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Sumario

This is the English version of the research articles and book reviews published originally in the Spanish printed version of issue 285 of the **Revista Española de Pedagogía**. The full Spanish version of this issue can also be found on the journal's website http://revistadepedagogia.org.

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Last words

We have all learnt that numbers have a certain symbolic value; as much for Pythagoras, as for the Bible. Specifically, the number 40 holds particular significance within the Bible: it is referenced more than a hundred times, in many ways representing a time frame in which an important task is carried out. Thus, Jesus Christ spends 40 days in the desert and 40 days on Earth after the resurrection, while in the *Old Testament* the flood lasted 40 days, and the Israelites wandered for 40 years before reaching the promised land.

In light of all this, I consider that I have reached the *promised land* of retirement, having served on the editorial board of the **Revista Española de Pedagogía** for 40 years. I think the results we have seen over these years have been fundamentally positive. A total of 130 issues have been published, featuring 1,069 articles written by 1,164 authors. From the very beginning I fought for quality and openness to all, including those who were just starting to put out relevant work. As time went by, we adapted to international publishing standards, both in terms of presenting original works, as well as the timeliness of their publication. We strived to get the journal into the most important libraries in the West and introduced novel features, including special issues and articles by foreign authors published in English. We then began publishing issues on our website, in good time so as to prevent losing subscriptions, and providing open access to an article from each issue from the very beginning, as well as book reviews. Finally, in 2017, we decided that the entire issue would be published online in Spanish and English, while the printed version would only be in Spanish, providing a single *DOI* to articles in both languages.

These efforts have met with great success. The journal's readership and citation statistics show good results, and we have received international public recognition. It is impossible to determine the exact number of readers, since journals are read far and wide. One potential figure is provided by Google Analytics, which we started working with in mid-2017. It says that over this time, up to the start of 2023, we have received 1,863,355 hits, counting only the 500 most read articles. According to Google's statistics for 2022, the journal had 154,444 readers, mostly from Mexico (55,573), Spain (30,430) and Colombia (13,110), with the top 22 places being mostly Spanish-speaking countries. However, the USA took the 9th spot, while Brazil was 20th.

The number of citations is also difficult to pinpoint, as there are so many education journals around the world, with each database having different selection criteria for suggesting journals to its readers. These databases sometimes require a subscription to access their content, but there are statistics available for all to see, such as those offered by *Dialnet*, which collects data from some 230 journals of special relevance within our cultural environment. Among the *Dialnet* rankings, the journal has always been in the *first quartile* and has gone from an impact factor of 0.65 in 2016, the first year of online publication, totalling 88 citations, to an impact factor of 1.30, with 161 citations in 2021, the last publication year recorded.

It is worth comparing these data with those collected in the *SCImago SJR2022*, last year's results for which were released on 2 May: some highly relevant journals have dropped in quartile, although not the **Revista Española de Pedagogía**, which remains exactly in the middle of the second quartile as number 16 in the list of 74 Spanish journals included in the Education section. This classification is not always clear, however, which explains the difference in citations compared to *Dialnet*.

Meanwhile, two international developments have been especially significant. One day, on 22 August 2006, I received a letter from an international company offering me to feature in several of their databases. As I receive numerous proposals from overseas offering to buy the journal, or payment for featuring articles from lesser-known places, I didn't respond immediately. However, after closer consideration of the proposal, I accepted. This led our journal to become the first in Spanish to be included in the *Education & Educational Research* section, among a very select group of some 120 journals from all over the world, 95% of which were in English. This was in *Journal Citation Reports*, which, over time, has acquired great prominence when it comes to applying for six-year research fellowships. Many years have passed, and we are still in there, delighted that the number of Spanish journals included (some with English titles) has increased to 10, the total number reaching 270, and only a few journals having been withdrawn during these years. By all means, hoping to achieve a high number of citations in English journal databases seems a little naïve to me. In fact, that section of *JCR* features only one Spanish journal among the first quartile, called *Comunicar*, thus demonstrating its distance from pedagogy. This is known to *JCR*, which has no qualms about its databases including a few quality, significant journals published in other cultural contexts, with a lower number of citations.

