they might have on the educational programmes.

This variety of results, as well as the great attention paid by governmental institutions in this respect, justify the need for further in-depth study of the effects of external evaluation processes in higher education (HE), which has inspired works that enable the identification of the scope perceived by the groups involved (Márquez & Zeballos, 2017; Torres-Salas et al., 2018; Parra et al., 2019; Ferreiro et al., 2020; Martínez et al., 2022). Especially striking in this regard are the studies that find that accreditation systems are necessary and do contribute to improvements in qualifications, even though they are often seen as obligatory red-tape that can result in an excessive workload for the groups involved due to their complexity and high level of

bureaucracy (Martínez et al., 2017; Monarca et al., 2018; Ibáñez-López et al., 2020).

In any case, addressing the evaluation of their impact is an important aspect for improving organisations and intervention processes, and there are few studies that do so in the literature. In addition, in some cases, the impact in the sense of immediate results is alluded to, although our definition of this concept can be found in Fernández-Díaz (2013), as will be explained below.

In this context, the criteria that make it possible to identify areas in which accreditation systems should have a positive impact are set out in the revised version of the *European standards and guidelines for quality assurance in the European higher education area* (ESG, approved in Yerevan in May 2015) and in their Spanish implementation (included in the Resolution of 7 March 2018, of the General Secretariat for Universities, currently substituted by the Resolution of 3 March 2022). So, in the design of the instrument presented here, we used an integral focus based on identifying the major dimensions in which the impact is manifested and on analysing the structure, functioning, and organisation of university centres (Cetzal et al., 2012; Lorenzo, 2011; Thurler & Maulini, 2010; Trujillo, 2007; Rodríguez, 2006). The subdimensions that encompass the content to evaluate are identified on the basis of these broad dimensions, as are finally the indicators and the corresponding items that make up the scale.

A detailed bibliographic analysis has shown that there are very few tools for

evaluating the impact on the matter that concerns us here, with exceptions such as those recorded by Fernández-Díaz et al. (2016), Egido et al. (2016), or Fernández-Cruz et al. (2016). In any case, and based on the contributions proposed in the different studies analysed (Martínez-Zarzuelo et al., 2022; Rodríguez-Mantilla et al., 2021a; Rodríguez-Mantilla et al., 2021b; Fernández-Díaz et al., 2016; Egido Fernández et al., 2016; Fernández-Cruz et al., 2016; Fernández-Díaz, 2013; Cetzal et al., 2012; Lorenzo, 2011; Thurler & Maulini, 2010), the four large areas (and sub-areas) of impact included in our measurement instrument have been identified, and are described below:

a) Organisation and management: the qualification accreditation systems should have an effect on the structuring, organisation, and management of the different actions that ensure the appropriate functioning of the institution. This area might encompass aspects relating to the organisation and management of classrooms and spaces, ICT resources and services, teaching and research staff (TRS) and services and administration staff (SAS), processes for enrolment and recognition of modules, student support and guidance services (SSG), mobility and external internship programmes, the website, and internal communications.

b) Planning: this area relates to the organisation of the educational practice implemented with regards to the appropriateness of the competences, the content and the structure of the qualifications in modules, subjects, and courses. Ultimately, following the syllabus and organisation of the teaching of the qualifications.

c) Teaching-learning process: the accreditation should have an impact on the elements inherent to the teaching-learning process, that is to say, on the development of the teaching and of the educational activities provided in the centres and on their results. Specifically, this domain would encompass sub-areas related to the planning of teaching, its evaluation, and the didactic methodology and resources used.

d) Quality management: finally, it is essential that any external evaluation considers aspects relating to the efficacy of the actions carried out in the quality office and in the internal quality assurance system (IQAS), such as: general functioning, evaluating the satisfaction of the people involved, external internships, mobility, labour integration, information systems, and managing complaints, claims and suggestions.

All of these aspects are in line with the dimensions supervised during the accreditation processes identified in the ENQA's ESG guidelines (2015) and, in part, with the recently published quality indicator scoreboard developed by the Smart-Qual (2022) project.

Given the obvious complexity of supervising all the aspects listed above, it is critical to establish whether the time and results invested in this process are directly reflected in improved HEIs (Sarasola et al., 2015); in other words, the potential improvement that external evaluation processes should

provide still needs verified evidence that prove it. Furthermore, bearing in mind that the quality of the information collected is fundamental in any process of evaluation in which measurement is a basic requirement, it is not only necessary to carry out studies that make it possible to establish whether the accreditation systems result in improved HE qualifications, but also to do so by using reliable and valid instruments designed for this purpose. Accordingly, the detailed analysis of empirical data that instruments like the one presented here make it possible to collect, can be used, among other things, to reflect on the strengths and weaknesses present in the different qualifications offered by HEIs and, thus, to have a direct impact on improving the quality of the training they provide. Ultimately, and to contribute to this process, the primary aim of this work is to present the design and validation of an instrument for measuring the impact of the implementation of the accreditation system on improvements in degree qualifications, from the point of view of all of the groups involved (management teams, coordinators, teachers, students, etc.), with this *impact* understood to be the changes that occur in the medium or long-term in the organisations and become consolidated as a consequence of concrete interventions (Fernández-Díaz, 2013), with a minimum period of three years being required for evaluation (Rodríguez-Mantilla et al., 2021a).

2. Method

2.1. Participants
The sample comprises 1964 subjects selected by non-probabilistic convenience sampling. Consequently, there was a subject-to-item ratio of 18.18 (greater than the range of 5-10 recommended by Hair et al., 2014). The subjects who participated were from different university populations, with the prior requirement that they had worked or studied in the centre for at least four years (recommended by Rodríguez-Mantilla et al., 2021a). So, 5.2% of the participants were from the management and coordination teams of the collaborating institutions, 9.8% were teachers, 5.4% were members of SAS, and the remaining 79.5% were final-year bachelor's degree students.

A total of 13 publicly-owned (83.8%) and privately-owned (16.2%) Spanish universities from the Region of Valencia (13.3%), from the Region of Madrid (64%), and from Castilla y León (22.8%) were involved. The distribution by qualifications shows that 54.6% of the sample were from the Primary Teacher Training degree, 5.1% from Computer Engineering, 17.4% from Nursing, 17.7% from Biology, and 5.1% from Philosophy (qualifications chosen to represent the five major areas of knowledge: social and legal sciences, engineering, health sciences, and arts and humanities). 31% of the study sample were male and the remaining 69%, female.

2.2. Design of the Instrument
The questionnaire presented here was designed to find out the impact of implementing the accreditation system on improvements to qualifications and the training of university students. To configure the system of dimensions and subdimensions that underpin it, a solid national and international theoretical foundation was used as a basis (the references are given in the

introduction to the present work), thus contributing to its content validity. Table 1 and the Annex to this work show the final dimensions, subdimensions and items.

The items were drawn up based on these dimensions and subdimensions (following Rodríguez-Mantilla et al., 2021a). The instrument initially comprised a total of 108 items but after the analysis of the factorial solutions obtained, three were eliminated. These are marked with an asterisk in the Annex. Each item was designed for evaluation on a five-item Likert-type scale, with (0) corresponding to "No improvement" and (4) to "Much improved". A series of sociodemographic variables about the subjects surveyed were also collected (university, faculty, degree, ownership of the centre, age, and gender).

TABLE 1. Structure and composition of the questionnaire.

DIMENSIONS	SUBDIMENSIONS	ITEMS	N Total
1. ORGANIZATION AND MANAGEMENT	1.1. Classrooms and special spaces	1-2	46
	1.2. ICT resources and services	3-10	
	1.3. TRS and SAS	11-15	
	1.4. Enrolment and module recognition processes	16-19	
	1.5. SSG	20-23	
	1.6. Mobility and external internship programmes	24-31	
	1.7. Website	32-42	
	1.8. Internal communication	43-46	
2. PLANNING	2.1. Syllabus structure	47-49	9
	2.2. Organisation of teaching	50-55	
3. TEACHING-LEARNING PROCESS	3.1. Planning of teaching	56-63	20
	3.2. Evaluation	64-68	
	3.3. Didactic methodology	69-72	
	3.4. Teaching resources	73-75	
4. QUALITY MANAGEMENT	4.1. Quality office	76-77	33
	4.2. IQAS	78-108	

2.3. Process

The instrument was self-administered and was completed on paper and online. In the case of students only, the questionnaire was administered in person in the classroom supervised by a member of the research team who provided the necessary instructions and resolved any doubts. To gain access to the participating subjects, we initially made contact by email with the people in charge of

quality in the faculties and universities selected as potential collaborators. This email requested their cooperation, informed them of the objectives of the project, and assured the confidentiality and anonymity of the data collected. In later meetings, after they had agreed to participate, the sessions in which the instrument would be administered to the students were organised and the links to access the digital format of the instrument were provided for the other groups of interest.

2.4. Data analysis

The responses to the instrument were coded and analysed using the IBM SPSS (version 25) software package. The reliability of the instrument was initially studied by calculating Cronbach's alpha (α) and McDonald's omega (ω), which reflect the internal consistency of the scale, both for the items as a whole and for each of their dimensions. To analyse the construct validity, we used exploratory factor analysis (EFA), a data reduction technique that enables the identification of the internal structure of the evaluation instrument and the nature of the constituent factors (Hair et al., 2014).

3. Results

3.1. Reliability

Reliability is a fundamental element of the quality of any measurement instrument, as it guarantees the stability and precision of its scores. As Table 2 shows, the reliability coefficients for the scores in the test as a whole and those referring to each dimension taken individually, show highly satisfactory values (Cronbach's α and McDonald's ω above .95), indicating the high internal consistency of the items in the questionnaire developed.

Similarly, the corrected homogeneity indexes of the items ($_cHI$) range from .854 for item 72 ("The accreditation systems have contributed to teachers adapting the activities to the characteristics of the group of students") to .495 for item 40 ("The accreditation systems have contributed to improving online access to information about the composition of the unit responsible for the quality assurance system"), indicating that the discriminating power of the items is very good.

TABLE 2. Reliability coefficients of the measurement instrument
(108 initial items and 105 final items).

Dimensions	108 initial items		105 final items	
	McDonald's ω	Cronbach's α	McDonald's ω	Cronbach's α
Dimension 1. Organisation and management	.983	.983	.982	.982
Dimension 2. Planning	.956	.955	.956	.955
Dimension 3. Teaching-learning process	.956	.955	.957	.957
Dimension 4. Quality management	.980	.980	.980	.980
INSTRUMENT (OVERALL)	.993	.993	.992	.992

However, as noted below, the results of the communalities showed the advisability of eliminating three items (as they had values below .40), and so the final instrument comprised 105 items. Table 2 shows the results for the reliability of the final instrument (also satisfactory).

3.2. Construct validity

We used exploratory factor analysis (EFA) to analyse the construct validity. Use of this multivariate technique is justified if the existing correlations between the different items of the instrument are acceptable. On this occasion, the three statistics used to analyse the significance level of the correlation matrix (determinant of R = 9.452E-105, KMO = .971, and the Bartlett χ^2 sphericity test = 461 605.019, p <.001) reflected high indices of interrelation between the items on the questionnaire, making it possible to reject the null hypothesis, and justifying their reduction and the search for latent factors that group them (López-Aguado & Gutiérrez-Provecho, 2019).

We used the unweighted least squares (ULS) method for factor extraction, with the eigenvalue criterion > 1. We chose this method as it does not require normality of variables and it is appropriate for vari-ables whose measurement level is "quasi-interval" (Weaver, 2015).

A total of eight factors were extracted, explaining 77.37% of the variance observed. The items displayed communalities between .425 and .999, except for items 45 ("The accreditation systems have improved the spread of information, internally, about complementary training for students on the qualification"), 46 ("The accreditation systems have improved the spread of information, internally, about job offers for students"), and 73 ("The accreditation systems have contributed to the use of technological resources by students in the completion of the classes"), which had values below .40, and so it was decided to eliminate them after evaluating the factorial solutions found with and without including them.

This initial solution underwent *promax* oblique rotation (which assumes a correlation between the resulting factors), with factor loadings of below .30 being rejected (Izquierdo et al., 2014). Table 3 shows the rotated factor matrix obtained after eliminating the three items with low communality, so that the remaining items are included in the component in which they achieved a higher factor loading.

TABLE 3. Configuration matrix for rotated factors (promax).

ITEMS	COMPONENTS							
	F1	F2	F3	F4	F5	F6	F7	F8
11	0.767							
12	0.771							
13	0.416							

14	0.710
15	0.690
27	0.908
40	0.958
41	0.935
42	0.944
43	0.680
44	0.829
47	0.813
48	0.789
49	0.836
76	1.025
77	1.031
78	1.026
79	0.888
80	0.995
81	0.988
82	0.884
83	1.009
85	0.968
88	1.001
89	0.967
90	0.974
91	0.879
92	0.966
93	0.990
94	0.969
95	0.587
96	1.026
97	1.036
98	1.040
99	1.039

100	0.993							
101	1.004							
102	0.854							
103	0.950							
104	0.995							
105	1.002							
106	1.017							
107	1.011							
108	0.998							
56		0.658						
57		0.693						
58		0.739						
59		0.731						
60		0.749						
61		0.701						
62		0.688						
63		0.728						
64		0.788						
65		0.800						
66		0.699						
67		0.845						
68		0.838						
69		0.817						
70		0.595						
71		0.767						
72		0.785						
74		0.671						
75		0.641						
26			0.942					
29			0.951					
30			1.097					
31			1.121					
50			0.618					

51			0.608					
52			0.616					
53			0.813					
54			0.907					
55			0.734					
1				0.505				
2				0.473				
3				0.678				
4				0.668				
5				0.813				
6				0.791				
7				0.635				
8				0.597				
9				0.348				
10				0.462				
32					0.749			
33					0.745			
34					0.820			
35					0.722			
36					0.725			
37					0.623			
38					0.483			
39					0.426			
84						0.721		
86						0.849		
87						0.916		
16							0.599	
17							0.587	
18							0.886	
19							0.833	
20								0.408
21								0.482
22								0.490

23								0.496
24								0.814
25								0.865
28								0.735

The content of the items (described in the Annex) associated with each of the components shown in Table 3 made it possible to define the factors on which the impact of the accreditation systems is evaluated with this instrument:

1. Factor 1. Quality management, planning the structure of the syllabus, and organisation and management of SAS and TRS: this important factor comprising forty-four items explains 37.55% of the variance and includes all of the aspects relating to the improvement in the functioning of the quality office, the IQAS of the institutions and the evaluation of the learning process of students and teachers; this was combined with the impact on the information on the website regarding questions relating to quality, coherence, sequencing, and following of the syllabuses of the different qualifications, and, finally, the impact on the professional profiles, mobility programmes, and training activities planned for TRS and SAS.

2. Factor 2. Teaching-learning process (T-L): this factor reflects the impact of the accreditation systems for qualifications on the improvement in the preparation of module handbooks, evaluation, methodology, and teaching resources directly involved in the academic activities provided in the different degrees. This explains approximately 23% of the variance and retains nineteen of its twenty initial items after the elimination of number 73.

3. Factor 3. Organisation and planning of the external internships and the organisation of teaching: a component linked to the management of students' external internship and the institutional coordination and planning procedures for the teaching of the qualifications. It explains 7% of the variance based on the grouping of the ten items that comprise it.

4. Factor 4. Organisation and management of classrooms, special spaces, ICT resources and services: this captures the perceived improvement in the suitability, availability, and quality of the facilities and services needed for the development of the teaching-learning process, explaining 3% of the variability found. This includes the first ten items from the questionnaire.

5. Factor 5. Organisation and management of the website: this groups

together nine items relating to improvement in access to the information on the website on aspects of relevance for students, explaining 2.44% of the variance.

6. Factor 6. Management of the quality of the teaching work of the teachers: a component relating to the procedures underpinning the system for evaluating student satisfaction with teacher performance and with the training activities designed in response to the results of it. It is responsible for 1.93% of the variability observed and includes three items.

7. Factor 7. Organisation and management of the enrolment and module recognition processes: structured around the items that evaluate how accreditation improves this important subdimension. It is responsible for explaining 1.35% of the variance of the data. This retains the group of four items considered in its original subdimension.

8. Factor 8. Organisation and management of mobility programmes and the student support and guidance service: this includes the items relating to the improvement of the SSG and of the mobility programmes aimed at students. This explains 1.16% of the remaining variance, based on the association of seven items.

According to this, the factorial solution obtained coherently groups the sixteen sub-

dimensions proposed in the initial model into eight factors (a solution that is also obtained with an oblimin rotation, providing great robustness to the model). So, while the dimensions relating to organisation and management (dimension 1) and planning (dimension 2) maintain many of their initial subdimensions, those referring to the teaching-learning process (dimension 3) and quality management (dimension 4) are defined as major components in themselves.

4. Discussion and conclusions

This work has presented the design and psychometric properties of an instrument for evaluating the impact of the accreditation systems, developed with the aim of collecting the evaluations by the different groups involved of the impact of the improvements resulting from the implementation of the accreditation system in degree qualifications in Spanish HEIs. It should be noted that, in this work (given its characteristics), the sample size achieved is one of the key elements that enable this analysis (Hair et al., 2014).

The review of recent literature has revealed the small number of studies relating to the analysis of the impact of this system in Spain, considerably fewer than in Latin America and other international contexts (Guzmán-Puentes & Guevara-Ramírez, 2022; Martínez-Zarzuelo et al., 2022; Rodríguez-Mantilla, 2021a & 2021b; Fernández-Díaz et al., 2016; Fernández-Cruz et al., 2016). Moreover, even fewer studies use quantitative measurement instruments or centre on showing the design and validation of these tools (Martínez-

Iñiguez & Tobón, 2019). This justifies the interest in developing a proposal like the one presented here enables progress in both aspects.

This situation underlines the need to encourage research that makes it possible to increase the body of evidence through the use of objective and rigorous procedures (Fernández-Díaz, 2013). This can help determine whether periodic accreditations of qualifications do actually result in improvements that can be consolidated, in regard to the functioning of the institutions and the quality of the education they offer.

Given the wide variety of aspects that could benefit from these improvements, the instrument's design started from theoretical analysis of the areas that national and international agencies that evaluate the quality of HEIs consider to be suitable for monitoring. This made it possible to propose an initial model based on four large dimensions in which the changes caused by the system of accreditation of the qualifications can be evaluated: organisation and management, planning, teaching-learning process, and quality management. This structure provided the basis for the formulation of the original instrument, which comprised 108 items organised in sixteen different subdimensions (see Annex).

The analysis of the technical characteristics of the instrument has shown its high reliability, both at a global level and in each of its dimensions. For its part, the exploratory factor analysis (EFA) showed that the instrument has a solid and robust multidimensional structure, making it pos-

sible to identify the components in which the items are grouped. These results can be interpreted as an indicator of the adequate construct validity of the measurement instrument and of the appropriateness of the proposed dimensional structure.

The sixteen subdimensions that made up the initial areas have been reduced and grouped into eight single components. So, dimension 2, relating to the teaching-learning process, stayed as a single factor, while quality management (all of dimension 4) combined divisions initially associated with planning (dimension 2) and organisation and management (dimension 1). The other subdimensions from these latter dimensions kept their initial composition, albeit as factors in themselves. We should also recall that the study of the communality of the items suggested that three of the original items from the instrument should be eliminated (items 45, 46, and 73).

Having reached this point, and in view of what is set out above, the complexity of the processes that contribute to the development and functioning of qualifications and university institutions is obvious. Therefore, while we can conclude that the present study provides a valid and reliable instrument for the scientific field that makes it possible to evaluate the impact of the accreditation systems on degree qualifications, we feel that it would be advisable to use it in combination with more qualitative techniques in order to triangulate the data collection and so be able to consider in more depth aspects that are difficult to evaluate using the survey procedure. Similarly, it would be especially interesting within this

field of knowledge to complement the evaluation of the impact of the implementation of accreditation systems on the bachelor's degree qualifications with the resulting improvement in postgraduate qualifications to obtain a more complete image of the true improvement that these systems produce in all of the qualifications linked to HEIs. Accordingly, the instrument designed in this project can largely serve as a model to be applied to the populations involved in master's and doctorate qualifications (with the appropriate modifications and adaptations of content to what is demanded in these educational levels), obtaining evaluations

of the impact of the improvements that the accreditation process causes in postgraduate qualifications, providing an overview of the perceived utility of this process, and allowing for an evidence-based review of it.

These new objectives are undoubtedly a real stimulus for continuing with this line of work in future, as considering them in more depth will make it possible to optimise the time and resources that the educational community uses in external evaluation processes for qualifications and, ultimately, to improve the quality of higher education in Spain.

ANNEX.

QUESTIONNAIRE TO EVALUATE THE IMPACT OF ACCREDITATION SYSTEMS ON DEGREE QUALIFICATIONS

1. ORGANISATION AND MANAGEMENT
How much, in your centre, have accreditation systems helped improve:

1.1. CLASSROOMS AND SPECIAL SPACES

Item 1. The suitability of classrooms and special spaces for educational work.

Item 2. The possibility of using classrooms and special spaces for educational activities.

1.2. ICT RESOURCES AND SERVICES

Item 3. The availability of ICT resources for educational activities.

Item 4. The updating of ICT resources for educational activities.

Item 5. The availability of the library service's facilities and resources.

Item 6. The quality of the library loan service.

Item 7. Advice on bibliographic searches and consulting databases.

Item 8. The system for booking classrooms and special spaces.

Item 9. The student administration service.

Item 10. The reprographics service.

1.3. TEACHING AND RESEARCH STAFF (TRS) AND SERVICES AND ADMINISTRATION STAFF (SAS)

Item 11. The TRS increasing its participation in teaching innovation projects.

Item 12. The SAS staff levels being sufficient to be able to meet the different needs.

Item 13. The profile and professional experience of the SAS being appropriate for carrying out their activities.

Item 14. The accessibility of continuous training activities for TRS/SAS.

Item 15. Continuous training activities meeting the needs of the TRS/SAS.

1.4. ENROLMENT AND MODULE RECOGNITION PROCESSES

Item 16. The accessibility of information and media in the student pre-registration process.

Item 17. The student enrolment system.

Item 18. Credit validation and recognition processes.

Item 19. Timescales for resolving credit validation and recognition processes.

1.5. STUDENT SUPPORT AND GUIDANCE SERVICE

Item 20. The development of welcome systems for newly admitted students.

Item 21. The development of information activities for students who are already enrolled.

Item 22. The development of guidance and tutorial action plans for students.

Item 23. Coordination between the student support and guidance services.

1.6. MOBILITY AND EXTERNAL INTERNSHIP PROGRAMMES

Item 24. Increasing agreements for study mobility programmes.

Item 25. Promotion of student mobility.

Item 26. Promotion of TRS mobility.

Item 27. Promotion of SAS mobility.

Item 28. Monitoring of mobility programmes for students and teachers.

Item 29. Carrying out increased monitoring of mobility programmes for students and teachers.

Item 30. Increased agreements with institutions to develop external internships.

Item 31. Increased monitoring of how students make the most of their external internships.

1.7. WEBSITE
How much the accreditation systems have improved online access to information about:

Item 32. The description and rationale of the qualification.

Item 33. The description of the entrance profile of students admitted to the qualification.

Item 34. The admissions criteria for the degree.

Item 35. The documentation required for the process of student enrolment on the degree.

Item 36. The syllabus of the degree.

Item 37. The module handbooks for each module on the qualification.

Item 38. Credit recognition and transfer criteria.

Item 39. Requirements and processes for obtaining scholarships and bursaries.

Item 40. The composition of the unit responsible for the quality assurance system.

Item 41. The report of the qualification.

Item 42. The verification, accreditation, monitoring, and renewal reports for the qualification of the accreditation.

1.8. INTERNAL COMMUNICATION
How much accreditation systems have improved the internal distribution of information about:

Item 43. Training plans and courses for TRS/SAS.

Item 44. Mobility programmes for TRS/SAS.

Item 45(*). Complementary training for students on the qualification.

Item 46(*). Job offers for students.

2. PLANNING

2.1. SYLLABUS STRUCTURE
How much the accreditation systems have contributed to:

Item 47. The existence of a better alignment between the report of the qualification and the planning of the modules.

Item 48. The alignment and appropriateness of the distribution and sequencing of the modules throughout the qualification for the training of the students.

Item 49. The existence of more monitoring of academic planning (respecting schedules, evaluation criteria, hours of internship, etc.).

2.2. ORGANISATION OF TEACHING
How much the accreditation systems have helped improve the procedures that favour:

Item 50. Allocating spaces for the correct development of the modules.

Item 51. The adequacy of the profile of the teachers to the specific features of the modules they deliver.

Item 52. Coordination between teachers of modules in the same year.

Item 53. Coordination between teachers in theory and practical classes.

Item 54. Coordination between external internship tutors from the centre and those from the external centres.

Item 55. The system for setting schedules of duties and modules.

3. TEACHING-LEARNING PROCESS
The accreditation processes have contributed to:

3.1. PLANNING

Item 56. All of the module handbooks being reviewed every academic year.

Item 57. The learning outcomes being defined in the handbooks for all of the modules.

Item 58. The competences of the modules being aligned with the training that the degree aims to provide.

Item 59. The content of the modules matching what is set out in the qualification report.

Item 60. The content of the modules being kept up to date.

Item 61. Teachers on different modules coordinating to avoid overlaps in content.

Item 62. Teachers who teach the same module coordinating to teach the same content.

Item 63. The bibliography of the module handbooks being up to date.

3.2. EVALUATION

Item 64. The most appropriate evaluation systems being used to evaluate whether the students have achieved the learning outcomes.

Item 65. The proposed evaluation system making it possible to evaluate the acquisition of competences by the students.

Item 66 .The students being clear about the evaluation criteria of the modules .

Item 67. Use of a wider variety of evaluation techniques (self-evaluation, co-evaluation, hetero-evaluation).

Item 68. Use of a wider variety of evaluation instruments (essay-question exams, tests, projects, etc.).

3.3. DIDACTIC METHODOLOGY

Item 69. Use of a wider variety of didactic methodologies that foster active learning.

Item 70. Promotion of students' autonomy.

Item 71. Students being dealt with in an individual and personalised way in classes.

Item 72. Teachers adapting the activities to the characteristics of the group of students.

3.4. TEACHING RESOURCES

Item 73(*). Use of technological resources by students in-class (laptops, tablets, programs, etc.).

Item 74. Use of a wider range of teaching resources by teachers in their classes (audiovisual media, articles, laboratories, etc.).

Item 75. Teachers having sufficient material resources for the number of students they have.

4. QUALITY MANAGEMENT

4.1. QUALITY UNIT OR OFFICE
The accreditation processes have contributed to:

Item 76. Increase the number of members of the quality unit or office to perform their allocated functions.

Item 77. Improve the training of these members to carry out their functions.

4.2. INTERNAL QUALITY ASSURANCE SYSTEM (IQAS)

Functioning
The accreditation systems in your centre helped improve:

Item 78. The definition of the centre's operational processes and procedures.

Item 79. The alignment between what is established in the IQAS and the system for making decisions.

Item 80. Monitoring of the decisions made in the IQAS meetings.

Learning process and teaching work of teachers
Los sistemas de acreditación han contribuido a que en su centro mejore:

Item 81. The system for evaluating students' satisfaction with the learning process.

Item 82. The system for evaluating teachers' satisfaction with the learning process.

Item 83. The design of improvement steps based on the results of the survey of satisfaction with the learning process.

Item 84. The system of evaluation of the teaching work by the students.

Item 85. The system of evaluation of the teaching work by the teachers.

Item 86. The design of improvement steps based on the results of the survey of satisfaction with teacher performance.

Item 87. The design of training activities according to the areas for improvement identified in the survey of satisfaction with teaching.

External internships
The accreditation systems have helped to:

Item 88. Increase the number of hours of external internships to achieve the qualification's competences.

Item 89. Increase in the number of external internship places offered in different bodies.

Item 90. Improve the detailed monitoring of the external internships of students by the faculty tutors.

Item 91. Improve the coordination between the people in charge of the internships (external and internal).

The accreditation systems have helped increase the level of satisfaction with the internships:

Item 92. Of the students.

Item 93. Of the tutors from the qualification.

Item 94. Of the tutors from the external internship centres.

Item 95. The accreditation systems have helped improve the design of improvement steps based on the results of the external internship satisfaction surveys.

Mobility
The accreditation systems have helped improve:

Item 96 The results of the survey of students on the work done by the mobility support services.

Item 97. Mobility tutors' monitoring of students who participate in these programmes.

Item 98. The degree of satisfaction of students who participate in the mobility plan.

Item 99. The design of improvement steps based on the results of the surveys of satisfaction with the mobility programme.

Labour integration
The accreditation systems have helped improve:

Item 100. The system for collecting information about the labour integration of graduates from the qualification.

Item 101. The analysis of the labour integration results obtained and the design of steps to strengthen the identified areas for improvement.

Information systems
The accreditation systems have improved the system for evaluating
students' satisfaction with:

Item 102. Information about students' access and admission on the institutional website.

Item 103. The description of the qualification on the institutional website.

Item 104. Information about the qualification's competences on the institutional website.

Item 105. Information about quality management on the institutional website.

Complaints, claims, and suggestions
The accreditation systems have improved:

Item 106. The definition of the procedures for action in response to complaints, claims and suggestions by students.

Item 107. Personal and public information about the status of complaints, claims and suggestions for improvement received.

Item 108. The development of strategies for improvement to respond to complaints, claims, and suggestions received.

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Authors' biographies

Begoña García-Domingo. Doctor of Psychology from the Universidad Autónoma de Madrid (UAM). She was an associate professor in the Department of Evolutionary Psychology and Education of the CES Don Bosco in Madrid higher education institute (affiliated to the Universidad Complutense de Madrid [UCM]) until 2019. Since then, she has carried out her teaching and research activity in the Department of Research and Psychology of Education (in the research methods area) of the Faculty of Education of the UCM. She is a member of the "Quality and evaluation of educational institutions" research group (UCM). She has participated in different research and innovation projects, especially taking an interest in measuring and evaluating the competences of teachers, emotional intelligence in formative settings, and educational quality.

https://orcid.org/0000-0002-5784-0460

Jesús-M. Rodríguez-Mantilla. Doctor of Education from the UCM. He teaches in the Department of Educational Research and Psychology (in the research methods area) of the Faculty of Education of the UCM. He is director of the "Quality and evaluation of educational institutions" research group (UCM). He has two recognised six-year periods of research activity. He is associate director of the *Bordón. Revista de Pedagogía* journal. He is currently coordinator of the degree in Pedagogy and coordinator of the School Pedagogy Practicum in the Faculty of Education of the UCM.

https://orcid.org/0000-0002-0885-3484

Angélica Martínez-Zarzuelo. Doctor of Education from the UCM. She teaches and researches in the Department of Didactics of Experimental Sciences, Social Sciences and Mathematics (in the didactics of mathematics area) of the Faculty of Education-Teacher Training Centre of the UCM. Her research interests include educational evaluation and educational quality. She is a member of the "Quality and evaluation of educational institutions" research group (UCM).

https://orcid.org/0000-0001-5653-2311

The Spanish History test for university entry: Analysis and comparison among autonomous regions[1]

La prueba de Historia de España para acceder a la universidad: análisis y comparación entre comunidades autónomas

Judit RUIZ-LÁZARO, PhD. Level III Lecturer. Universidad Europea de Madrid (*judit.ruiz@universidadeuropea.es*).
Coral GONZÁLEZ-BARBERA, PhD. Associate Professor. Universidad Complutense de Madrid (*corala@ucm.es*).
José-Luis GAVIRIA-SOTO, PhD. Associate Professor. Universidad Complutense de Madrid (*josecho@ccedu.ucm.es*).

Abstract:

The university entry procedure is a critical aspect for students gaining entry to higher education. This work has a dual purpose: to analyse the structure of the Spanish History test for university entry, according to the autonomous region in which it is designed, and to study the relationship between the differences observed in the structure and average performance obtained by students. A comparative analysis has been carried out with a methodological approach of rational analysis of documentary evidence with sixty-eight exams from 2019, adapting the approach proposed by García-Garrido (1991). Likewise, a secondary analysis has been conducted of the data published annually by the Integrated University Information System. The results show substantial differences in the assessment of national historical knowledge: in the structure and content, in the cognitive level and in the marks. Disparities are specifically observed in the language of the test, in the optional nature, in the number of questions and in the content blocks that are assessed: in Catalonia, Valencia and the Basque Country, neither Ancient History nor the Middle Ages, nor the Modern Era are assessed. Likewise, the Balearic Islands, Canary Islands, Cantabria, Castile-La Mancha and Castile and León demand a higher cognitive level from their students. These aspects determine the heterogeneity in the constructs used, in such a way that neither the same understanding nor the same skills of

national historical knowledge are being measured throughout the autonomous regions.

Keywords: historical knowledge; external tests; external assessment; university entry; Spanish History.

Resumen:

El procedimiento de ingreso a la universidad es un aspecto crítico para los estudiantes que pretenden cursar enseñanzas superiores universitarias. El presente trabajo tiene una doble finalidad: examinar la estructura de la prueba de Historia de España para acceder a la universidad en cada comunidad autónoma y estudiar la relación entre las diferencias observadas en tales diseños y el rendimiento promedio obtenido por los estudiantes. Para ello, se ha llevado a cabo un análisis comparativo de sesenta y ocho exámenes de 2019, con un enfoque metodológico de análisis racional de evidencia documental basado en García-Garrido (1991). Asimismo, se ha realizado un análisis secundario de los datos publicados anualmente por el Sistema Integrado de Información Universitaria. Los resultados muestran diferencias sustanciales en la evaluación del saber histórico nacional: en la estructura y en los contenidos, en el nivel cognitivo y en las puntuaciones. En concreto, se observan disparidades en la lengua de la prueba, en la optatividad, en el número de preguntas o en los bloques de contenidos que se evalúan. Por ejemplo, en Cataluña, Valencia y País Vasco, no se evalúan la Edad Antigua, la Edad Media ni la Edad Moderna. Asimismo, Baleares, Canarias, Cantabria, Castilla-La Mancha y Castilla y León exigen un mayor nivel cognitivo a sus estudiantes. Estos aspectos determinan la heterogeneidad en los constructos utilizados, de manera que no se están midiendo los mismos conocimientos ni las mismas habilidades del saber histórico nacional en todas las comunidades autónomas.

Descriptores: conocimiento histórico, pruebas externas, evaluación externa, acceso a la universidad, Historia de España.

1. Introduction

University entry in Spain has found itself in a transition period since the University Entrance Exam (EvAU in Spanish) was implemented in the 2016-2017 academic year. Just like PISA, it incorporates assessable learning standards as a benchmark in verifying the degree of skill acquisition (Fuster, 2015; Sánchez, 2018). In the 2022-2023 academic year, the Draft royal decree regulating the basic characteristics of the university entrance exam and stating the calculation procedure for entry marks was announced. It owes its development to the changes introduced by Organic Law 3/2020, of 29 December, amending Organic Law 2/2006, of 3 May, on Education, in order to deal with the challenges posed by the European Union and UNESCO in Agenda 2030. Furthermore, on 14 March 2023, a pilot University Entrance Exam was carried out, governed by article 38 of the aforementioned law, in fifty schools in ten autonomous regions and in Ceuta and Melilla, so as to align them with the competence nature of the new curriculum.

In view of the lack of research on university entrance exams and, more specifically, considering the absence of external tools in Spain that measure the degree of historical competence acquisition, many authors indicate the need to conduct research on the aforementioned (Fuster, 2015; García-Laborda, 2012; Lorenzo et al., 2014; Nieto-Isidro et al., 2020; Ruiz-Hidalgo et al., 2019; Ruiz-Lázaro & González, 2017; Ruiz-Lázaro et al., 2021; Ruiz-Lázaro, 2022; Sáiz & Fuster, 2014; Souto et al., 2014; Veas et al., 2020). This study, therefore, deals with the Spanish History test of the EvAU, which will make it possible to demonstrate what the current tests are like and whether the proposed changes reinforce or contradict the aspects identified in the comparative analysis of autonomous regions.

1.1. Development of historical thinking in the learning of Spanish history

The education model that has been predominant for many years in schools, particularly in history teaching (Álvarez, 2020), has been the traditional one. It is characterised by an approach focused and centred on teachers, who pass on information to students while the latter are passive receivers of knowledge (Galván-Cardoso & Siado-Ramos, 2021; Espíndola & Macías, 2021). Authors such as Cortes et al. (2019) and Sepúlveda (2020) state that constructivist teaching approaches must be incorporated in order to develop historical thinking in student learning. In this respect, according to Lévesque and Zanazanian (2015) and Sáiz et al. (2018), teachers must be capable of changing the traditional approach of history teaching through the implementation of other methodological approaches, in order for historical thinking to be the new great aim of modernizing history teaching. Historical thinking refers to the ability to understand, analyse and interpret the past and present by means of analysing evidence, processing events and phenomena, historical understanding and interpretations, and the creation of coherent historical narratives (Lee, 2005). These strategies allow students to develop cognitive and metacognitive skills, as well as a better understanding of Spanish history and its teaching objectives: (a) understand the past, evolution, periods in history, people and events that have influenced political, economic, social and cultural changes; (b) develop critical and analytical thinking of students; and (c) promote historical awareness and national identity while understanding that the past has an influence and impact on the present and considering the variety of experiences that consolidate reality in Spain (João & Gomes, 2019; Marín-Cepeda & Fontal, 2020; Martínez & Rodríguez, 2015).

In this regard, the assessment of Spanish history and, therefore, of historical thinking, should be in accordance with the type of teaching received during the teaching-learning process. The Spanish History tests for university entry should be designed in such a way that they assess the extent to which the education objectives set out are achieved. That is, the questions should assess, on the one hand, the historical knowledge acquired and, on the other hand, the critical thinking skills and historical analysis of students.

1.2. National and regional historical literacy in student learning

From the very beginning, history learning in the academic field has been under-

stood as a memorisation process characterised by knowing and remembering historical information (Domínguez, 2015; Freire et al., 2020; Sáiz & Fuster, 2014). In the 19th century, history teaching as a scientific discipline was shaped as a national subject in order to form national, social, cultural and political identities in Spain (Gómez-Carrasco & Molina-Puche, 2017). However, political nationalisms (Castilian Spanish, Catalan, Basque and Galician) put history at the centre of their respective arguments (Gómez-Carrasco & Molina-Puche, 2017; Molina-Puche et al., 2017). By adding material specific to each autonomous region in the teaching of Spanish history, as stated in the 1978 Constitution of Spain, territorial disputes were brought about by the transmission of a common past to shape regional or nationalist identities, behaviour and ideologies (Molina-Puche et al., 2017). This may give rise to differences in the teaching of Spanish History and, therefore, in its assessment according to the different autonomous regions.

Furthermore, the traditional way of teaching has been questioned by many researchers (Gómez & Miralles, 2015; Domínguez, 2015), who support the inclusion of the use of skills in the teaching-learning process following the incorporation of the competence concept in the 21st century (Molina & Egea, 2018; Pantoja, 2017). These skills make it possible to bring together knowledge of the events that formed the ideals of each nation-state (Pérez-Garzón, 2008). Accessing, understanding and explaining the past show students the various perspectives of the past, allowing them to understand the complex and multicultural context in which we live and improving their critical thinking.

All this leads to the development of historical thinking (Molina-Puche et al., 2017).

Authors such as Sáiz and Fuster (2014) state that the acquisition of historical literacy will depend on the regularity and complexity of the level of work with historical sources in classrooms throughout the stage of secondary education. It would therefore be useful if the Spanish History test were to assess the acquisition of those skills and competence among all applicants in Spain (Fuster, 2015; 2016) and analyse whether national or regional behaviour is present, given the interest aroused by these subjects linked to the construction of collective identities.