A similar thing happened a while ago with *JSTOR*, another American database that, since its founding, has offered a complete collection of the best scientific journals from around the world, very few of them being in Spanish. I also accepted their proposal, after thinking about how to send them the complete collection from 1943 onwards. They send me various statistics every year, and with regard to their readership, I was surprised to learn that readers from 150 countries had read the journal since it was first included in *JSTOR*. Practically every year, people had read various articles, book reviews or news items published in the journal from when it was founded in 1943 to the present day, reviving the titles of the 4,971 works published over these 80 years, which not only had been read since the journal joined *JSTOR*, but also downloaded. This figure really caught my attention. Without a doubt, there is reason to be proud of being among the very limited number of educational research journals from around the world that have kept going for over 80 years without a break or so much as a name change. But that pride is further enhanced when you realise that articles from dozens of years ago are still being read.

Of course, reaching these standards has required the work of many different people, including academic/administrative secretaries and the numerous referees who have voluntarily reviewed our articles in line with the double-blind policy. I would hereby like to express my appreciation to all of them for their contribution towards creating a journal that cares for quality, both in terms of their time dedicated to correcting any errors overlooked by the authors, as well as assessing the argumentation and originality of the articles.

But the first indication of quality for any journal is whether its Board members are solvent. Therefore, with these last words of farewell, I wish to express my special gratitude to all those who, over the years, have collaborated from this special place that is the Board.

Naturally, a journal cannot survive if it is not sought by potential authors, nor read by the intended readers. I have never had an issue with a lack of authors, since a great number of them have sent original works, and I'm terribly sorry that the great majority of them have been unable to publish here. Nor can I complain about the readers, since, as I've already pointed out, it is clear that the journal has enjoyed a vast readership from all around the world. My thanks goes out to every one of them.

And perhaps I should also take this opportunity to extend my best wishes to those who will take up this Olympic torch.

My warmest regards,

José Antonio Ibáñez-Martín

Editorial

The words of the Andalusian poet Antonio Machado, "All things pass and all remain", from his *Proverbs and Songs* seem especially apt today. Professor José Antonio Ibáñez-Martín has unquestionably left an indelible mark on the **Revista Española de Pedagogía (REP)** in his four decades as editor-in-chief, accompanied in recent years by Professor Gonzalo Jover. His stewardship has been marked by hard work, high quality and rigour in the selection of articles, careful editing, making research visible as a driving force in advancing knowledge and scientific communication, and a focus on the changing demands of academia, which require an openness to innovation, all while maintaining the essence of scholarship.

During this time, we have witnessed the staggering journey that academic journals have taken along with the significant changes this has entailed for the work of researchers, especially in the social sciences. Indeed, journals could now be said to play a central role — albeit not the only one — in the advancement of knowledge, and they build academic communities around sciences, disciplines, areas, fields, and even specific topics, which have developed norms, habits, and values that distinguish some perspectives on the direction of scientific research and how to proceed in it from others.

Authors, readers and members of the Editorial Team at the **REP** have always found it to be a place to turn to for publishing their works, enriching their knowledge, or spending their time, which elsewhere is often poorly recognised. The weight of their writings, their intellectually curious outlook, and the hard editorial work now falls on us.

The new team in charge of the **REP** is not just aware of its responsibilities and committed to ensuring that the journal continues to be a point of reference in the field of education, but also to help it continue to write history and be a reference point within the interdisciplinary debate that education now demands. All of this is based on the excellence and editorial quality that any scientific journal must have nowadays, and the ability to renew itself and identify new horizons to fulfil its service mission as well as possible, without losing sight of the distinguishing features that have made the **REP** what it is today.

It would be naive to think that the task before us will be simple. It will not, but if one thing is clear, it is that we trust that we can continue to rely on the readers and authors that already know us as well as new ones that we hope will appear so that we can fulfil everything set out above in this new era of the **REP**.