1.3. Spanish History: from the Baccalaureate (Bachillerato) curriculum to the university entrance exam

The intention of the Baccalaureate (Bachillerato) curriculum regulating the content of the Spanish History test is to guarantee the development of knowledge, abilities and intellectual techniques which are appropriate and sufficient for entry to higher education after having acquired the skill of historical thinking (Fuster, 2016; Lorenzo et al., 2014; Royal Decree 1105/2014). Likewise, the importance of offering students an overall view is stressed, as well as the various territories that currently make up our country, since Spain is characterised by its internal diversity and its belonging to the European and Ibero-American scope. In this respect, the subject considers the historical processes of both shared and distinguishing processes in order to recognise the diversity of Spain and raise awareness in society of the present and its problems (Royal Decree 1105/2014).

TABLE 1. Assessable content of the Spanish History subject in 2nd year of Baccalaureate *(Bachillerato)*.

Modules	Content blocks established in the curriculum	Group in the EvAU
Module I. The beginning of our history (from the first humans to the Visigothic monarchy)	Block 0. How History is written. Common criteria	In practice, work is carried out with the other blocks
	Block 1. The Iberian peninsula from the first humans to the disappearance of the Visigothic monarchy (711)	Content group I 20%
Module II. Middle Ages (from the Muslim conquest of the Iberian peninsula)	Block 2. The Middle Ages: Three cultures and an ever-changing political map (711-1474)	
Module III. Modern Era (until the eve of the French Revolution)	Block 3. Formation of the Hispanic monarchy and its global expansion (1474-1700)	Content group II 20%
	Block 4. Spain in the French zone of influence: reformism of the first Bourbons (1700-1788)	
Module IV. Late Modern Period	Block 5. The crisis of the Ancien Régime (1788-1833): liberalism opposite absolutism	Content group III 25%
	Block 6. The controversial construction of the liberal State (1833-1874)	
	Block 7. The Bourbon Restoration: implementation and strengthening of a new political system (1874-1902)	
	Block 8. Economic sustainability and transformations in the 19th century: inadequate development	
	Block 9. The crisis of the Restoration system and the fall of the monarchy (1902-1931)	Content group IV 20%
	Block 10. The Second Republic. The Civil War in a context of international crisis (1931-1939)	
	Block 11. The Franco dictatorship (1939-1975)	Content group V 15%
	BBlock 12. Democratic normalization of Spain and integration in Europe (since 1975)	

Source: compiled by authors based on Royal Decree 1105/2014, of 26 December, establishing the basic curriculum of Compulsory Secondary Education and Baccalaureate *(Bachillerato)*.

In this context, in the distribution of chronological content of the subject determined by the curriculum of this stage (Table 1), more importance is given to the knowledge of contemporary history, without therefore renouncing the content referring to previous stages, since to a great extent, the diversity of Spain today can only be understood if we go back to processes and events that have taken place in the distant past (Royal Decree 1105/2014).

Until new regulations are established resulting from the social and political pact concerning education, the test taken shall have similar characteristics to the one in force until now (Royal Decree-Law 5/2016). Educational Administrations, together with public universities, therefore, continue to take on the task of designing the test and adapting its content to that of the second year of Baccalaureate *(Bachillerato)* (Royal Decree-Law 5/2016; Order of the Ministry of Education, Culture and Sport/1941/2016). Accordingly, the Spanish History test should assess the maturity of applicants by means of the aforementioned content blocks, which result in assessable learning standards.

Furthermore, the existence of a binding framework to form tests has been established so as to be used as a hub between the content of 2nd year of Baccalaureate *(Bachillerato)* and the content to be assessed in the aforementioned test (Royal Decree 310/2016). This framework shall consider, inter alia, the length, typology of questions and the specification matrix. The last of these establishes the precision of assessable learning standards associated with each of the content blocks, which will give shape to the assessment process by stating an illustrative percentage or weight (Order of the Ministry of Education, Culture and Sport/1941/2016).

The key role played by the Spanish History test of the university entrance exam in the academic development of applicants who wish to gain entry to higher education means it is necessary to conduct an in-depth analysis of the assessable content, the cognitive level required by the test, the format of the items that make it up and its adaptation to the right historical literacy of the student.

With this reality in mind, this work has a dual purpose.

On the one hand, to analyse the structure of the Spanish History test of the university entrance exam, EvAU, in each autonomous region. The specific objectives are as follows:

- Examine the structure of tests based on language, formulation (verbal language vs verbal and graphic language), optional nature, number of items and substantive historical content blocks which are assessed in each autonomous region .

- Analyse the cognitive level required by the items that make up the construct under consideration based on the type of tasks required.

- Compare the correction criteria used by the examining boards of each autonomous region to assess its students.

- Analyse the level of complexity of the tests.

Furthermore, this work aims to analyse the relationship between the structure of

Spanish History tests for university entry in Spain and the average performance obtained by students in the aforementioned.

2. Methodology

In response to the first research objective, a comparative analysis has been carried out with a methodological approach of rational analysis of documentary evidence found in the content of the various Spanish History tests for university entry according to the autonomous region in which they are designed. This makes it possible to demonstrate the possible reasons for the differences among the tests designed in the seventeen autonomous regions.

In order to achieve each specific objective, the structure of the tests has been studied in all seventeen autonomous regions by conducting descriptive-analytical analysis of sixty-eight exams for the first and second sitting, option A and B, in 2019. A comparative methodology has been used, in which the approach proposed by García-Garrido (1991) is adapted. The two main stages established by this author are: the analytical (or descriptive) phase and the synthetic (or comparative) phase.

- In the descriptive phase, the legislation (Ministry of Education) and Spanish History tests (universities) applied in 2019 were gathered, in both first and second sittings, by autonomous region.

- In the comparative phase, three levels of precision were previously set out for systematic analysis of the information in accordance with the model established by Caballero et al. (2016) for comparative analysis among the various study objectives: dimension-parameter-indicator (Table 2).

TABLE 2. Comparison unit system.

Dimension	Parameter	Indicator
Overall structure	Ancient and medieval history (blocks 1 and 2)	Language Formulation Optional nature No. of items Type of task to be carried out Cognitive level
	Modern history (blocks 3 and 4)	
	Contemporary history 19th century (blocks 5, 6, 7 and 8)	
	Contemporary history 20th century (1902-1939) (blocks 9 and 10)	
	Contemporary history 20th century (1939-present) (blocks 11 and 12)	
Assessment	Weighting (%) of each content block as regards the overall marks	Marks given to each content group out of the total (out of 10 points) Formal aspects assessed % Ancient and medieval history % Modern history % Contemporary history 19th century % Contemporary history 20th century

An ad hoc registration model has been designed to juxtapose and organise data, which were coded and categorized using the ATLAS.ti 8.0 program. This analysis has been conducted by the authors of this study, who have coded and categorized the information. Categories are inductive, as, even though the comparison unit system was defined beforehand, the categories were not established before data collection, rather they were the result of an inductive analysis of the official documents and tests examined. After reviewing and comparing these materials, common patterns, themes and characteristics has been identified, giving rise to the formulation of specific categories. This comparison has made it possible for the level of complexity of the tests to be analysed.

The second research objective, to establish a possible relationship between the differences observed in design of the tests and average performance obtained by students has been conceived as a secondary research. To this end, the data published annually by the Integrated University Information System have been analysed using a quantitative methodological approach.

3. Results

3.1. Results based on the structure and substantive historical content of the test

First of all, the results are presented in groups based on their time period or content groups: ancient (blocks 1 and 2) and medieval history (blocks 3 and 4), modern history (blocks 5, 6, 7 and 8) and the Late Modern Period (blocks 9, 10, 11 and 12).

For each content group, the following units of analysis has been studied: language, formulation (verbal, verbal and graphic), optional nature, sitting, option (A or B), number of items and historical content blocks assessed.

- Language: Spain is known for being a multilingual country within the European territory. Furthermore, even though the common official language of the State is Spanish, the autonomous regions of Catalonia and the Balearic Islands do not offer the test in this idiom, while Valencia and Galicia make it available in both languages and the rest provide it in Spanish.

- Formulation: as regards the formulation of items, verbal and written language predominates over verbal and graphic language (figures, images and tables). In particular, 96% of all items are formulated with verbal and written language, while 4% are set out using graphic language. The latter type of language is only used in tests designed in the autonomous regions of the Balearic Islands (30%), Canary Islands (25%), Castile-La Mancha (15%), Catalonia (25%), Madrid (15%) and La Rioja (20%) (Figure 1).

- Optional nature: as regards the choices offered in each test, it should be noted that there are two options (A and B), from which students choose one, with the exception of the autonomous region of Cantabria, where only one is made available. Furthermore, some tests, in turn, provide options between some items, as it happens in ten autonomous regions: Aragon, Balearic Islands, Cantabria, Castile-La

FIGURE 1. Representation of the language formulation of items. 2019.
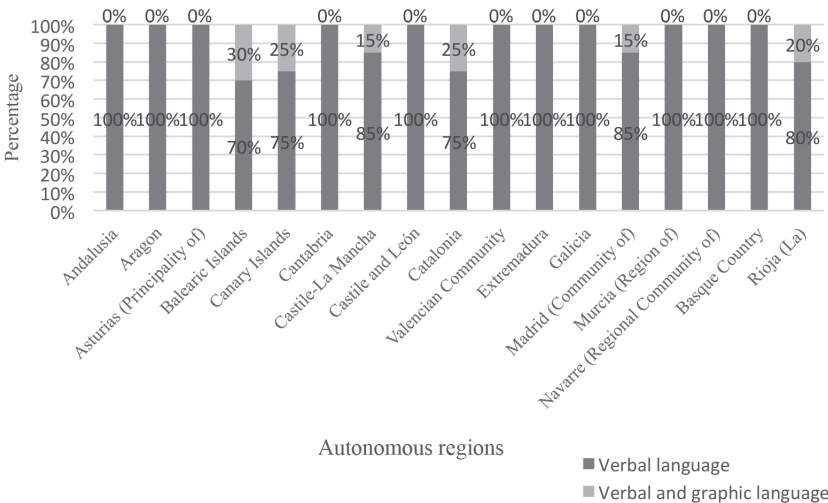
Mancha, Castile and León, Catalonia, Extremadura, Galicia, Madrid and Murcia.

- Number of items: the number of questions or tasks required is different according to the autonomous region in which the test is designed. The test

designed in the Basque Country mainly focuses on asking questions about a text, while the one designed in Madrid, as well as asking questions on different time periods, includes an image or text, in addition to a theme to be broadly developed.

FIGURE 2. Example of the test structure in the Basque Country and Madrid. 2019

ISSUES:	SCALE OF THE EXAM
1. Pre-Roman towns. Historical colonizations: Phoenicians and Greeks. Tartessus. 2. Al-Andalus: economy, society and culture. 3. Christian kingdoms in the Middle Ages: political organisation, seigniorial system and class society. 4. The significance of 1492. The Granada War and the Discovery of America. 5. The Habsburgs of the 17th Century: government of the favourites. The 1640 crisis. 6. War of the Spanish Succession and the Treaty of Utrecht. The Pactes de Famille. **SOURCE:** Link this photograph to Spain becoming a member of the European Community. Felipe González signs the Treaty of Accession to the EEC on 12 June 1985. **THEME:** The issue of Cuba and the Spanish-American War. The 1898 crisis and its economic, political and ideological consequences.	1. Describe the type of sources used (1 point). 2. Identify the main ideas of the texts, placing them in their historical context and grouping them by the appropriate theme (2.5 points). 3. Explain, in general terms, the meaning of the concepts "census suffrage" and "despotism" (2 points). 4. a) Set out the main characteristics of the political system of the Bourbon Restoration. Use the proposed texts to do so (2.5 points). b) Briefly explain the political traits of moderantism, comparing them with the changes introduced by the 1868 Revolution (2 points). **FIRST OPTION** **Document 1** "Mr Alfonso XII, by the grace of God, constitutional King of Spain. To all those who hereby see and understand, let it be known: that the Courts have delivered a judgment and sanctioned Us the following (…) HEADING III. ON THE ELECTORS AND ON THE ELECTORAL ROLL SECTION ONE. On the electors. Article 14. Only persons registered as electors in the electoral rolls in force at the time at which the election is held shall have the right to vote in the election of Members of the Cortes. Article 15. All Spanish males who are at least 25 years old, who pay taxes in or outside of the same district shall have the right to vote as an elector in the electoral rolls of the section of his respective residence, for the minimum fee for the Treasury of 25 pesetas per year by way of territorial tax or 50 pesetas by way of industrial subsidy. In order to acquire the right to vote, the territorial tax must be paid at least one year in advance, and the industrial subsidy at least two years in advance (…)". Electoral Law, 28 December 1878. **Document 2** "As long as politics is not more serious than what it is today, as long as universal suffrage is nothing more than a kind of mannequin for parties and the aforementioned must only count on the Governing ministers and rural mayors, there is no solution, because, as the neutral factor is far from the active life of politics, in order to achieve power and maintain themselves in it, the parties need those bodies that are barely capable of calming this fever of empleomania, bordering on delirium which has been seized from Spanish society (…)" Newspaper *El siglo futuro*, Friday 8 January 1892.

Note: This is the translation of the texts of the images.
On the left, the test designed in the Basque Country. On the right, the test designed in the Community of Madrid.

- Substantive historical content blocks: it must be noted that the autonomous regions of Catalonia, Valencia and the Basque Country only assess content blocks relating to contemporary history. In other words, they set aside the Ancient, Middle and Modern Ages blocks, which must be assessed according to the regulations in force governing the characteristics of university entrance exams. By contrast, the autonomous region of Castile and León is the only one that assesses all content blocks. It

is noteworthy that no autonomous region assesses the block 8 content on economic sustainability and transformations in the 19th century. The blocks assessed by each autonomous region in first and second sittings in 2019 can be seen in Figure 3.

FIGURE 3. Content blocks assessed by autonomous region. 2019.
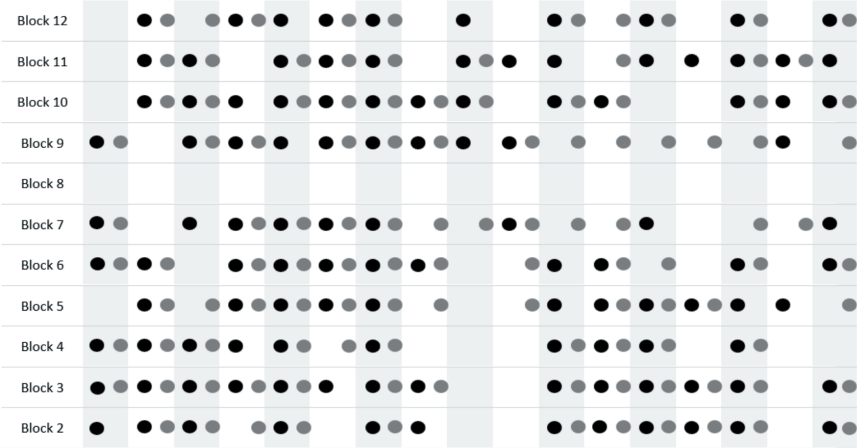
Note: 1, first sitting; 2, second sitting.

## 3.2. Results based on strategic content or cognitive level of the test

Secondly, the strategic content assessed by the tests of each autonomous region (that is, how the content is assessed) has been studied. In this respect, the following units of analysis are considered: type of task, goal and cognitive process.

• Type of task: varies depending on the autonomous region in which it is designed.

  – Definition of concepts. Cantabria, Castile and León, Valencia and Galicia ask for the definition of independent concepts in their tests.

  – Short answer questions. This is the most commonly requested task: fourteen autonomous regions design their History tests to ask students short answer questions. These are open-ended questions, with the exception of Andalusia, where semi-open questions are also designed, accounting for a total value of 2.25 points. These are not included in the autonomous regions of Valencia, Murcia or the Basque Country.

  – Theme development. Six autonomous regions measure the ability of applicants to develop a broad theme, generally relating to the 19th or 20th century. These autonomous regions are: Andalusia, Aragon, the Basque Country, Extremadura, Madrid and Murcia. Their total value is different: from 3 points in Extremadura to 3.5 points in Aragon and Murcia, 4.5 in Madrid, 5 in the Basque Country and 5.5 in Andalusia.

FIGURE 4. Frequency of appearance of the various tasks required
in Spanish History tests. 2019.
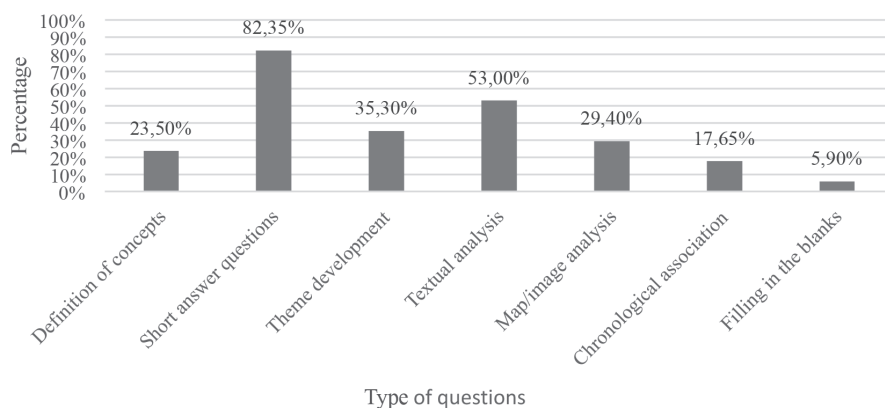
– Textual analysis. Nine autonomous regions include a text. The following abilities stand out from those measured: text localization (type of text, author, target readers, period), analysis of the aforementioned highlighting the main ideas, contextualization and significance of the historical period. The value assigned to this type of task yet again depends on the autonomous region in which the test is designed: from 1.5 points in La Rioja to 2 points in the Canary Islands, 2.5 in Castile-La Mancha, 3 in the Balearic Islands, 3.25 in Extremadura, 3.5 in Aragon and 5 in Catalonia, the Basque Country and Galicia.

– Map/image analysis. There are only five autonomous regions that assess the ability of students to observe and connect a map or image with its context. The value of this task accounts for 1.5 points in the Canary Islands and Madrid, 2 in La Rioja, 3 in the Balearic Islands and 5 in Catalonia.

– Chronological association. There are only three autonomous regions that assess the ability of applicants to associate different events with their appropriate historical period, as well as to put them in chronological order. The value of this task accounts for 1 point in the Canary Islands and Castile and León, and 1.5 in Castile-La Mancha.

– Filling in the blanks. Murcia is the sole autonomous region that assesses the ability to complete statements by filling in the blanks. This question accounts for a total value of 0.5 points.

• Cognitive level according to the cognitive process demanded. A hierarchical order has been established from lowest to highest cognitive complexity in three groups: (1) memory-type demands, (2) comprehensive-type demands and (3) application demands.

Figure 5 shows the distribution of the type of cognitive level demanded by each autonomous region. Most autonomous

regions assess memory knowledge to a greater extent. In fact, the Spanish History tests designed in Andalusia, Asturias, Murcia and Navarre only assess this type of content. Madrid and Murcia stand out, since the cognitive level demanded from applicants is different depending on the test option chosen (model A and model B).

FIGURE 5. Distribution of the cognitive level required in the Spanish History test by autonomous region. 2019.
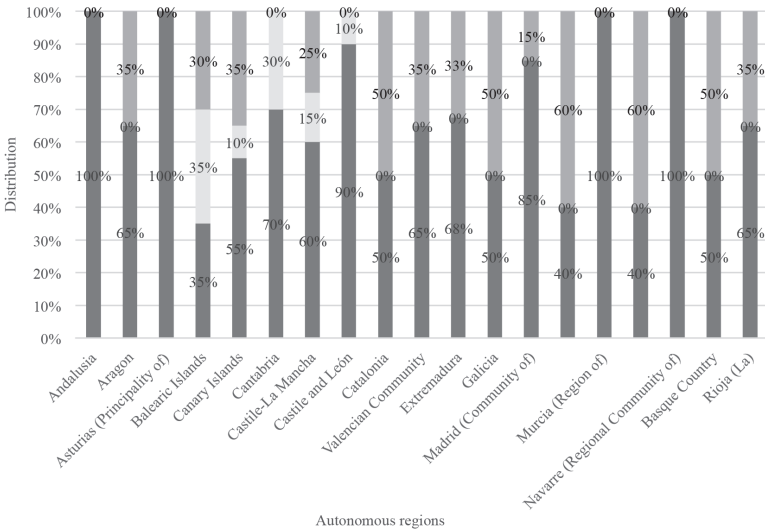
3.3. Results based on the assessment criteria of the test

Thirdly, the assessment criteria of the tests have been analysed according to autonomous region. On the one hand, the weighting of each content block as regards the total and, on the other hand, the formal aspects assessed in each one of tests is analysed.

In this respect, Figure 6 shows the distribution, in percentage terms, of each content group as regards the overall marks. The content group that carries the most weight in the majority of autonomous regions is contemporary history (19th and 20th centuries).

As stated in Table 1, and according to the weight determined in the specification matrix in accordance with Order of the Ministry for Presidency, Parliamentary Relationships and Equality/12/2019 and Royal Decree 310/2016:

- "Content group I: ancient and medieval history" should carry a weight of approximately 20% in the Spanish History test. In this respect, only the tests designed in Castile and León and La Rioja fully comply with the assessment of this content group. By contrast, the tests designed in the autonomous regions of Andalusia (option B), the Balearic Islands, Castile-La Mancha (option B), Catalonia, Valencia, Murcia (option B) and the Basque Country do not comply with the regulations laid down across Spain because they do not assess ancient and medieval history.

FIGURE 6. Weighting of each content group by autonomous region. 2019.

GROUP IV: CONTEMPORARY HISTORY 20TH CENTURY

GROUP III: CONTEMPORARY HISTORY 19TH CENTURY

GROUP II: MODERN HISTORY

GROUP I: ANCIENT AND MEDIEVAL HISTORY

Note: the autonomous regions of Castile-La Mancha, Extremadura, Galicia and Madrid are not included, as the exact distribution of each group as regards the total cannot be calculated since they contain optional questions that influence the percentages.

- "Content group II: modern history" should carry a weight of 20% in the Spanish History test. Once again, the tests designed in Castile and León and La Rioja are the only ones that fully comply with the weighting of this content group. The tests designed in the autonomous regions of Castile-La Mancha (option A), Catalonia, Valencia, Murcia (option A) and the Basque Country do not comply with the regulations laid down across Spain because they do not assess modern history.

- As regards "content group III: contemporary history 19th century" it is stated that this

must carry a weight of 25% in the Spanish History test. The tests designed in Castile and León and La Rioja are again the only ones that fully comply with the weighting of this third content group. By contrast, the tests designed in the autonomous regions of Catalonia (option A), Valencia (option B), Galicia (option B), Murcia (option B) and the Basque Country (option B) do not comply with the regulations laid down across Spain because they do not assess contemporary history 19th century.

- "Content groups IV and V: contemporary history 20th century (1902-1939) and con-

temporary history 20th century (1939-present)" should carry a weight of 20% and 15% respectively (that is, 35%) in the Spanish History test. The tests designed in the Balearic Islands (option B), Castile and León and La Rioja are again the only ones that fully comply with the weighting of this third content group. The tests designed in the autonomous regions of Andalusia (option B), Catalonia (option A), Valencia (option B), Murcia (option B) and the Basque Country (option B) differ to a great extent from the weighting laid down in the regulations (some of them only assess this block with a total of 10 points). By contrast, the tests designed in Valencia (option A), Galicia (option A) and Murcia (option A) do not comply with the regulations laid down across Spain because they do not assess contemporary history 20th century.

Furthermore, three autonomous regions (Balearic Islands, Castile-La Mancha and La Rioja) penalise mistakes in formal aspects. Specifically, they consider a maximum penalty of up to 1 point as regards the total. The other autonomous regions make no reference to this respect.

3.4. Results based on possible relationships between the structure of tests and average performance

Once the information has been analysed based on the comparison units established, tests can be classified according to their degree of complexity.

Figure 7 shows the average results in each autonomous region in the first sitting together with an indication of the apparent level of easiness of the tests (under-stood as the complexity of the content of tests or the workload involved in the tasks assigned to students).

The following characteristics of the tests are observed, which may be affecting the marks of applicants:

- The highest average marks (>6.5). These account for the tests whose level of easiness is greater as they have the following characteristics:

  – The four autonomous regions in which higher average marks are obtained do not include any type of graphic language (figures, maps, timelines, or any others), but they are formulated with verbal and written language.

  – The options given by the tests designed in some autonomous regions, such as Murcia, Aragon, Cantabria, Castile-La Mancha and Catalonia, may be the reason for which a higher average result is being obtained. However, care must be taken when interpreting this factor since the autonomous regions of Madrid, Extremadura and the Balearic Islands also offer options between items, and these are the regions in which the lowest average is obtained.

  – Valencia and Catalonia are two of the three autonomous regions where neither ancient and medieval history (blocks 1 and 2) nor modern history (blocks 3 and 4) are assessed; that is, they only evaluate contemporary history.

TABLE 3. Characteristics that determine the degree of complexity of the Spanish History tests of the EvAU.

Level of complexity of the tests	Characteristics	Autonomous regions
Simpler tests	- Questions posed using verbal and written language, without including graphic language (figures, maps, timelines, etc.). - Options are given with a choice of exercises to be carried out. - These include fill in the blanks questions with a single correct answer; mistakes are not penalised. - Only the contemporary history block is assessed.	Murcia Valencia Aragon Cantabria Castile-La Mancha Catalonia
Tests with the same degree of easiness/ complexity	These tests have similar characteristics as regards the type of questions, type of assessment and structure.	
More complex tests	- More historical blocks as well as the block relating to contemporary history are assessed. - These consist of open-ended questions. - No options are given. - Historical content is assessed through the incorporation of graphic language. - Cognitive level 3 is required.	Community of Madrid Balearic Islands

FIGURE 7. Relationship between the structure of Spanish History tests and average performance obtained in the first sitting by those examined in the aforementioned in 2019.
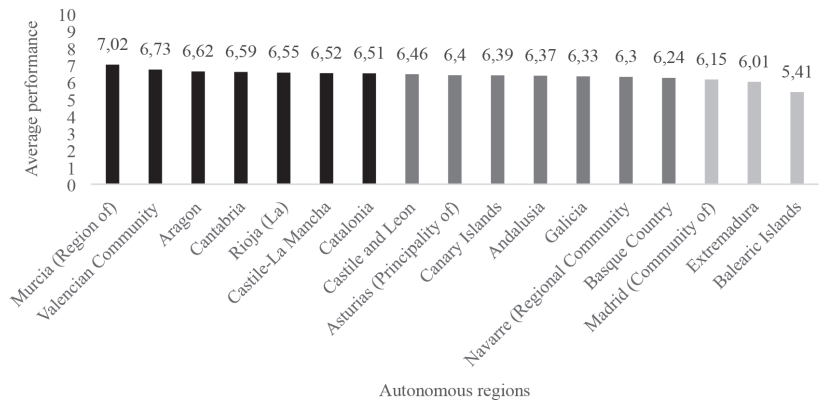
Note

■ High level of easiness

▬ Medium level of easiness

▯ High level of easiness

–   The Region of Murcia is where the best average results are obtained in this test. Furthermore, it is worth noting that this is the only region that includes filling in the blanks closed-ended questions where mistakes are not penalised. It is also one of the four autonomous regions that only assesses memory-type content. These facts may be considered relevant factors for which a higher average result is obtained in this test.

•   Low average marks (<6.15). These account for the tests whose level of easiness is lower as they have the following characteristics:

–   In both the Community of Madrid and the Balearic Islands, there is a percentage of the overall test which is allocated to graphic language (generally, figures, maps and timelines). It is clear that the inclusion may be a factor that determines lower marks in the aforementioned.

–   The worst average results in this test are obtained in the Balearic Islands. It is worth noting that this is one of the five autonomous regions that demands cognitive level 3, that is, application of various concepts, interpretation and drawing of conclusions. It is also the autonomous region that demands the highest percentage of this, since 35% of the marks in this test are based on cognitive level 3.

4. Discussion and conclusions

The results obtained make it possible to prove the existence of substantial differences in the design of the Spanish History test for university entry according to the autonomous region in which it is applied and, therefore, in the average results of those who take it.

It is concluded that there are substantial differences in the structure of tests based on language, formulation (verbal language vs verbal and graphic language), optional nature, number of items and substantive historical content blocks which are assessed in each autonomous region, as stated in the previous section. In this respect, two aspects stand out in relation to the autonomous regions that have co-official languages. The first one has to do with the language in which the test is submitted. Catalonia and the Balearic Islands do not offer their test in Spanish (or at least no access has been given to this), while Valencia and Galicia make theirs available in both languages. It is worth noted that, in accordance with the provisions of article 14 of the Spanish Constitution, nobody may be discriminated against due to language since "Spaniards are equal before the law and may not in any way be discriminated against on account of birth, race, sex, religion, opinion or any other personal or social condition or circumstance". The second aspect is related to the type of historical content included in these tests and the way in which it is assessed. In this sense, the tests designed in the Basque Country, Valencian Community and Catalonia are centred on only assessing contemporary history, and the test in Catalonia is notable as it focuses its attention on the assessment of events that have happened in the region. As stated by Gómez-Carrasco and Molina-Pu-

che (2017) and Molina-Puche et al. (2017) in their studies, this may give rise to the presence of regional elements in the assessment of Spanish History tests for university entry in Spain according to the different autonomous regions, thus affecting the degree of acquisition of historical literacy of those who take the tests. In turn, this fact may be distorting the true history of our country.

The cognitive level demanded in each of the tests differs, again, according to the autonomous region in which it is designed. In this respect, it may be concluded that the historical thinking achieved by the applicants who will gain entry to higher education will be different depending on the place in which the test is taken. These results coincide with those stated by Fuster (2016) who analysed the degree of development of historical thinking achieved by applicants. In turn, this fact coincides with the premise established previously on the distortion of Spanish history in the assessment of these tests. Also with the need to assess skills in the 21st century, a statement that is in line with what is laid down by Molina and Egea (2018) and Pantoja (2017) in their studies. In this respect, Spanish History tests for university entry should be designed, across Spain, so as to make it possible to assess, on the one hand, the historical knowledge acquired and, on the other hand, the critical thinking skills and historical analysis of students. That is, to make it possible to check whether students have acquired cognitive and metacognitive skills, as well as a better understanding of Spanish History and its teaching objectives, notably including the development of critical and analytical thinking, understanding of the present

and of the past and historical awareness and national identity, in addition to others.

The marks given to each historical content block vary according to the autonomous region in which the test is designed. This imbalance in the weighting, as well as the penalty in the Balearic Islands, Castile-La Mancha and La Rioja of up to 10% of the overall marking of the test is giving rise to imbalances in relation to what is stipulated in the regulations concerning the specification matrix of each historical content block assessed in accordance with Order of the Ministry for Presidency, Parliamentary Relationships and Equality/12/2019 and Royal Decree 310/2016. In addition, although these national regulations stipulate an approximate (%) for every content block in the Spanish History test, each autonomous region may specify this weight, but under no circumstances may it stop assessing any content block.

The aforementioned differences have made it possible to classify the tests according to their complexity. The easiest tests are those formulated with verbal and written language without including graphic language, where options are given, which only assess contemporary history, contain filling in the blanks closed-ended questions and where mistakes are not penalised. It may therefore be confirmed that, to a greater or lesser extent, the differences observed in average performance in the Spanish History tests are associated with the differences seen in their structure. The autonomous region where the EvAU is taken should not hinder chances of student success when it comes to picking a university and degree. However, the intrinsic characteristics of the tests, as well as the historical periods assessed, the number of items

that make up the test, optional nature, cognitive level demanded, type of tasks required and assessment criteria may be giving rise to this inequality among applicants from different geographical areas of Spain.

It is certain that direct relationships cannot be established between cause and effect in a statistically significant way. That is, it cannot be stated that the differences in average performance of applicants in this test due to autonomous region occur as a result of the differences in its design. Nonetheless, the most relevant point is that, in light of the evidence given in this study, it cannot be denied that design is a key factor that is having an influence on average performance.

Ultimately, this study shows, on the one hand, the heterogeneity of the Spanish History tests among autonomous regions. Other studies such as those by Ruiz-Lázaro and González (2017), Ruiz-Lázaro et al. (2021) and Ruiz-Lázaro (2022) have given proof of these discrepancies with the other compulsory tests for university entry. This study also proves aspects such as the impact of the design of tests in development of the historical thinking of students according to the autonomous region in which they are taken; inequality in entry conditions; different knowledge of Spanish history, due to both the linguistic circumstances and the syllabus and content; and the final proof that equality is not being fulfilled in accordance with the law provided for in article 14 of the Spanish Constitution.

In this respect, the changes proposed in the Draft royal decree regulating the basic characteristics of the university entrance exam and stating the calculation procedure for entry marks, on the one hand, reinforce the aspects identified in the comparative analysis of autonomous regions of this study. However, on the other hand, the equality of opportunities must be effective and guarantee that the differences in entry into any public university in Spain are solely due to differences in the performance of students in the tests. An option must therefore be considered which makes it possible to compare grades and homogenize marks for entry into any Spanish university such as, for example, the existence of a part common to students from all autonomous regions.

It is therefore advisable to reconsider the university entrance exam in terms of its current content, structure and correction criteria, making it possible to guarantee all Spaniards the principle of equality. It also seems appropriate to consider delaying the start of the implementation period of the model proposed until the education community comes to an agreement on the final characteristics of an exam which is so important for the academic and professional future of students.

Note

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Authors' biographies

Judit Ruiz-Lázaro. Doctor of Education from Universidad Complutense de Madrid (2021). Faculty A - I Level III Lecturer at Universidad Europea de Madrid, where she oversees the University Master's Degree in Educational Innovation. Appointed Associate Professor by the National Agency for Quality Assessment and Accreditation (ANECA) in the area of research methods and diagnosis in education, with a six-year period of research. Her main line of research is the assessment of university entry. Member of the Measuring and Evaluating Educational Systems research group (MESE).

https://orcid.org/0000-0003-2036-0428

Coral González-Barbera. Doctor of Education from Universidad Complutense de Madrid (2003). Senior Lecturer in the area of research methods and diagnosis in education at Universidad Complutense de Madrid. Main line of interest: academic performance and related elements. Member of the Measuring and Evaluating Educational Systems research group (MESE).

http://orcid.org/0000-0002-1947-6303

José-Luis Gaviria-Soto. Doctor of Educational Philosophy and Sciences from Universidad Complutense de Madrid (1988). Professor in the Department of Research and Psychology in Education (area of research methods and diagnosis in education) at Universidad Complutense de Madrid. Particular interest in the methodological problems of educational assessment. Oversees the Measuring and Evaluating Educational Systems research group (MESE).

http://orcid.org/0000-0002-7398-9943

Development and validation of the test of spelling competence (TCORT) in incoming university students

Desarrollo y validación del test de competencia ortográfica TCORT en estudiantes universitarios de nuevo ingreso

Juan-F. LUESIA. Research Assistant. Universidad Loyola Andalucía (*jfluesia@uloyola.es*).

Juan-F. PLAZA, PhD. Associate Professor. Universidad Loyola Andalucía (*jfplaza@uloyola.es*).

Isabel BENÍTEZ, PhD. Associate Professor. Universidad de Granada (*ibenitez@ugr.es*).

Milagrosa SÁNCHEZ-MARTÍN, PhD. Associate Professor. Universidad Loyola Andalucía (*msanchez@uloyola.es*).

Abstract:

This study aims to present a test to assess spelling competence (TCORT) in incoming Spanish university students and to obtain validity evidence to support its use. The starting point was a bank of 73 items covering the most relevant spelling areas of the Spanish language, and the 37 most representative items were selected from the information provided by six experts. Afterwards, a pilot study of the TCORT was carried out with 602 students. The final version consisted of 31 items, with sufficient internal consistency ($\alpha = .90$; $\omega = .89$) and an invariant unidimensional structure between sexes. It also correlated significantly with other variables, such as previous performance ($r = .37$, $p < .01$), verbal reasoning ($r = .27$, $p < .01$) and spelling, measured with another tool not adapted to the target population ($r = .45$, $p < .01$). Validity evidence based on the test content, internal structure and relations to other variables supported the use of the test to assess spelling competences in incoming university students. The usefulness of TCORT in providing relevant data to facilitate the creation of university policies aimed at promoting spelling competence training in university students is discussed.

Keywords: spelling, competence, university students, validity, academic performance.

Juan-F. LUESIA, Juan-F. PLAZA, Isabel BENÍTEZ and Milagrosa SÁNCHEZ-MARTÍN

Resumen:

El objetivo de este estudio es presentar un test para evaluar la competencia ortográfica (TCORT) en estudiantes universitarios españoles de nuevo ingreso y obtener evidencias de validez que apoyen su uso. Se partió de un banco de 73 ítems que cubrían las áreas ortográficas más relevantes de la lengua española y se seleccionaron los 37 ítems más representativos a partir de la información proporcionada por seis expertos. Después, se realizó un estudio piloto del TCORT con 602 estudiantes. La versión final se compuso de 31 ítems, con una adecuada consistencia interna ($\alpha = .90$; $\omega = .89$) y una estructura unidimensional invariante entre sexos. Además, se correlacionó de forma significativa con otras variables, como el rendimiento previo ($r = .37$, $p < .01$), el razonamiento verbal ($r = .27$, $p < .01$) y la ortografía, medida con otro instrumento no adaptado a la población objetivo ($r = .45$, $p < .01$). Las evidencias de validez basadas en el contenido del test, en la estructura interna y en la relación con otras variables apoyaron su uso para evaluar competencias ortográficas en estudiantes universitarios de nuevo ingreso. Se discute la utilidad de TCORT para aportar datos relevantes que faciliten la creación de políticas universitarias dirigidas a promover el entrenamiento de la competencia ortográfica en estudiantes universitarios.

Descriptores: ortografía, competencia, estudiantes universitarios, validez, rendimiento académico.

1. Introduction

1.1. Importance of spelling in the academic context

In recent years, the teaching of spelling has been a challenge in the international education setting, reflected in international projects and programmes that include the assessment of spelling, either as an individual competence or as part of reading competence. The reports derived from these projects have shown that Spain has one of the lowest scores in reading competence and literacy (OECD, 2015). This fact may be due to the change in communication patterns resulting from the use of social media. For example, Mingle and Adams (2015) show that students who have used social media (i.e., WhatsApp) experience negative effects on their spelling and grammar, which is related to poor academic performance. However, spelling errors made in digital writing need not necessarily imply errors due to ignorance or carelessness; rather, these are part of the dominant social communication among students, which has been named "disortographic norm" (Gómez, 2014). Specific proposals have therefore been developed to train spelling competence, starting with the use of digital technologies in order to make writing easier for students and reduce spelling errors (OECD, 2018).

Writing well is a cognitive challenge because it is at once a test of memory, language and thinking ability (Kellogg & Raulerson, 2007). Students competent in written linguistic communication understand and produce texts in various situ-

ations where the context in writing, the intention and the assessment of the recipient to whom they address are relevant factors (Rico-Martín & Níkleva, 2016). Thus, spelling competence is a key element for appropriate written expression.

According to the Common European Framework of Reference for Languages (CEFR), spelling is defined as "the knowledge and skill in the perception and production of the symbols of which written texts are composed" (Consejo de Europa, 2002, p. 114). Graphic code is, by definition, a convention and, therefore, changing and unstable. Understanding and mastering spelling is not limited to the written transcription of phonemes; rather "it is related to the plurality of subsystems of language and not only to phonic but also to morphological, syntactic, lexical and semantic aspects" (Camps et al., 2004, p. 21).