We reiterate our profound gratitude to Professor José Antonio Ibáñez-Martín, editor-in-chief of the **REP**, and Professor Gonzalo Jover Olmeda, associate editor, for their excellent work leading this journal, and for rising to the task that history entrusted to them. We hope we will fulfil our scholarly goals as the **REP**'s academic decision makers: continuing the legacy of its past achievements; promoting the movement of the journal's wheels; and keeping its aim alive by publishing original works that "help to illuminate the different dimensions of educational action and exercise a more humanising, critical, and effective professional practice".

Elias Said-Hung and Juan Luis Fuentes
Editors-in-chief of the REP

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Montessori: Origen y razones de las críticas a una de las pedagogas más controvertidas de la historia

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Abstract:

Montessori is one of the most fascinating and controversial pedagogues of all time. On the one hand, the naturalists reproached her for the rigidity and artificiality of her method, as well as her rejection of productive imagination and fantasy. On the other hand, progressive educators reproached the individualist and prescriptive character of her method. The modernists reproached her for her religiosity. Some criticized her for accelerating learning or for not respecting the freedom of the child, others for the contrary. Christians branded her a secularist, positivist, naturalist, and theosophist, while theosophists defined her as *Catholic*.

These paradoxical criticisms are due, among other reasons, to the context of the antimodernist frenzy in which she developed her method, to her network of friends in Freemason circles, to the numerous nuances of her method, to her resistance to fitting in with existing educational currents, to the instrumentalization of her method by third party interests, to her sometimes entangled and not very clear language and to the lack of knowledge of her method in action.

Keywords: Montessori education, John Dewey, antimodernism, progressive education, unity of knowledge, Freemasonry, theosophy, positivism, evidence-based education.

Resumen:

Montessori es una de las pedagogas más fascinantes y controvertidas de la historia. Resulta curioso que todos le reprochasen tantos

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aspectos tan contradictorios. Los naturalistas, la rigidez y la artificialidad de su método, así como su rechazo a la imaginación productiva y a la fantasía; los progresistas, la individualidad y el carácter coercitivo del método; los modernistas, su religiosidad; algunos la criticaban por adelantar los aprendizajes o por no respetar la libertad del alumno, otros, por lo contrario; los cristianos la tildaron de laicista, naturalista, positivista y teósofa, mientras que los teósofos la definieron como *católica*.

Esas críticas tan paradójicas se deben, entre otras razones, al contexto de persecución antimodernista en el que desarrolló su método, a su red de amistades en los ambientes masones, a los numerosos matices de su método, a su resistencia a encajar en las corrientes educativas existentes, a la instrumentalización de su método por intereses ajenos, a su lenguaje a veces enredado y poco divulgativo y al desconocimiento de su método en acción.

Descriptores: educación Montessori, John Dewey, antimodernismo, educación progresista, unidad del conocimiento, masonería, teosofía, positivismo, educación basada en las evidencias.

1. Introduction

If anything characterizes Montessori and her method, it is the amount of praise and criticism that she received for the same issues. Few works have been so lauded and so misrepresented as hers (Sanchidrián Blanco, 2015). However, more is known about her fame than about the constant difficulties, criticisms, and controversies that accompanied her.

In order to be able to evaluate and understand the nuances and the background of her educational proposal, it is necessary to understand the context and the motivations for the criticisms directed at her person, as well as her responses to those criticisms.

I will first explain the historical, cultural, and religious context of the Italy in which Montessori and her method were born. I will discuss in particular the antimodernist environment that was present in Rome at that time, and how that context could have influenced the criticisms that she received. I will then explain what her relationship was with theosophy; discuss the suspicions of positivism due to the 'scientific' dimension of her method; and describe the support that she received from members of Freemasonry and modernist Catholic circles. Further, I will discuss the principal criticisms that she received in the United States, in England, and in Ireland. Finally, I will propose some explanations for these criticisms.

2. Historical, cultural, religious, and philosophical context in which the method originated

2.1. Antimodernism

Rationalism, idealism, empiricism, positivism, and all the derivative consequences of these philosophical currents of the Enlightenment, such as pantheism, naturalism, and Romanticism, were progressively making their way into Italy, beginning in the second half of the 17th century. Montessori was born in the year 1870, the year in which the process of the unification of Italy began. The *Risorgimento* was fertile terrain for the spread and advancement of philosophical currents deriving from the Enlightenment.