In this respect, spelling is a transversal competence that must be given priority from the early stages of education and which affects the whole academic life of students (Fernández-Rufete, 2015). From a sociological perspective, this competence is essential for members of a community to consolidate their belonging to a group (Camps et al., 2004), since the spelling unit is fundamental for consolidating a language and maintaining the awareness of speaking the same language within our dialectical diversity. However, the emergence of digital media and social media increases the divide between written communication and academic standards (Rizzo, 2022). Furthermore, teaching spelling competence is less common as

students progress in their academic career (Sánchez-Rivero et al., 2021).

The impact on the university stage of students seems clear. Accordingly, there is a growing concern for the performance of students in academic tasks (i.e., written works) in which spelling mistakes are gradually getting worse (Gómez, 2005; Suárez et al., 2019). This concern is particularly relevant concerning the education of students in qualifications that lead to them practising teaching professionally (Martín, 2015; Suárez et al., 2021). Some authors even brand the fact that plans to boost the spelling competence of university students are not included in educational curricula as "incomprehensible" and "counterproductive", as they play an important role in digital literacy among young people (Gómez & Gómez, 2015). In view of the foregoing, the acquisition and promotion of appropriate spelling competence in university education must become a fundamental objective in curricula.

1.2. Assessment of spelling

Assessment of spelling has often been included in assessment protocols for reading comprehension or writing skills. In the context of higher education, there are various standardised tests, such as American College Testing (ACT) and the Medical College Admissions Test (MCAT), which contain tests related to reading comprehension. Other tools are more accurate in this respect, using exclusive scores for spelling competences. One example is the Components of Spelling Test (CoST) (Daffern et al., 2015) tool, used to assess spelling competence in primary education;

or the Graded Spelling List (GraSp_List) (Venkatesan & Holla, 2011), which assesses spelling in populations with functional diversity.

In Spain, the assessment of spelling competence has been of interest in some teaching innovation works aimed at improving spelling through a cooperative university programme (Saneleuterio, 2018) or sign language (Marín-García, 2021). Likewise, various tests have been validated to assess spelling in Spanish, such as the Developmental Contrastive Spelling Test (Arteagoitia et al., 2005), the vocabulary assessment tool EVOC (Orellana-García et al., 2020), and the Lextale-Esp test (Izura et al., 2014). Additionally, others have been developed which not only include spelling, but also other elements of language, such as cognitive ability batteries BAT-7 (Arribas-Águila et al., 2013), BLOC (Cuetos, 2008), or PROLEC-SE (Cuetos et al., 2016). Nonetheless, the aforementioned tests do not meet the necessary requirements to assess spelling in the context of higher education, since they have been developed in order to be implemented in stages of education prior to university (Arteagoitia et al., 2005; Cuetos, 2008), they are focused on detecting difficulties in oral comprehension (Cuetos et al., 2016; Cuetos, 2008), they assess spelling competence through the vocabulary size of students without considering a map of spelling rules (Izura et al., 2014; Orellana-García et al., 2020), and they do not include any constituents of Spanish spelling such as the use of upper case and lower case letters, or accentuation (Arribas-Águila et al., 2013).

1.3. Spelling and academic achievement

Spelling acquisition cannot be considered an isolated gain. This is very often a source of development of related intellectual skills. One of the most relevant links is established with written composition, as it sets in motion the learning of standards through the creation of discourse and text review (Fernández-Rufete, 2015) or through written formal interactions between teachers and students (Níkleva, 2015). Furthermore, spelling competence activates word segmentation and recognition skills, as well as skills that involve advanced text processing (Vanderswalmen et al., 2010).

In primary and secondary education, spelling acquisition seems to influence subsequent academic performance (Job & Klassen, 2012; Rico-Martín, 2002; Salvador-Mata et al., 2007). At the university stage, the spelling assessed in comprehensive reading and writing assessments seems to predict good results over the years (Sæle et al., 2016). Accordingly, text composition is considered to be a single predictor of success during the freshman year of university studies (Kellogg & Raulerson, 2007), where spelling competence is key to explaining inadequate functioning in reading and writing skills (Gentry et al., 2014).

In this respect and considering the needs detected, the objective of this study is to create a tool to assess spelling competence in incoming university students and to obtain validity evidence to support its use. To this end, a tool has been developed based on the "spelling competence" theo-

retical construct definition. Afterwards, following the assessments made by a group of experts, the tool has been given to a sample of incoming Spanish university students. The results obtained have been used to obtain validity evidence based on content, internal structure (dimensionality and invariance) and relations to other variables (American Educational Research Association [AERA] et al., 2014).

2. Method

2.1. Participants

In the first phase of the study, six experts were involved in teaching spelling competence to university students, who initially assessed the items prepared in order to measure the construct. Secondly, 685 participants were recruited; three of them did not agree to participate in the study, and another 79 did not end up completing it and were excluded. The final sample consisted of 602 participants (52% female and 48% male), with an average age of 18.20 years (SD = 1.83). Of these, 194 studied degrees in economic sciences and business studies; 187, in social and human sciences; 123, in legal and political sciences; and 98, in engineering.

2.2. Tools

The Test of Spelling Competence (TCORT) has been created in order to measure the spelling competences of Spanish university students. Each item in the test is made up of four sentences. In only one of them, there is a clear spelling error belonging to one of the fundamental constituents of spelling, which must be identified by the respondent. Each correct answer is given one mark, and each wrong answer receives zero marks.

BAT-7-S (Arribas-Águila et al., 2013). This is a battery of seven cognitive abilities applicable to pre-university students (16-18 years): verbal reasoning (V), spatial reasoning (E), attention (A), reasoning (R), numerical reasoning (N), mechanical reasoning (M) and spelling (O). This tool has demonstrated sufficient internal consistency in each of its subscales (Cronbach's alpha values between .78 and .95) (Sánchez-Sánchez & Arribas-Águila, 2014).

Previous performance. Assessed by means of the scores achieved by students in the university entrance exam (PAU) (ranging between 0 and 10).

2.3. Process

The first version of the tool was created based on two documents: the latest edition of *Ortografía de la lengua española [Spelling of the Spanish language]* (Real Academia Española [RAE] & Asociación de Academias de la Lengua Española [ASALE], 2010), and the *Ortografía de uso del español actual [Spelling of current Spanish usage]* manual (Gómez-Torrego, 2015), which uses the spelling of the RAE as a reference, but adapts to the most common use of spelling standards. The content of the tool was structured based on the "five fundamental constituents of spelling" identified by the RAE: spelling of letters, accentuation (use of the tilde accent), punctuation marks, use of upper

case and lower case letters, and graphic representation of lexical units.

The representative elements of comprehensive spelling competence were deduced from each of the fundamental constituents, following the approach of Gómez-Torrego (2015) as a reference to assess spelling competence. These elements were considered to be the indicators of the construct. Thus, the representative elements were established based on four of the five fundamental constituents of spelling (from now on referred to as spelling areas): letters (A), upper case and lower case letters (B), prefixation and composition (C), and accentuation (D). No items referring to punctuation marks were included, since this is a component of spelling with a high degree of subjectivity and, due to discursive reasons, it allows several valid options in some cases. In each of the four spelling areas in particular, various representative elements were established (for example, in the "letters" area, one of the representative elements was the use of *b/v*). Subsequently, three clear items were developed (not subject to contextual interpretation) to assess each one of these elements in order to obtain an initial item bank which was large enough, that is, approximately double its final version (Muñiz & Fonseca-Pedrero, 2019). Table 1 shows the number of items developed for each area and for each representative element.

TABLE 1. Number of items developed for each area and element.

Spelling area	No. of items	Representative elements (no. of items)
Letters	33	Use of *b/v* (3 items) Use of *g/j + e/i* (3 items) Use of c/z (3 items) Use of *ll/y* (3 items) Use of *s/x* (3 items) Use of *d/z* (3 items) Use of *c/cc* (3 items) Use of silent *h* in first position and *h* in the middle (3 items) Use of *r* after consonants belonging to the syllable before (3 items) Use of *m/n* (3 items) Use of *y/e + o/u* conjunctions (3 items)
Upper case and lower case letters	8	
Prefixation and composition	11	
Accentuation	21	General rules of accentuation (4 items) Use of diphthongs and hiatuses (5 items) Diacritical tilde (12 items)

As a result, 73 items were generated, and these covered each of the elements contained in the spelling areas. The process to generate each of the items was as follows: for each item, four sentences were developed which contained one word or expression from a certain representative element of spelling competence (i.e., use of *b/v*). Three of these statements contained the expression written correctly (i.e., "Hay que rebelarse contra los tiranos"), while one of these statements contained the expression written incorrectly (i.e., "No *tubo* mucha suerte con la ortografía"), with the latter being the choice that students must be able to identify.

In order to select the most relevant items from each spelling area, a validation protocol was developed for expert judgement in which an assessment of the original 73 items was requested. In order to fulfil this protocol, six experts with proven experience in the educational field were contacted. Firstly, they were asked to sign an informed consent form in which they were notified of the objective of the research. All of them agreed to participate in the study voluntarily. Afterwards, the validation protocol was sent via e-mail, which was then completed and sent back to the research team.

The experts' task consisted of using a Likert scale, ranging from 1 (not at all) to 4 (a lot), to assess the following aspects: a) representativeness, defined as the extent to which the sentences created were representative of the spelling area to which each item is supposed to belong; b) familiarity of the terms, defined as the likelihood that the subjects know all the words that appear in the sentence; and c) understanding of sentences, defined as the extent to which the sentence is coherent and understandable. Lastly, the experts were asked for a qualitative assessment of each of the items in the event that they considered any aspect to be relevant.

Subsequently, a first version of the test was obtained, made up of all items that the experts deemed suitable for piloting. The research team used this to make a selection in order to reduce the length of the TCORT, in any case maintaining that the spelling areas would still be represented in the pilot version. In particular, the following criteria were considered for the selection of items that would form the final version of the TCORT: a) the experts must agree on the parts assessed; b) all the spelling areas must be represented; c) overlapping must be avoided in each spelling area; d) a number of items which is around half of the initial bank must be reached (Muñiz & Fonseca-Pedrero, 2019).

In the second phase, 602 students completed the refined version of the TCORT and the BAT, and provided information on their academic performance in the PAU in two different online sessions. During the sessions, a specialized team monitored the process, provided technical support and resolved any procedural issues. The participants who agreed to take part in the study received a link to a survey manager. Before beginning the study, an assessment was requested on the part of Universidad Loyola Andalucía, which issued a favourable report (23 April 2020).

Figure 1 illustrates the various phases developed to obtain validity evidence on the usefulness of the tool created.

FIGURE 1. Summary of the TCORT validation process.
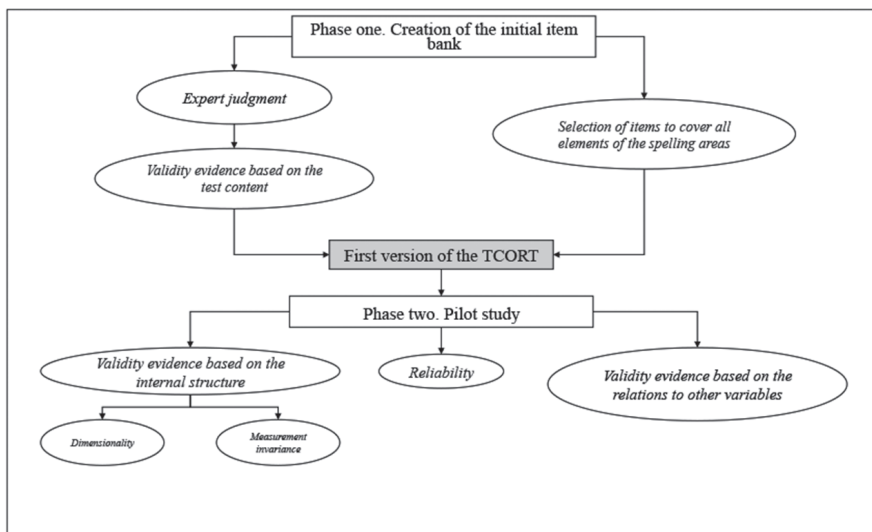
2.4. Data analysis

First of all, the information provided by the experts was analysed in order to obtain validity evidence based on the test content (Sireci & Faulkner-Bond, 2014). The degree of agreement was assessed as regards the representativeness, familiarity and understanding of the items using the content validity ratio (CVR) (Ayre & Scally, 2014). Specifically, the recommended cut-off point (CVR = .80) was followed for the number of experts (n = 6) and a confidence level of 95%. (Wilson et al., 2012).

Secondly, once the final version of the TCORT was defined following review by the research team, the tool was used on a sample of university students in order to obtain validity evidence based on the internal structure and the relations to other variables. Descriptive analyses were initially conducted of the skewness

and kurtosis of the multivariate sample using Mardia's test (Mardia, 1970). Afterwards, it was verified that the data were adequate for factoring by means of Barlett's test of sphericity (p <.001) and the Kaiser-Meyer-Olkin (KMO) test, using values equal to or greater than .70 as the criterion.

In order to obtain evidence based on the internal structure of the TCORT (Rios & Wells, 2014), the total sample was split into two sub-samples selected at random, stratified by sex (52% female and 48% male) (Lloret-Segura et al., 2014). Analyses were carried out of dimensionality in accordance with various approaches in each sub-sample. In the first one, an exploratory factor analysis (EFA) was conducted, and in the second one, a confirmatory factor analysis (CFA) was carried out. In EFA, the optimal number of factors was

explored based on parallel analysis with optimal implementation. In particular, the model based on the 95th percentile was chosen as a first option, for it provides polychoric scores, which are more accurate (Timmerman & Lorenzo-Seva, 2011); and, as a second option, the factor solution based on the average was used. Two indices were provided for each factor solution: a) H index or construct replicability (Hancock & Mueller, 2000), where values greater than .70 indicate that the measurement of the construct can be replicated; and b) factor determinacy index (FDI) (Gorsuch, 2003), where values greater than .90 indicate that the factor score can be used. Furthermore, a closeness to unidimensionality analysis was conducted to support unidimensionality as the main option in cases in which single-factor solution was obtained. Three indices were used for this: unidimensional congruence (UniCo; values equal to or greater than .95), explained common variance (ECV; values equal to or greater than .85), and mean of item residual absolute loadings (I-REAL; values below .30) (Ferrando & Lorenzo-Seva, 2018).

Considering the optimal number of factors, the fit was analysed using the maximum likelihood and weighted least square mean and variance adjusted (WLSMV) method due to the categorical nature of items (Rhemtulla et al, 2012). Fit of the model was assessed using root mean square error of approximation (RMSEA) and standardized root mean-square (SRMR), with optimal values below .08 (Hooper et al., 2008); and com-

monality of items, with a cutoff point of .20 (Child, 2006).

The WLSMV estimation method was used in CFA. Fit of the model was assessed using the goodness of fit RMSEA and SRMR, the comparative fit index (CFI) and the tucker-lewis index (TLI), and these were appropriate with values equal to or greater than .95 (Hu & Bentler, 1999). Lastly, the prediction error of the proposed models was compared based on the Akaike information criterion (AIC) and the bayesian information criterion (BIC).

Once the dimensionality of the tool had been analysed, the total sample of students was considered in order to assess the invariance of the TCORT with regard to sex and the reliability of the tool and in order to obtain validity evidence based on relations to other variables.

Factorial invariance was carried out based on a multigroup CFA, examining a set of increasingly restrictive models in relation to sex. The intention was to compare the fit of the model when the individual parameters of the model were estimated separately for the various subpopulations in relation to the fit when the parameters were set to be invariants throughout them (Byrne, 2012). Invariance was again tested using the WLSMV estimator, by means of the following models, from least to most restrictive (Svetina et al., 2019): test 1, configural (equivalent structure in all groups: factor loadings and free thresholds in all

groups, residual variances set at 1 in all groups and factorial averages set at 0 in all groups); test 2, metric (factor loadings set to be equal, free thresholds in all groups, factorial averages set at 0 and residual variances set at 1 in both groups); test 3, scalar (factor loadings and thresholds set to be equal, residual variances set at 1 in one group and free in the other, and factorial averages set at 0 in one group and free in the other). Invariance between models was assessed using the following criteria (Chen, 2007): a) ΔCFI (>.02); b) ΔRMSEA (>.15).

The reliability of the tool was then analysed with the factor solution selected. The Cronbach's alpha (α) and McDonald's omega (ω) coefficients were calculated in order to analyse the internal consistency of the TCORT, with values greater than .70 considered to be acceptable (Dunn et al., 2013). The following were also analysed for each item: a) the discrimination index, considering that items are suitably discriminated against above .30 (Nunnally & Bernstein, 1994); and b) the reliability coefficient when removing the item from the test.

Lastly, analysis was conducted on the relationships between scores of the TCORT and scores in other tools that assessed theoretically related variables in order to obtain validity evidence based on relations to other variables (Oren et al., 2014). The bivariate correlations between scores in the TCORT and the following variables were specifically analysed: previous performance (PAU), the total score of the BAT, and scores ob-

tained in the seven BAT subscales. Particular attention was paid to spelling and verbal reasoning, as these are related problem-solving with verbal content that makes up so-called crystallized intelligence. Associations *(r)* were interpreted, in accordance with Evans' guide (1996), as very weak (.10 to .19), weak (.20 to .39), moderate (.40 to .59), strong (.60 to .79), or very strong (over .80).

Analyses were conducted using the following programs: FACTOR to explore the optimal dimensions in EFA; MPLUS to analyse dimensionality, invariance and reliability; and SPSS Statistics (v26.0) for descriptive statistics and calculation of correlations.

3. Results

3.1. Validity evidence based on the test content

Table A.1 of the Annex shows the results obtained concerning the 73 initial items in the expert judgement. The values obtained in each of the indices assessed are specified, as well as the decision made based on these (pass or fail) and any changes included according to the information collected.

Pursuant to the expert assessments, 60 of the 73 items were representative of the construct, reflected the expected familiarity and were understandable (CVR ≥.80). The other 13 items (3, 4, 6, 8, 12, 14, 15, 17, 18, 20, 39, 58 and 64) were removed, as they did not achieve sufficient values in any of these three requirements.

Therefore, 60 items did cover the representative elements of all the proposed orthographic areas, so no new items had to be developed. Nonetheless, the research team made changes to seven items as suggested by the experts: in items 1, 16, 37 and 66, terms included in the distractors that could lead to an error were replaced; in item 10, two of the distractors were replaced as one of the experts considered them to be very easy; in item 60, the incorrect typology of one of the distractors was changed; and in item 72, two distractors were replaced as they did not assess the spelling area to which the item belonged (D: accentuation). No changes were made to the other 53 items that were deemed suitable by the experts.

Lastly, the research team selected the items that would form the refined version of the TCORT, starting from the 60 items deemed suitable by the experts. The selection included the following items: in A) spelling of letters, items 1, 5, 7, 9, 10, 13, 16, 19, 23, 27, 29 and 33; in B) upper case and lower case letters, items 36, 37 and 40; in C) prefixation and composition, items 48, 49, 51 and 52; and in D) accentuation, 53, 54, 55, 56, 57, 59, 60, 61, 62, 63, 65, 66, 70, 71, 72 and 73. As a result of this refining process, the TCORT was made up of 37 items, which represented all constituent elements of all the spelling areas.

3.2. Validity evidence based on the internal structure

The matrix was appropriate for factoring as Barlett's test of sphericity was sig-nificant ($p <.001$), and the KMO value was .94, greater than .70.

The average scores of the 37 items ranged between .34 ($SD = .49$) and .91 ($SD = .29$). The values of skewness varied between -2.88 and 0.83 and those of kurtosis between -1.99 and 6.28. Mardia's test was significant for kurtosis ($M_k = 1462.34$, $p <.001$), but not for skewness ($M_s = 220.53$, $p >.05$).

3.2.1. Dimensionality

The results of EFA showed a unidimensional factor solution when the analysis was based on the 95th percentile. However, the solution was bifactor when the analysis was conducted based on the average. Although the unidimensional factor solution based on the 95th percentile was the most appropriate in this case, additional analyses were conducted in order to confirm whether the unidimensional model was the most suitable. Analysis of the H index of the single-factor solution (H = .947) was greater than that obtained in each of the factors of the bifactor solution (H = .937 for the first factor and H = .911 for the second factor). In both cases, values were given that supported the fact that the construct measurement used (H >.07) was appropriate to be used in research (Hancock & Mueller, 2000). Furthermore, the values for FDI were again greater for the single-factor solution (.973) than for the bifactor solution (.968, first factor; .954, second factor). Thus, the values in both solutions supported the fact that the estimations of factor scores represented the scores of

latent factors, therefore the aforementioned scores could be used in research (Gorsuch, 2003).

In addition, the values of UniCo (.977), ECV (.871) and MIREAL (.189) were found to be within the expected ranges (UniCo ≥.95; ECV ≥.85; MIREAL ≤.30). An analysis was also carried out of the fit of data for the single factor model (RMSEA = .041; RMSR = .080), which were maintained within the maximum error range of .08 (Hooper et al., 2008). As regards the items, 31 of the 37 items had commonalities below .20 (Child, 2006). In particular, items 19, 20, 21, 23, 27 and 37 did not meet this criterion (see Table A.2 of the Annex).

CFA was carried out with the second sub-sample considering a single-factor model and using the WLSMV estimation method. Two models were considered for CFA: single factor with 31 items (exclusion of the six items with commonalities below .20 in EFA) and single factor with 37 items (inclusion of the six items with commonalities below .20 in EFA). As regards the first model (31 items), acceptable fit indices were obtained (TLI = .952; CFI = .949; RMSEA = .041 with a CI = .037-.045; SRMR = .075). The 31 items

of the tool were seen to be significant according to this model (p <.001, standardised coefficients between .847 and 1.678). As regards the second model (37 items), acceptable fit indices were obtained, although these were lower than the previous model (TLI = .947; CFI = .945; RMSEA = .051 with a CI=c.045-.056; SRMR = .089). All items of the tool were again seen to be significant according to this model (p <.001, standardised coefficients between .663 and 1.630). Table 2 shows the indices obtained when analysing the fit of both models.

The data show an acceptable fit to both models, which highlighted the need to compare them using AIC and BIC criteria. While the model with 31 items obtained an AIC = 20.317 and a BIC = 20.727, the model with 37 items obtained an AIC = 21.572 and a BIC = 22.023. Therefore, in comparison, the first one fitted better than the latter. Thus, for the rest of the analysis, the single-factor model with 31 items was considered.

3.2.2. Measurement invariance

As regards multigroup analysis, as stated in Table 3, scalar invariance was achieved when assessing the fit of the model between sexes (male and female).

TABLE 2. Fit indices for models assessed in CFA.

	χ^2	p-value	TLI	CFI	SRMR	RMSEA(CI)
TCORT-31 items	876.28	<.001	.952	.949	.075	0.041 (0.037-0.045)
TCORT-37 items	887.56	<.001	.947	.945	.089	0.051 (0.045-0.056)

TABLE 3. Analysis of variance according to sex (male-female).

Variables	χ^2 (df)	p-value	CFI	TLI	RMSEA	SRMR	Contrast	Δ χ^2 (df)	p	CFI	RMSEA	Decision
Model 1. Configural	1040.67 (868)	<.001	.981	.980	.026 (.019-.031)	.065	---	---	---	---	---	---
Model 2. Metric	1246.65 (898)	<.001	.974	.973	.036 (.031-.040)	.070	2 vs 1	205.98 (30)	.000	-.007	-.010	Accept
Model 3. Scalar	1276.04 (898)	<.001	.974	.910	.035 (.030-.040)	.068	3 vs 2	29.39 (30)	.000	.000	-.001	Accept

NOTE: Sex: 1 = Male (n = 288); 2 = Female (n = 321).

The results showed a considerable factorial invariance as regards sex (male and female), as following the comparison of models, the ΔCFI ≤.02 and ΔRMSEA ≤.15 criteria were met (Chen, 2007).

3.3. Reliability

In terms of the reliability test, both Cronbach's alpha and McDonald's omega reached sufficient values (α = .90; ω = .89). Table 4 shows the psychometric properties of the items: difficulty, discrimination and α of the test when each item is removed.

The average difficulty index of the test was .396. The most difficult items were 4 (.100), 9 (.143) and 11 (.172), while the easiest ones were items 1 (.795), 28 (.667) and 27 (.604). As regards item discrimination, the 31 items of the scale were suitably discriminated against (Nunnally & Bernstein, 1994), with a range between .304 and .587. The items with the lowest discrimination indices were 16 (.304), 17 (.362) and 12 (.372); and those with the highest discrimination indices were 20 (.587), 11 (.570) and 8 (.554). Lastly, the α index when removing an item showed that the overall reliability of the scale did not increase when any item was removed. The final version of the TCORT (31 items) is included in Table A.3 of the Annex.

3.4. Validity evidence based on the relations to other variables

Table 5 shows the results obtained when analysing the correlations between scores in the TCORT and those obtained in other tools. The total score in the TCORT (A = 19.31, SD = 7.03) correlated significantly, in a positive but weak way, with previous performance (r = .37, p <.01) and with the total score of the BAT (r = .30, p <.01).

In relation to BAT scales, the greatest associations of TCORT were seen to be significant and moderate (r = .45, p <.01) with spelling (BAT-O) and significant and weak (r = .27, p <.01) with verbal rea-soning (BAT-V). Furthermore, TCORT correlated significantly with other prob-lem-solving scales without verbal content, as in the case of reasoning (BAT-R; r = .25, p <.01) and numerical reasoning (BAT-N; r = .18, p <.01). No significant associations were found with mechanical reasoning (BAT-M).

4. Discussion and conclusions

The objective of this study was to develop a tool to assess spelling competence in incoming Spanish university students and obtain validity evidence to support the intended use of the test. To this end, the instructions described by AERA et al. (2014) were followed, designing a study aimed at collecting validity evidence based on content, internal consistency and the relationship with other variables. Inclusion of information provided by the experts and the responses from participants of the pilot study has made it possible to support use of the test in order to measure spelling competence in incoming university students. In this sense, results have shown that test content represents the intended construct (validity evidence based on content), items are organised into the dimensions described in order to define the construct (validity

TABLE 4. Psychometric properties of the 31 items of the Test
of Spelling Competence (TCORT).

Spelling area	Item	Difficulty	Discrimination	α if the item is removed
Use of *b/v*	1	.795	.397	.888
Use of *g/j + e/i*	2	.241	.423	.888
Use of *c/z*	3	.322	.434	.888
Use of *s/z*	4	.1	.551	.887
Use of *ll/y*	5	.182	.443	.888
Use of *s/x*	6	.302	.447	.887
Use of *d/z*	7	.195	.519	.887
Use of *c/cc*	8	.268	.399	.888
Use of silent *h*	9	.143	.554	.886
Use of *r*	10	.328	.484	.887
Use of *m/n*	11	.172	.541	.886
Use of conjunctions	12	.2	.570	.886
Upper case and lower case letters	13	.363	.372	.889
Upper case and lower case letters	14	.404	.466	.887
Upper case and lower case letters	15	.333	.416	.888
Prefixation and composition	16	.36	.461	.887
Prefixation and composition	17	.468	.304	.890
Prefixation and composition	18	.479	.362	.889
Accentuation	19	.568	.384	.889
Accentuation	20	.558	.375	.889
Accentuation	21	.319	.587	.885
Accentuation	22	.478	.439	.888
Accentuation	23	.478	.489	.887
Accentuation	24	.512	.438	.888
Accentuation	25	.517	.433	.888
Accentuation	26	.529	.408	.888
Accentuation	27	.604	.485	.887
Accentuation	28	.667	.376	.889
Accentuation	29	.576	.379	.889
Accentuation	30	.342	.456	.887
Accentuation	31	.473	.439	.888

TABLE 5. Bivariate correlations between TCORT, BAT and previous performance.

Variable	n	M	DT	PAU	BAT(O)	BAT(V)	BAT(T)	BAT(E)	BAT(A)	BAT(R)	BAT(N)	BAT(M)
TCORT	602	19.31	7.03	.37**	.45**	.27**	.30**	.09*	.11**	.25**	.18**	.02
PAU	601	7.41	1.13	1	.31**	.21**	.23**	.09*	.06	.19**	.20**	.01
BAT(O)	624	21.80	5.17		1	.38**	.49**	.13**	.12**	.19**	.30**	.11**
BAT(V)	624	20.37	4.42			1	.74**	.40**	.27**	.41**	.44**	.48**
BAT(T)	601	7.41	1.13				1	.70**	.55**	.70**	.74**	.67**

TCORT: Test of Spelling Competence; PP: previous performance scores obtained in PAU; BAT(O): BAT scale-spelling; BAT(V): BAT scale-verbal reasoning; BAT(T): Total BAT score; BAT(E): BAT scale-spatial reasoning; BAT(A): BAT scale-attention; BAT(R): BAT scale-reasoning; BAT(N): BAT scale-numerical reasoning; BAT(M): BAT scale-mechanical reasoning; *p <.05; **p <.01.

evidence based on the internal structure) and scores of the test are related to scores of other tools as is theoretically defined (validity evidence based on the relationships with other variables). Furthermore, the analyses carried out with responses from the pilot study have shown that the TCORT provides accurate and reliable data which are invariant between sexes. This study, therefore, provides a tool in which both the creation and validation process has been based on the collection and inclusion of varied evidence from several information sources in order to, as proposed in the mixed methodology framework, favour compression of the phenomenon being studied (Hubley & Zumbo, 2011), and enrich and improve the interpretation of evidence collected (Zhou, 2019).

Likewise, each phase of the validation study incorporates processes and evidence that make the conclusions stronger. On the one hand, assessment of the agreement among experts has proven to be useful in analysing tools that measure education variables, such as learning skills and critical thinking (Khoiriyah et al., 2015), reflective ability (Alsina et al., 2017), and attitudes towards subjects (Palacios et al., 2014). In this study, the aforementioned process made it possible to identify the most appropriate items to make up the test and detect any elements in the items that could be changed in order to ensure better quality.

Varied and additional results were obtained in the pilot study. On the one hand, the analyses of dimensionality confirmed the starting unidimensional theoretical structure, which included the most relevant spelling areas for assessment of spelling competence (Gómez-Torrego, 2015). These data are congruent with other assessments of spelling competence in the Spanish language, such as the word dictation test for the assessment of spelling level TEO-D (Cuadro et al., 2013) or the spelling subtest of the BAT (BAT-O) (Arribas-Águila et al., 2013), where a unidimensional structure of the construct is proposed.

Relationships between TCORT scores and problem-solving tasks with verbal content (BAT-V and BAT-O) confirmed the association of TCORT with tasks involved in crystallized intelligence, as is the case of verbal reasoning and spelling, elements of reasoning which are theoretically related to spelling competence and go beyond the word acquisition process (Cejudo et al., 2017; Pascual-Gómez & Carril-Martínez, 2017).

Correlations with previous performance and total score of the BAT showed spelling competence as a parsimonious variable that may be a source of transfer to other transversal competences for university students (Romero-González & Álvarez-Álvarez, 2020). In particular, the TCORT scores were associated with scores in tasks without verbal content, such as reasoning (BAT-R) and numerical reasoning (BAT-N). In this respect, although spelling is suggested as a competence that may be learned through educational processes different to other

aspects of language, such as morphology and lexicon (Martín-Sánchez, 2010), the main evidence trend seems to indicate that the assessment of spelling includes not only elements of verbal problem solving (Gómez, 2007) but also other fluid reasoning tasks (Ramírez-Uclés et al., 2013).

All of these results are evidence which supports the use of the TCORT to assess spelling competence in incoming university students, meaning that this study provides a new tool to measure a core competence in university assessment, firstly, by starting with an updated map of spelling areas and, secondly, due to its relationship with other relevant elements of language in higher education.

On the other hand, it is important to note the growing interest in spelling as a transversal competence in the context of new policies, such as the proposal in the 21st-century skills approach, which incorporates key linguistic components such as communication and collaboration, where the assessment of spelling competence is relevant (Binkley et al., 2012; Seifart, 2006). The tool created in this study contributes to the assessment of a competence that may facilitate profile creation from a more comprehensive approach. This, in turn, will benefit the identification of potential deficiencies in student, and the development of resources and programmes to counteract possible performance deficits during their time at university. One of the reasons for which the TCORT has been developed

is to encourage education agents to use university resources that contribute to student education, as occurs in other assessments of spelling competence in which improvement programmes are included throughout the university (Cejudo et al., 2017). It is also easier to use and apply as it is a tool which is freely available.

The limitations of the study are mainly associated with the homogeneity of the sample. Given that all participants belonged to the same university, it is possible that their characteristics are different to those of students from other Spanish universities. However, the large sample size makes it easier to generalise the results obtained in terms of the potential usefulness of the test. On the other hand, since this tool has been created to assess university students, it would be advisable to analyse possible differences in the way in which it works among students from different academic disciplines. Future studies should address the analysis of metric invariance among students from different areas.

The TCORT has proven to have sufficient internal consistency, and its total scores have reflected the expected theoretical relationships, which in turn supports the fact that spelling competence is transversal and must be taken into account in order to be incorporated into future higher education protocols.

In this regard, the applicability of a tool such as TCORT will make it possible to carry out assessments in the university

context aimed at detecting educational needs in a transversal competence as relevant as spelling. Students may be seen to benefit in early periods of university entry if they start using university resources that promote certain academic competences such as this one. Assessment of this competence is expected to gain more relevance in university policies and actions aimed at optimising student resources.

ANNEX.

TABLE A.1. Results of the expert assessment.

Area	Initial item no.	Final item no.	Correct choice of the item*	Expert assessment			Decision	Changes made
				Repre	Fam	Und		
A: *b/v*	1	1	No *tubo* mucha suerte con la ortografía.	.83	.83	1	Pass	The distractor "Me he tomado un wiski antes de venir al examen de Matemáticas" is replaced by "No me cuentes nada: tus asuntos no me incumben".
A: *b/v*	2		Cierra con llave, *haber* si nos van a robar.	.83	1	1	Pass	No changes
A: *b/v*	3		Es posible que no *valla* a trabajar hoy.	.67	.67	1	Fail	
A: *g/j* + *e/i*	4		Mi coche está estropeado y lo he llevado al *garage*.	.83	.58	.67	Fail	
A: *g/j* + *e/i*	5	2	No me ha dado tiempo a *cojer* el tren.	.83	1	1	Pass	No changes
A: *g/j* + *e/i*	6		Deja el paraguas en el *paraguero* para no mojar el suelo.	.08	1	1	Fail	

A: *c/z*	7	3	Este estudio profundiza en las *raíces* del flamenco.	.83	1	1	Pass	No changes
A: *c/z*	8		Antes de hacer el relleno, tiene que *coser* la pasta.	.67	1	1	Fail	
A: *c/z*	9	4	El último *ejersicio* es el más difícil.	.83	.92	1	Pass	No changes
A: *ll/y*	10	5	Ojalá *halla* mucha gente en la fiesta.	.92	.83	1	Pass	The distractor "Una llovizna fina moja la ropa" is replaced by "Tropezó con una piedra cuando iba por el monte y se cayó".
A: *ll/y*	11		Tal vez *valla* esta tarde al río.	.83	.83	1	Pass	No changes
A: *ll/y*	12		Esta tarde he comprado tres *jerseys*.	.67	.67	.67	Fail	
A: *s/x*	13	6	Hace un sol *expléndido* para pasear.	1	1	1	Pass	No changes
A: *s/x*	14		Hace tiempo que se abolió la *exclavitud*.	.67	.58	1	Fail	
A: *s/x*	15		La *cohexión* es una propiedad de los textos.	.58	.75	.92	Fail	

A: *d/z*	16	7	No pises el *céspez*, está sembrado.	.83	.83	1	Pass	The distractors "El abad del monasterio parece muy joven" and "Hay que advertir a los presentes que no pueden usar el móvil" are replaced by "He preparado la habitación con mucha ilusión para recibir al huésped" and "El capataz de la obra se comporta como un tirano".
A: *d/z*	17		¡*Correr, correr* que nos pilla mamá!	.42	1	1	Fail	
A: *d/z*	18		He dado tantas vueltas que me he *perdío*.	.67	.58	.67	Fail	
A: *c/ cc*	19	8	Hay que repasar los mecanismos de *sujec-ción*.	1	.83	1	Pass	No changes
A: *c/ cc*	20		Durante el mes de enero, ha subido la *inflacción*.	1	.67	1	Fail	
A: *c/ cc*	21		A tu trabajo le falta *con-crección*.	.92	.92	1	Pass	No changes
A: silent *h*	22		El político hizo *incapié* en las refor-mas que iba a proponer.	1	1	1	Pass	No changes

A: silent *h*	23	9	De haberlo sabido, te lo *abría* dicho.	1	1	1	Pass	No changes
A: silent *h*	24		Hay que *proibir* el tráfico de personas.	.92	.92	.92	Pass	No changes
A: *r*	25		He comprado una tierra en el *extraradio*.	.92	1	1	Pass	No changes
A: *r*	26		Han acudido a la manifestación *alrrededor* de mil personas.	.92	.92	1	Pass	No changes
A: *r*	27	10	Es tan alegre que no deja de *sonrreír*.	1	1	1	Pass	No changes
A: *m/n*	28		El fin de semana me he pillado un buen *costipado*.	1	.83	1	Pass	No changes
A: *m/n*	29	11	La herida es tan grave que hay que *anputar*.	1	.83	1	Pass	No changes
A: *m/n*	30		No es el primer *referéndun* que se celebra en la Unión Europea.	1	.92	1	Pass	No changes
A: conjunctions	31		Coge aguja *y* hilo y ponte a coser.	1	1	.92	Pass	No changes
A: conjunctions	32		¿Prefieres que ponga el cuadro vertical *o* horizontal?	1	.83	.92	Pass	No changes

A: conjunctions	33	12	Mis mejores amigos son Luis *y* Ignacio.	1	1	1	Pass	No changes
B	34		Excelentísimo *Señor Don* Juan Ruiz Linares.	1	1	1	Pass	No changes
B	35		La asignatura de *matemáticas* es obligatoria en mi carrera.	1	1	1	Pass	No changes
B	36	13	Me encanta la *Historia* de los aztecas.	1	.92	1	Pass	No changes
B	37	14	No podré ir el *Lunes* a revisar el examen.	.89	1	1	Pass	The distractor "En esta ciudad, no se nota el cambio de estación" is replaced by "La cordillera de los Andes es tan extensa que es imposible recorrerla".
B	38		Hay fiesta en toda España el *día* de la Constitución.	1	1	1	Pass	No changes
B	39		Un *Rey* debe ser fiel a su pueblo y actuar con humildad.	.67	1	1	Fail	
B	40	15	La universidad *de el* Cairo es muy famosa.	1	1	1	Pass	No changes
B	41		La *Iglesia* de San Esteban es una joya arquitectónica.	1	1	.92	Pass	No changes

C	42	16	Ha llovido, *por que* el suelo está mojado.	1	1	1	Pass	No changes
C	43		Ese fue el motivo *porque* dimitió el director.	1	1	1	Pass	No changes
C	44	17	Esta es la novela *con que* el profesor ganó el Planeta.	1	1	.83	Pass	No changes
C	45		*Con que* pensabas que el examen te había salido bien.	1	1	1	Pass	No changes
C	46		La clase *adónde* voy es espaciosa.	1	1	1	Pass	No changes
C	47		No estudia; por lo *de más*, es buen chico.	.83	.92	1	Pass	No changes
C	48	18	Me contó una noticia *a parte*.	1	1	1	Pass	No changes
C	49	19	*Asímismo*, todos entregaron un regalo.	.83	1	1	Pass	No changes
C	50		No aprobarás *sino* estudias.	1	.92	1	Pass	No changes
C	51	20	No conozco a tu novio *si no* en foto.	1	.83	1	Pass	No changes
C	52	21	El juez ha prohibido a su *ex marido* que se acerque.	.83	.83	1	Pass	No changes

D	53	22	Si pudiera repetir este *exámen*, lo haría mucho mejor.	1	1	1	Pass	No changes
D	54	23	No me dijiste que *estábais* en la playa.	.83	1	1	Pass	No changes
D	55	24	Siempre he creído, *erroneamente*, que eras de Cádiz.	1	1	1	Pass	No changes
D	56	25	*Ojala* llueva antes de la noche.	1	1	1	Pass	No changes
D	57	26	El avión croata sobrevolaba el espacio *aereo* español.	1	.92	1	Pass	No changes
D	58		Tengo que ir a comprar, me he quedado sin *pintauñas*.	.58	1	1	Fail	
D	59	27	Créeme, *Raul*: Walt Disney nunca fue congelado.	.92	.92	1	Pass	No changes
D	60	28	Si tiras eso a la ducha, la vas a *obstruír*.	.92	1	1	Pass	In the distractor "Me encanta la película «Náufrago»", the word "Náufrago" is now written without quotation marks and in italics.
D	61	29	No domina los principios *lingüisticos*.	1	.92	1	Pass	No changes

D	62	30	No tienes *porque* enfadarte.	1	1	1	Pass	No changes
D	63	31	No *se* nada del asunto.	.92	1	1	Pass	No changes
D	64		Si fuera por *tí* ya estaríamos en casa.	.75	1	1	Fail	
D	65	32	Eso es para *mi*, amigo mío.	1	1	1	Pass	No changes
D	66	33	A quien más perjudica todo esto es a *tí*.	.92	.92	1	Pass	The distractor "Cómo sois los andaluces, siempre de broma" is replaced by "Tiene la costumbre de tomarse un té a las cinco".
D	67		No sé *que* querías decir en realidad.	1	1	1	Pass	No changes
D	68		Hizo fotocopias de su *guión* y lo envió a la productora.	1	1	1	Pass	No changes
D	69		*¡Cuanto* has tardado en llegar! ¿Había tráfico?	.92	1	1	Pass	No changes
D	70	34	*Cuándo* salgas, hazme una llamada perdida.	1	1	1	Pass	No changes
D	71	35	El perro *ése* es el que ha atacado a tu hijo.	.92	1	1	Pass	No changes

| D | 72 | 36 | Este me gusta más que *aquél*. | .83 | 1 | 1 | Pass | The distractors "No es eso lo que quiero decir" and "Me dijeron todas esas cosas maravillosas" are replaced by "No tiene problemas de salud: aún es joven" and "La partitura está pensada inicialmente en si bemol". |
| D | 73 | 37 | Yo no in-sinúo nada: *sólo* digo que le falta esfuerzo. | .83 | 1 | 1 | Pass | No changes |

A: spelling of letters; B: upper case and lower case letters; C: prefixation and composition; D: accentuation; Repre: content validity ratio of representativeness; Fam: content validity ratio of familiarity of terms; Und: content validity ratio of understanding of understanding of sentences.