In response to this conjunction of philosophical currents, the Catholic Church began, a few years before Montessori's birth, to publish various documents with the aim of countering the influence of modernism within the Church (Pius IX, 1864; Leo XIII, 1879; Pius X, 1907b; Pius X, 1907a; Pius X, 1910). Theological modernism is a current of thought joined to modern philosophy and Protestant theology that arose at the end of the 19th century and continued into the 20th century, in which subjectivism in religious experience acquired special importance. Its principal authors underlined the importance of intimate divine revelation, maintaining that the truths of the faith were relative.

The Montessori method generated conflicting reactions from the hierarchy of the Catholic Church. On the one hand, neither Pius X nor Pius XI were particularly receptive of it; on the other hand, Benedict XV's writings were in harmony with it and both Pius XII and Paul VI praised it. These incongruencies can, at first glance, appear strange, but they are not.

The socio-religious environment of the Italy in which Montessori was born is one of conflict on the intellectual plane between various philosophical currents, which resulted in a society divided into two factions. On the one hand were the modernist Catholics, the Freemasons, the idealists, the positivists, the Romantics, the rationalists, etc. On the other, orthodox Catholics, worried by the advance of modernism, were looking for any sign of heterodoxy, being encouraged to denounce any suspects to the ecclesiastical authorities (Cárcel Ortí, 1999). Due to this situation, there was a tendency to systematically reread any 'new' proposal in light of antimodernist suspicions.

There are various points on which Montessori's ideas could be placed under the magnifying glass of the antimodernist current: positivism (because of her insistence on the 'scientific method'), naturalism (because of the importance she gives to 'self-directed learning'), and Romanticism (because of her references to Pestalozzi and Froebel).

On the other hand, Montessori's social network made her even more suspicious. First, there was her incipient interest in theosophy and then her entry into Masonic and modernist social networks in order to disseminate her method. I will analyze the circumstances and the outcome of each fact.

2.2. Theosophy

Theosophy was founded by Helena Blavatsky (1831–91) in 1875. It can be summed up as an attempt to fuse religion, science, and philosophy. Theosophy was very well received on the part of Catholic modernists, especially in educated women's circles of the time, to which Montessori belonged. For theosophy, there is a spiritual reality, beyond what can be perceived through the senses. De Giorgi (2016) explains that the adhesion of those circles to theosophy can be explained by the post-positivist and neo-spiritualist climate of the time. Montessori sought a scientific approach that was not positivistic, which would explain her interest in the movement, beginning in 1898.

Some consider theosophy to have had an important role in the formation of Montessori pedagogy (Wagnon, 2017), others take it for granted that Montessori was a theosophist (Van Gorp et al., 2017).

On the one hand, it is true that Montessori had dealings with theosophy. She gave various conferences at the behest of theosophists and some of her books were published by the publishing house of the Theosophical Society while she was residing in India.

On the other hand, a careful analysis of her writings demonstrates that, beyond certain general ideas (the non-positivistic scientific approach; the integration of scientific, religious, and philosophical knowledge; the acceptance of certain laws of nature, etc.), there is no deep affinity between theosophy and Montessorian pedagogy (theosophy upheld the transmigration of souls, reincarnation, and occultism, for example). The affinity thesis is dismantled by the facts (L'Ecuyer, 2020; De Giorgi, 2016).

In reality, it was rather the Montessori method that had an influence on theosophy. For example, Annie Besant (1847–1933), president of the Theosophical Society, affirmed in 1919 that the Montessori method was the theosophical educational method *par excellence*. De Giorgi (2016) attributes this affirmation to a kind of attempt on the part of theosophy to appropriate the method, since theosophy had lost the support of Rudolf Steiner (1861–1925) not long before. Hence, theosophy was then without an educational application of its principles. On the other hand, Montessori never endorsed nor praised theosophy. In 1947, when publicly asked if she was a theosophist, she cordially responded, "I am a Montessorian." In a letter written in India in 1949 to an Italian religious friend, Montessori wrote, "It saddens me greatly that my work here in India is in the hands of Hindus, theosophists, and Muslims, and that unfortunately the Catholics are scarcely interested in it" (Montessori, 2016, p. 339). The expression "in the hands of" indicates a certain concern about the instrumentalization of her method.