*The spelling error in each item appears in *italics*.

TABLE A.2. Commonalities of the TCORT items obtained in EFA.

Item no.	Commonalities
1	.281
2	.288
3	.315
4	.569
5	.335
6	.319
7	.445
8	.250
9	.521
10	.355
11	.397
12	.468
13	.266
14	.310
15	.302
16	.324
17	.213
18	.255
19	
20	
21	
22	.252
23	
24	.211
25	.462
26	.372
27	
28	.281
29	.367
30	.321
31	.276
32	.311
33	.214
34	.274
35	.296
36	.310
37	

NOTE: commonalities with values below 0.2 are not shown.

TABLE A.3. Final version of TCORT.

Item no.	Correct choice	Distractor 1	Distractor 2	Distractor 3
1	No *tubo* mucha suerte con la ortografía.	No me cuentes nada: tus asuntos no me incumben.	Siempre le ha gustado mucho observar los pájaros.	Hay que rebelarse contra los tiranos.
2	Es tan alegre que no deja de *sonrreír*.	He comprado un rotulador para subrayar.	Los rayos infra-rrojos no son perjudiciales para la salud.	Honrarás a tu pa-dre y a tu madre.
3	La herida es tan grave que hay que *anputar*.	Han condenado al periodista por calumnias.	Mi novio es un vampiro emocio-nal: estoy agotada.	El terrorista se inmoló después de detonar la bomba.
4	Mis mejores amigos son Luis *y* Ignacio.	Hay que indicar en el escrito si es obligatorio u opcional.	Verano e invierno apenas se diferen-cian aquí.	Para resolver el problema, lee e investiga.
5	Me encanta la *Historia* de los aztecas.	La Universidad de Salamanca tiene varios campus.	La Facultad de Psicología es de las mejores de España.	El general no quiere dar la orden de atacar.
6	No podré ir el *Lunes* a revisar el examen.	Volveré a Esta-dos Unidos en enero.	La primavera es terrible para los alérgicos.	La cordillera de los Andes es tan extensa que es imposible re-correrla.
7	La universidad *de el* Cairo es muy famosa.	Mi sueño es viajar a la Antár-tida.	En un lugar de la Mancha de cuyo nombre…	El mar Mediterrá-neo es ideal para ir de vacaciones.
8	Ha llovido, *por que* el suelo está mojado.	El Barça ganó porque es mejor.	El viaje es más barato porque había una oferta.	Desconozco el porqué de tu angustia.
9	Esta es la novela *conque* el profesor ganó el Planeta.	¡Conque ibas a ser más puntual!	¿Con qué habéis montado vuestra presentación?	No has estudiado suficiente, conque termina ya el examen.
10	Me contó una noticia *a parte*.	Los que sois del Madrid, poneos aparte.	Las medidas favorecieron a parte de la po-blación.	No hace nada aparte de molestar.

11	Si pudiera repetir este *exámen*, lo haría mucho mejor.	Ángel es uno de mis enemigos más reconocidos.	Si no lo quieres, dámelo que yo sí le doy uso.	El referéndum sobre la Constitución fue aprobado por mayoría.
12	No me ha dado tiempo a *cojer* el tren.	¡Qué coraje me da! ¡Esta la sabía!	Tengo un dolor agudo de faringe.	Soy un auténtico inútil con el bricolaje.
13	Siempre he creído, *erroneamente*, que eras de Cádiz.	Tiene solo dieciséis años y es un portento físico.	Díselo a tu madre: yo te recojo.	Cómpratelo, te sienta muy bien.
14	*Ojala* llueva antes de la noche.	Ten en cuenta que no hay café en la cafetera.	Lávate las manos con jabón, por favor.	Ahí está el bar en el que celebré mi cumpleaños.
15	El avión croata sobrevolaba el espacio *aereo* español.	No me gustan los héroes americanos: prefiero los españoles.	He visto una película de samuráis trepidante.	Os propongo que bailéis hasta el amanecer.
16	Si tiras eso a la ducha, la vas a *obstruír*.	Me encanta la película *Náufrago*.	Había una chaqueta colgada en la silla.	El cuadro tiene un aire de melancolía.
17	No domina los principios *lingüisticos*.	Es del sur, así que no soporta el frío.	En el mundo, hay muchos héroes anónimos.	Tienes que meter el cajón por el raíl.
18	No tienes *porque* enfadarte.	Aún no sé por qué no me lo has dicho.	¡Por qué seré tan cabezota!	Tápate, porque hace bastante frío.
19	No *se* nada del asunto.	Tú, hijo, come bien.	Quiero un té con leche.	¡Ojalá me dé un regalo después de clase!
20	Eso es para *mi*, amigo mío.	No me dio la razón ni tampoco se la pedí.	No me des más la paliza, por favor.	Di a Rosa que cancelamos la cita.
21	A quien más perjudica todo esto es a *tí*.	Tengo mucha fe en que, al final, ella tendrá suerte.	Tiene la costumbre de tomarse un té a las cinco.	Dio un traspié antes de caerse.
22	*Cuándo* salgas, hazme una llamada perdida.	Solo con verlo sabes cuánto vale.	Quiero que respondas cuando te pregunte.	Mira lo que ha pasado en donde veraneamos.

23	Este estudio profundiza en las *raízes* del flamenco.	He comprado un cabecero nuevo para la cama.	No tengo cenicero y la ceniza se va a caer al suelo.	No me gusta tu trabajo y debo prescindir de tus servicios.
24	El perro *ése* es el que ha atacado a tu hijo.	Ese asunto es el que me tiene preocupado.	Veo a ese y pienso en mi hermano.	Aquel que llegue primero ganará.
25	Este me gusta más que *aquél*.	Aquella no es tu casa, ¿verdad?	No tiene problemas de salud: aún es joven.	La partitura está pensada inicialmente en si bemol.
26	El último *ejersicio* es el más difícil.	Este jarabe es muy eficaz para la tos.	Hay que tener confianza en el futuro.	La paciencia no es una de mis virtudes.
27	Ojalá *halla* mucha gente en la fiesta.	Me encanta la yema del huevo.	La cría de la vaca es un novillo.	Tropezó con una piedra cuando iba por el monte y se cayó.
28	Hace un sol *espléndido* para pasear.	Suspendí por la sintaxis.	La asfixia acabó con la vida de mi perro.	Esta película ha sido vista por millones de espectadores.
29	No pises el *céspez*, está sembrado.	El capataz de la obra se comporta como un tirano.	Esperad, no habléis todos a la vez.	He preparado la habitación con mucha ilusión para recibir al huésped.
30	Hay que repasar los mecanismos de *sujección*.	He repasado la traducción de tu libro y es perfecta.	Declaré en el juicio bajo coacción.	Tus argumentos son una pura contradicción.
31	De haberlo sabido, te lo *abría* dicho.	En cinco minutos, va a haber una nueva conferencia.	Conseguí llegar hasta el hospital a pesar del mareo.	Ahí tienes las consecuencias de tus acciones.

NOTE: the part of the correct choice which is written incorrectly appears in *italics*.

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Authors' biographies

Juan-F. Luesia is a Research Assistant in the Psychology Department of Universidad Loyola Andalucía. Graduate in Psychology of UNED (Spain), where he specialised in the field of methodology through the inter-university master's degree in Behavioural Sciences and Health Methodology. He is currently undertaking his thesis focused on the assessment of relevant academic competences in university performance through a comprehensive approach to the phenomenon and the application of mixed methods. His scientific interest covers the applied study of methodology from an interdisciplinary perspective.

iD https://orcid.org/0000-0002-1017-6857

Juan-F. Plaza is an Associate Professor of the Faculty of Social Sciences at Universidad Loyola Andalucía (Spain), where he teaches the Written Communication subject in the Communication degree. Doctor of Communication of Universidad Pontificia de Salamanca. He has been deputy dean of the Communication degree in the Faculty of Social and Human Sciences at Universidad Loyola Andalucía (Spain) and is currently his general vice-secretary. His research focuses on the study of male and female representations in the mass media (stereotypes, models, language). His work as an assessor in Spanish communication journals should also be noted.

iD https://orcid.org/0000-0002-7741-088X

Isabel Benítez is an Associate Professor in the Department of Behavioural Sciences Methodology at Universidad de Granada (Spain). Doctor of Psychology of Universidad de Granada. She specialised in psychometry and pretesting methods to assess survey questionnaires. Her research focuses on the application of qualitative processes, such as cognitive interviewing and behavioural coding, in order to assess the quality of assessment tools within the framework of mixed validation studies. In the same context, she has also taken part in the assessment of bias and equivalence in transcultural studies.

iD https://orcid.org/0000-0002-0141-0816

Milagrosa Sánchez-Martín is an Associate Professor and Dean in the Faculty of Social and Human Sciences at Universidad Loyola Andalucía (Spain). Doctor of Psychology of Universidad de Sevilla. Over the years, her scientific production has centred on the development of methodological processes related to the assessment of programmes and methodological quality. Her scientific and technical interests are currently focused on continuing to implement rigorous and multidisciplinary methodologies that make it possible to obtain valid and reliable results in order to address problems that have a major impact on social sciences and health.

iD https://orcid.org/0000-0002-7387-9971

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Book reviews

Abad, M. J. (Coord.) (2022).
Empantallados. Cómo educar con éxito a tus hijos en un mundo lleno de pantallas
[Screen-addicts. How to educate your children successfully in a world full of screens]
(Ezequiel Delgado-Martín)

Nasarre, E. (Ed.) (2022).
Por una educación humanista. Un desafío contemporáneo
[In favour of humanistic education. A contemporary challenge]
(Clara Ramírez-Torres)

Santos-Rego, M. A., Lorenzo-Moledo, M., & García-Álvarez, J. (Eds.) (2023).
La educación en red. Una perspectiva multidimensional
[Networked learning. A multidimensional perspective]
(Marisol Galdames-Calderón)

Book reviews

Abad, M. J. (Coord.) (2022).
Empantallados. Cómo educar con éxito a tus hijos en un mundo lleno de pantallas [Screen-addicts. How to educate your children successfully in a world full of screens].
Vergara. 255 pp.

An idea that is engraved in stone, and that we all have, is that technology is here to stay. Although until 2019 we could clearly see its importance in our everyday lives, since the COVID-19 pandemic it has become obvious that now, not only is it important, it is necessary. Rick Howard, vice president of research at the technology consultancy Gartner, indicates that "while pandemic-related challenges will continue for some time, technological trends have emerged that present critical challenges" (Howard et al., 2021).

However, embracing digital devices with their wide range of options and their role in the education of our young people still raises numerous questions. Parents' and educators' intuition and common sense in this case cannot rely on the support of the experience of previous generations, as this digital world has only just come into existence. Our young people are the first in history to have such powerful devices and we are the first generation of parents and educators to face the challenge of education with screens as the special guests. This is a challenge with a capital "C": not only to educate *with* these omnipresent screens, but also to do so *in* this new environment of personal, social, educational and professional performance. "Digital education is nothing more than a new arena in which we can put everything that makes us who we are into practice" (p. 250).

We frequently receive contradictory messages regarding screens and their use in the education and upbringing of children. On one hand, the pandemic has led us to the discovery that screens are a great ally against distancing and isolation, whether social, professional or educational. On the other hand, there is a constant stream of reports and studies that describe the potentially negative effects of exposure to these devices. Only a few days ago, the Italian Ministry of Education issued a notice prohibiting the use of "mobile telephones and other

electronic devices during educational activities" in classrooms (Ministero dell'Istruzione e del Merito, 2022). As regards the family environment, the authors suggest that:

> Screens have been blindly embraced in many cases, as we initially thought that these devices always represent an improvement to the family's quality of life and comfort (p. 12). (…) But we have also realised that it is now more necessary than ever to stop and think about what role we wish screens to play in our lives and those of our children. (p. 9)

In this context of the certainty of their presence and the uncertainty surrounding their possibilities, challenges and dangers, *Empantallados. Cómo educar con éxito a tus hijos en un mundo lleno de pantallas* is a timely alert for parents, educators and specialists, and a thought-provoking source of ideas for researchers. Faced with this panorama, we could become overwhelmed by fear of the unknown, however, "We cannot undertake the education of our children out of fear, as fear offers nothing" (p. 250).

From the first page, it is written in a style that is optimistic, creative, hopeful, thought-provoking and realistic, created as a reference manual and without using a strictly academic tone: a companion to take on the journey of educating our children and students. This book is designed to be consulted (and used) in combination with the resources that the working group has collected and created, and which are available on the *Empantallados* website. It is the result of countless sessions, workshops, studies and conversations with families that mostly live in Spain. It has also

involved collaboration from INCIBE (Instituto Nacional de Ciberseguridad - the Spanish National Cybersecurity Institute), the social research consultancy GAD3 and a wide range of professionals in the fields of education and technology. *Empantallados. Cómo educar con éxito a tus hijos en un mundo lleno de pantallas* was born as an initiative of the educational group Fomento de Centros de Enseñanza (Promotion of Educational Centres), which has 60 years' experience in educating young people. The group includes 35 schools, 20 nursery schools and a university centre.

The context that the authors describe in the first section, "Educar en una montaña rusa de emociones" (Education on an emotional roller coaster), relating to the society in which young people are going to move in is detailed and precise: a society ready for instant gratification, with difficulties in managing abundance, a preference for the superficial, a short attention-span and an addiction to emotions. Within this context, it provides a snapshot of our young people's generation in an optimistically realistic way, whilst identifying the risks posed by its specific characteristics: The risks and opportunities of immediacy; from self-esteem based on "likes" to digital adolescence. The guidelines included, beginning with the introduction, ensure that we will gain in-depth knowledge of the reality that we are going to encounter and the right position to adopt in facing this challenge: a proactive attitude, leading us from feeling worried to taking action.

Once this context has been described, the book goes on to address the character-

istics of the different stages of young people's development and maturity, providing recommendations based on the evidence. Subsequently, it analyses the role of parents and educators, tackling such complex issues as the balance between the use we make of technology, as adults, for work and managing household chores, and the example we set and the attention that we should give to our children: "There is a great difference between paying attention to our children and not paying attention to them at a certain point in time" (p. 109).

The second part of the book, "Construyendo una cultura digital propia" (Building our own digital culture), addresses the tremendous opportunities that technology and digital devices can provide for family projects in terms of variety, depth and strength: the potential for a holiday that has been planned by everyone together, the safeguarding of special moments to be treasured, the planning of shared screen time, and how everything can and should be included in the raising and education of children — the combination of traditional games, video games, cinema, reading, hobbies, music, etc. It also provides a firm basis for the need to respect sleep and protect rest time, mealtimes as a platform for family gatherings to get to know each other and learn to love each other, family moments, etc.

In the third section, "Las doce preguntas más frecuentes sobre pantallas de los padres y madres" (The twelve most frequent questions that parents have about screens), it delves even deeper into the everyday lives of families and the situations

that, as adults, we frequently have to negotiate without being sure of having the right answers: when is the time to give them their first mobile phone; the significance of parental control; how to know whether our children's relationship with screens is healthy or not; if it is not, how to act; how to know if they are in safe environments; how to protect them, how to help them; how to survive in the school Whatsapp group, etc. It is also to be welcomed that the authors enlighten parents about our children's dreams of becoming *youtubers*, *influencers*, *tiktokers*, *gamers*, etc.

Lastly, the authors dedicate the fourth part, "El futuro profesional de tus hijos y la tecnología" (Your children's professional future and technology) to an analysis of the opportunities that will be available in the future in the world of technology, which is changing at great speed. It is interesting that their perspective does not focus on this future but rather on the children, on discovering who they are, what their interests are and creating a synergy with the possibilities that these devices offer to foster children's knowledge, abilities and skills. At the same time, several studies insist on the necessity of continuing to work on specifically human skills and value systems (Unicef, 2020).

Before the end, the book provides an important reflection that gives meaning to everything we have read in it regarding freedom. During their education, young people go from a state of total dependence to personal autonomy, as part of a gradual process. In this process, children should be helped to adopt their own set of principles

and values that will govern how they act in the world:

> Our work does not define us and it can change over time, but we remain the same and we have the ability to choose between what makes us grow, be better people and think of others generously, considering the social impact of our actions; or to focus solely on certain aspects of life, such as professional success and money; or to withdraw into ourselves, seeking only our own interest and isolating ourselves. (p. 236)

And the education that we have always sought to give young people remains unchanged, but new environments have come into existence, such as the digital, in which we need to teach them how to retain their identity and give the best of themselves. This book is, without a doubt, an extremely useful map to help us to avoid drifting through this *New World*.

Ezequiel Delgado-Martín ∎

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Abad, M. J. (Coord.) (2022). *Empantallados. Cómo educar con éxito a tus hijos en un mundo lleno de pantallas [Screen-addicts. How to educate your children successfully in a world full of screens]*. Vergara.

Howard, B. R., Finnerty, B., Kaner, B., Mickoleit, A., Brown, M., Fabular, I., Cannon, N., Mendonsa, A., Lacheca, D., Kaushik, A., & Thielemann, K. (2021). *Top technology trends in government for 2021*. Gartner Inc.

Ministero dell'Istruzione e del Merito. (2022). *Indicazioni sull'utilizzo dei telefoni cellulari e analoghi dispositivi elettronici in classe [Guidance on the use of mobile phones and similar electronic devices in the classroom]*. Circular.

Unicef. (2020). *Estudio sobre el impacto de la tecnología en la adolescencia [Study on the impact of technology on adolescence]*. Unicef España.

Nasarre, E. (Ed.) (2022).

Por una educación humanista. Un desafío contemporáneo [In favour of humanistic education. A contemporary challenge]. Narcea. 212 pp.

I remember a phrase I heard once. It was something like: "in the sciences we build the world, whereas in the arts you just write about how we do it". The truth is that it is a sign of great ignorance not only to lack knowledge of something but also to not even understand the influence (and therefore the power) that this knowledge can have. Maybe, if we alter it in the following way, the phrase above may be more truthful: "those in the arts state how the world is (or will be) and those in the sciences build it in accordance with these statements"[1].

In the book reviewed here, we catch a glimpse of what humanistic education has to offer and the urgent need for it. As it makes clear, this type of education does not aim to save the humanities, but rather aims to save us. In this way, the book is structured in nine chapters, written by leading authors in the areas of education, psychology and Spanish-speaking culture.

The introduction, compiled by the editor of the book Eugenio Nasarre, explains, by citing Jacques Maritain, that the problem with modern education lies in the subordination of the ends to the means. Therefore, we should discover the purpose of education; because, if we do not, it could be used for other ends that infringe upon personal freedoms, as several sections of the book demonstrate. To paraphrase

Píndaro, "there is nothing more important for each of us, and nothing more difficult, than to become a man" (p. 10). Therefore, the most noble purpose that education can pursue is to help us become more human.

Chapter one, written by Gregorio Luri, begins with a short anecdote that modern pedagogy would approve without a qualm, explaining that in this way the child is learning about the world around them (undoubtedly, a person outside this field would be able to determine that the child is amusing themselves and would clearly say so). At present, and particularly in education, after the marks left by constructivism, society has retained an impression of ruthless criticism of schools and terms such as "authority", "discipline" or "effort", among other similar terms. Thus, in a gradual way and in the interest of equality, we have achieved an educational system based on rights that, in the words of Alessandro Baricco, "paralyses growth, enthusiasm, hope, any possibility of change" (p. 30); given that, when the criteria for progress at school cease to be one's worth and effort, these are replaced by others, such as a family's sociocultural or economic level. On the other hand, although school is an imperfect institution with defects, it is also a noble cause, as Maeztu said: "Human thought owes infinitely more to the institutions that force us to think than to the mere permission to think" (p. 45).

The following chapter, written by Miguel Herrero de Jáuregui, answers the question: why is humanistic education necessary in the twenty-first century? Humanities, despite the criticism they receive from the different political extremes — regarded as unproductive knowledge by the utilitarian right wing or as education for the élite by the left (p. 48) — are and always will be present in people's lives. Therefore, the underlying question and raison d'être of this chapter is how to use the humanities to make ourselves freer. Because, although music, literature or philosophy may be maintained, in each of these fields there will be all manner of examples and those which have not been approved are the ones that are worth discovering. If schools do not undertake to teach the humanities — by presenting quality examples from different currents — these subjects will be left to the whims of fashion and even the influence of other institutions, with less transparent purposes than schools, which could be used to manipulate the humanities in a biased way.

Later, in the third chapter, the author, Carmen Guaita Fernández, raises the question of the teacher's role in a world where machines are increasingly emerging in environments where they had been unthinkable until now, claiming to be more effective and precise. In contrast, the teacher-student relationship should offer that which is more human and which machines are not able to provide: dialogue, beliefs, expectations, sense and will. Out of all these, the author particularly emphasises dialogue, both between people and with oneself. On the other hand, in the face of the immediacy of technology — which conceals the processes and only shows the results — we find that everything that is human requires time, such as the cultiva-

tion of the virtues that, in Guaita's words, are "the real and only progress made by humanity" (p. 76).

Chapter four addresses the teacher's authority. Juan Antonio Gómez Trinidad, who writes this chapter, states that without authority there can be no education and, therefore, there is no sense in questioning it in the field of education. Nevertheless, the problem at present does not lie in the debate surrounding authority but rather in taking for granted that it should not exist. This crisis of authority is due to several causes: the weakness of modern society, which is demonstrated by the lack of exemplariness and by the excess granted to emotions — which, in contrast to reasons, with their hierarchy, are all equally valid; the concept of authority that the new pedagogy has attributed to it, as a threat to the child's autonomy; and the abusive practices applied to it. Lastly, the chapter describes the course to take in recovering authority, as, when it is not exercised, "this hierarchy does not disappear, but rather is replaced by another, normally of a hegemonic and despotic nature" (p. 85).

In the following chapter, Agustín Dosil Maceira suggests a way, based on several disciplines, to "achieve the highest levels of personal growth and development — wisdom and happiness — and thereby contribute to building a more human future" (p. 99). Furthermore, he presents some of the current situations that represent an obstacle to personal growth, such as the blurring of the different roles that the various educational stakeholders should hold

— by undertaking tasks that are not their responsibility or vice versa — and the utilitarian notion that causes variations in what is considered to be valuable: something is of value today but perhaps it will not be tomorrow. Finally, he explains the consequences for development of the use and abuse of technology.

Chapter six addresses the learning of virtue and is written by Agustín Domingo Moratalla. Here, he speaks about the importance of virtue and its indispensable role — despite the fact that it is not part of educational approaches — as, without it, moral education will fail. Throughout this chapter, he defends this concept as enabling the balance between nature and culture; it acts as a mediator between values — which is necessary in a pluricultural society; and, in contrast to rules, it is not bound by required minimums, but rather it offers maximums for a good life. In addition, and in line with input by MacIntyre, he presents several outlooks for virtue in modern society, reaching the understanding that it strengthens the resolve for good.

The seventh chapter, written by Xavier Pericay Hosta, begins with several anecdotes that portray the forced and frequently absurd use of language to avoid offending anybody. As will be shown further on, changing language effects a change in other, deeper realities. Furthermore, and by paraphrasing Hannah Arendt, the author explains that education requires authority and tradition, a transmission of the culture of our past. However, due to the terminology that the LOGSE (Spanish Ed-

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ucation Law of 1990) began to enforce in the field of education — although hints of this could already be glimpsed in the 1970 education law — authority and tradition have decreased in value, to the detriment of education.

In chapter eight, José María Martínez-Val Pañalosa retraces the route taken by the development of scientific truth, from its beginnings as a concept in which only the tangible and that which was composed of penetrable material could be studied scientifically, to the contribution of quantum physics that enables us to understand without penetration. He ends the chapter by revealing that intelligence is that which causes us to identify scientific truth, although a greater intelligence is required to identify our own objectives, since knowledge brings with it great power that needs to be used well, as it can produce monsters such as the atomic bomb.

The last chapter, compiled by Gregorio Robles Martínez and Jesús Moreno León, presents the mutual adaptation of human beings and technology. As a metaphor, he uses the relationship that exists between the protagonists of the novel by Cervantes, which shows how Don Quixote acquires Sancho's traits and at the same time Sancho becomes *quixotised*. Thus, we human beings undergo change as a result of our relationship with technology but we also try to give it human features. In order to humanise technology, we will certainly have to learn about everything involved in being human and in this, the study of humanities plays a significant role.

Whilst reading the book, one perceives a sense of thirsting to seek the truth that even questions some aspects of the dogmatism that surrounds *political correctness*, by offering a broader vision. Lastly, it is important to note that humanistic education has been explained by and for different areas: personal, social, scientific and pedagogical. The authors come from different fields of knowledge, ranging from philosophy to engineering, including teachers of several educational stages, which has provided a holistic conception of the contribution of the humanities. Thus, the very structure of this book demonstrates what it advocates: that humanness can mean broadness, greatness, diversity and harmony.

Note

[1.] Note here the similarity of this idea with the Biblical story of creation in which the word was first, what God said, and, afterwards, it came into existence. "And God said, 'Let there be light.' And there was light." (Gen. 1.3).

Clara Ramírez-Torres ∎

Santos-Rego, M. A., Lorenzo-Moledo, M., & García-Álvarez, J. (Eds.) (2023).
La educación en red. Una perspectiva multidimensional [Networked learning. A multidimensional perspective].
Ediciones Octaedro. 308 pp.

In seeking to understand the role of education in modern society, it is necessary to consider the present and past times in which it has evolved. These days, education is affected by the dramatic changes wrought by globalisation, understood as a process of interconnection and interdependence between countries and

regions around the world. This has led to the significant transformation of the educational scene, by expanding boundaries beyond the known borders, where information is plentiful both within and outside schools, and creating different ways of learning and redesigning a new cognitive map.

Globalisation has produced unprecedented opportunities for access to education, as it is now possible to learn from anywhere in the world and at any time as a result of connectivity, creating a different relationship with knowledge, given that learning is no longer limited to the classroom, but has spread into everyday life, work, sociocultural contexts, into all aspects of life. The educational process is, therefore, continuous and permanent, and enables the acquisition of new abilities and skills for the adaptation to a constantly changing world using the numerous and varied possibilities that different sources of information can provide.

In this sense, the use of technologies and internet has become extremely common and is increasingly affordable for a growing number of students. It has led to greater accessibility, flexibility and personalisation in learning, and has made remote learning possible all over the world. For this reason, the concept of 'network' is now a frequently-used term relating to the rapid changes produced by economic globalisation and technology (Santos-Rego et al., 2023), causing people to confuse the terms *networked learning* and *online* or *digital learning*, or use them indistinctly, and this should not be the case.

Defining networked learning requires a multidimensional perspective in order to understand it. For this reason, the work edited by Miguel Ángel Santos-Rego, Mar Lorenzo-Moledo and Jesús García-Álvarez comes at the right time. In fact, the book reveals that networked learning represents connection and that it is based on the principle of co-operation, meaning that it can encourage participation and interaction with other stakeholders, by promoting the development of knowledge and skills in a collaborative learning environment, in both its formal and informal dimensions, at the social and community level.

In order to provide continuity, from the challenges and approaches involved through to the development of different contexts related to networked learning, the work is in two sections. The first is entitled "El desafío de la educación en red: algunos posicionamientos" (The challenge facing networked learning: some approaches) and over the course of six chapters it addresses different perspectives on the subject. The second section is called 'Universidad, desarrollo profesional y acción educativa en red' (The university, professional development and actions for networked learning) and the five chapters describe how networked learning functions and what to expect from it in the context of higher education.

The first chapter of the first section addresses the importance of overcoming the individualistic view of education and coming to appreciate a more integrative perspective of entrepreneurship educa-

tion. For this reason, the book invites us to discover the characteristics of entrepreneurs and connections with the context by means of systemic entrepreneurship education focusing on the individual, taking into account the notion of the 'entrepreneurship education ecosystem (EEE)'.

In the second chapter, the authors begin by describing trends in the training of education professionals and the importance of considering a paradigmatic change in higher education, which mainly features the abandonment of the traditional model of university education and the emergence of an interest in quality, from the perspective of sustainability and the in-depth approach to educating networked professionals that specifically uses networked learning.

However, when speaking of networked learning it is impossible to avoid mentioning the relationship with technology. For this reason, in the third chapter, the authors explain that the fact of technologies having grown exponentially has enabled significant generation of knowledge. Thus, there has been an increase in the challenges involved in education, as the relevant teaching processes require, among other elements, the acquisition of new skills, both for those who teach and those who learn.

In the fourth chapter, the author states that in order to improve education, specific actions are required of the communities of practice, using what they know and what is known, through knowledge management and collaborative work between professional and institutional networks in order to address the complexity and dynamism of current reality.

In the fifth chapter of this book, the authors concentrate, from a perspective of education for life, on providing some key points regarding the origin and evolution of non-formal education and the underlying relationship with work networks, through the use of social capital, taking into account the possibilities that this offers in terms of transformation and social equity to improve collaboration in social and community contexts.

In the last chapter of the first part, the authors claim that networks are not a new thing and have existed throughout history. For this reason, they approach the concept of relationship networks in the pre-electronic era offered by pedagogues Rafael Ramírez, Rabindranath Tagore and Jiddu Krishnamurti through the different methods of publicising or disseminating their speeches, which they used to impart their knowledge before the existence of electronic media, thus ending the first section of the book.

The second section of the work by Santos-Rego et al. (2023) begins with the seventh chapter and the author talks about the change and transformation that universities have undergone, revealing significant pointers on how to foresee the future, major university policy, the guiding principles that would help to explain what university is for, and how these elements are connected to lifelong networked learning.

In the eighth chapter, the author refers to the role that the university plays in building a better world, by reimagining the functions of research and teaching and how they are extended through the creation of networks with different institutions in the communities of which the contemporary university is a part, in order to meet the challenges of our times.

The authors of the ninth chapter present a case study, analysing the professional development of university teaching staff from the perspective of learning ecologies (LE), as this provides relevant information on how learning occurs in the current digital reality, leading to an understanding of how teachers acquire their skills and build their identity.

The tenth chapter establishes the connections between entrepreneurship, vocational training for employment and European co-operation networks and the specific actions they implement through development programmes. This study issues an invitation to learn about the Europe of co-operation, synergies, transnationality, mobility and convergence.

Finally, the eleventh chapter presents the main findings of a case study on the importance of creating links between the university and the community for work networks to succeed and on how service-learning (SL) could be a vital methodology to establish collaborative relationships between the different stakeholders and educational centres.

In short, education has become an essential part of people, as they are constantly learning and developing new skills to stay up to date in a constantly changing world. With the arrival of internet, there is greater access to information than ever before. For this reason, this work extends an invitation to explore the exciting possibilities that networked learning can offer. It provides information about the latest tendencies related to the capacity for promoting interaction and collaboration between stakeholders in social and community areas. It also highlights experiences of the use of networked learning in systemic entrepreneurship education or professional development. With detailed case studies and real-life examples, this book depicts a multidimensional vision of networked learning and it is recommended reading for anybody interested in taking education to the next level.

Marisol Galdames-Calderón ■

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Por una educación humanista. Un desafío contemporáneo [In favour of humanistic education. A contemporary challenge].
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Instructions for authors

A. Purpose of the journal

Revista Española de Pedagogía was created in 1943 and its search for excellence has always distinguished itself. It has been the first journal of pedagogical research in Spanish that has been indexed in the most relevant international databases. It accepts only original, high quality submissions from anywhere in the world that help advance pedagogical knowledge, avoid mere opinion polls, and are of general interest. Articles must follow commonly accepted ethical criteria; in particular, in cases of plagiarism and falsification of data, the author will be penalized by the rejection of their submissions. Articles with more than three authors will only be accepted if a reasoned explanation is provided, and in any case, the intellectual collaboration of all the signatories must be certified, not just data collection. It publishes three issues per year.

B. Languages used in the journal

The **REP** is published on the journal's website (revistadepedagogia.org) in Spanish and English. If an article is accepted, an economic agreement will be reached with the authors to implement the procedure that guarantees the use of appropriate academic language in them, with the translation being done by native expert professionals in each of the languages who must translate all the contents of the original article, including tables and graphs.

The texts cited in the article that were originally published in Spanish, even if they were later published in an English translation, must also be included in their original language. In this way, translators will not have to translate these texts again. In particular, it is preferable for a classic text to be cited with both versions: that of its original and that of the printed translation.

C. Requirements of originals

C.1. The publication of research articles must be in accordance with the *Publication Manual of the American Psychological Association* 7th Edition, 2020, (www.apastyle.org). Here are some basic points which must be strictly followed by the authors.

1) The length of the contributions, including all sections, will be between 6000 and 7500 words, using the Times New Roman typeface.

2) Articles should be submitted following the structure and formats indicated in the template that can be found on the journal's website.

3) Following the APA model, the References list will be at the end of the article, in alphabetical order by surname, naming all the authors up to a maximum of twenty**,** with the second line indented. The English translation of the original title of foreign publications must be included in square brackets next to the original title. In the Spanish version of the article, the Spanish translation of the title of the work should be included in square brackets. **Doi of publications should be always included whenever possible.**

Some examples are given below:

• **Books:**

Genise, N., Crocamo, L., & Genise, G. (2019). *Manual de psicoterapia y psicopatología de niños y adolescentes [Manual of Psychotherapy and Psychopathology of Children and Adolescents].* Editorial Akadia.

• **Journal articles:**

Siegel, H. (2002). Philosophy of education and the Deweyan legacy. *Educational Theory, 52* (3), 273-280. https://doi.org/10.1111/j.1741-5446.2002.00273.x

• **Chapters in multiauthor books:**

Mendley, D. M. (2005). The research context and the goals of teacher education. In M. Mohan & R. E. Hull (Eds.), *Teaching Effectiveness* (pp. 42-76). Educational Technology Publications.

• **References to web page:**

Guarino, B. (2019, January 3). How will humanity react to alien life? Psychologists have some predictions. *The Washington Post*. https://www.washingtonpost.com/news/speaking-of-science/wp/2017/12/04/how-will-humanity-react-to-alien-lifepsychologists-have-some-predictions

U.S. Census Bureau. (n.d.). *U.S. and world population dock. U.S.* Department of Commerce. Retrieved July 3, 2019, from https://www.census.gov/popclock/

4) References in the body of the article are written in an abbreviated way that differs from what is used in the reference list. Specifically, if the reference is a direct quotation, the text must be enclosed in quotation marks and, usually at the end, the author's last name, year and page number are placed in parentheses: (Taylor, 1994, p. 93). If it is not a direct quotation, and so is not enclosed in quotation marks, the page number will be omitted: (Taylor, 1994). When the author's name is given in the text he/she will not be included in the parenthesis: "According to Taylor (1994, p. 93), culture ..." When an idea is supported by several authors, they will be separated by semicolons: (Taylor, 1994; Nussbaum, 2012).

To quote several works by one author, only the years will be added after the author, with letters added if it is necessary to distinguish between publications from the same year: (Taylor, 1994, 1996a, 1996b).

When citing works by 3 or more authors, only the first one is cited followed by "et al".

Textual quotes will be written in-line if they have fewer than 40 words. If the quotation has 40 words or more, it will be placed in a separate paragraph, without quotation marks, indented by 0.5 cm and in the body text style in a typeface one point smaller. Following the quotation, the author, the year and the page are added in parentheses. The material quoted is reproduced textually, including spelling and punctuation.

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The use of endnotes will be limited. They must have correlative numbering, using the automatic system in Word and they will be placed after the body of the article and before the References that list everything cited in the text.

5) To highlight a word, italics will be used. Underlining or bold should not be used.

6) The number of lists, diagrams, tables and figures in the text should be limited. These will be called Tables or Figures. In any case, they must be where they should be in the article. In tables, columns should be aligned using tabs (only one tab per column). When quoted in the text (e.g., "as we see in Figure 1 on core subjects"), only the first letter will be capitalized, while at the top of the Table or Figure the whole word will be in small caps, in 12 point capital with Arabic numerals, followed by a point, writing the title in normal text.

The text within the table will be written in the same typeface as the normal text and in 9 point. The source of the table or figure will be placed below it, without a space of separation, stating the Source, colon, surnames, comma and year.

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The images sent must be of high quality (300 dpi) in black and white.

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Finally, a brief biography of the authors should be included, of a maximum of ten to fifteen lines, which should mention their ORCID and the main aspects of their academic career, current academic situation, university where they obtained their higher academic degree, as well as the email of the author, which will not be made public.

C.2. In addition to research articles, the **Revista Española de Pedagogía** wishes to keep up to date by publishing, in various formats, other works and relevant information in pedagogical science. For this reason, it publishes reviews of books, current news, brief commentaries on educational problems, readers' comments on articles published in the last year, etc. These must all be sent to the journal using the procedure described in the next section. The reviews, always on recent books from relevant publishers, will be between 1200 and 1700 words. They will be headed by the book's details as follows:

Villardón-Gallego, L. (Coord.) (2015). *Competencias genéricas en educación superior [Generic competences in higher education]*. Narcea. 190 pp.

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D. Correspondence with authors and evaluation of originals

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Yours sincerely,

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