2.3. Positivism

Coinciding with the development of the Montessori method, one of the proposals of modernism was the application of positivism to theology, which consisted in approaching biblical texts scientifically with historical-critical methods. It was a logical continuation of rationalism or empiricism: only that which we can encompass through reason or the senses exists. In this current of thought, the content of the faith was put into question, through the application of modern scientific methods to theology. The antimodernist movement did not reject science, but it insisted that theology could not be developed with methods proper to the experimental sciences (Pius X, 1907b) and it rejected positivism as being an essentially agnostic movement. Positivism influenced education through the importance that was given to experimental psychology; it insisted on direct or indirect contact with reality through the senses and on the rejection of all that could not be perceived through them.

Montessori defended her method as scientific and continually emphasized the importance of a scientific mentality in the field of education. It was not without reason that her first work was entitled *The Montessori method: Scientific pedagogy as applied to child education in "The Children's Houses"* (Montessori, 1912). We can understand how her insistence on applying the scientific method to education could find itself in the radar of antimodernist suspicions. Was Montessori therefore a proponent of scientism or positivism?

In order to understand the positivist prejudice that existed with regard to her proposal, it is important to contextualize her proposal within the mentality of the time. It was a period of a full-fledged antimodernist crisis, a few decades after the famous work of Charles Darwin (1859). The positivism of Auguste Comte (1798–1857) had been an attempt to sweep away the spiritualistic culture of idealism and Romanticism, in order to arrive at a state of maturity by means of science and reason, which were considered the only true guides of humanity. The compatibility of faith and reason was understood as being impossible. Naturally, the insistence of Montessori on a scientific mentality was the object of suspicion and was tarred with the same brush as modernism.

However, Montessori was critical of Darwin's theory. In 1916, she spoke of positivism as the theory of "those who could not believe without touching" (Montessori, 1917, p. 239); she criticized the attempt to instrumentalize Darwin's theory in order to annihilate the moral dimension of humanity, lamenting that "students dwelt upon it, anxious to construct a new morality and a new conscience" (Montessori, 1917, p. 238).

On the other hand, Montessori was conscious of the fact that her metaphorical language and her formation as a biologist could give a false impression of a certain positivism:

> And if some words, some expressions can make people think otherwise, it is my personal error, an error of exposition due to the scientific language in which I was educated and trained. (I studied in the most acute period of materialism; my mind was trained in the doctrines of Darwin; […]). This scientific language is like my first language, and I still have something of an involuntary accent. (Quoted in De Giorgi, 2018, p. 46).

Some other authors have highlighted the contradiction of an author classifying her method as 'scientific' when her work does not fulfill the demands of science: it omits the criteria and conditions that would allow one to verify and reproduce her experiments (Sanchidrián Blanco, 2015); she does not work with a control group; the form in which she develops her argumentation often lacks logic; and she hardly ever cites her sources. It is necessary, however, to place ourselves in the context and scientific mentality of the beginning of the 20th century. At that time, methodological requirements were not the same and scientific publications were different from what we are now familiar with.

Jerome Bruner speaks of the Montessori method as a strange mix of mysticism and pragmatism (Bruner, 1966). Some authors have emphasized the apparent contradiction in an author supporting her work with scientific principles, while considering infancy as a continuation of the act of Creation (Röhrs, 1994).

Montessori is known for her special religiosity, which imbues all her writings. In *The secret of childhood* (Montessori, 1972, p. 43), she rigorously describes a biological process, in order to speak later of the same biological proceeding as "a divine command […] breathing upon this helpless being and animating it with its spirit." Montessori distinguishes between the spirit and the mechanical skill of the scientist, emphasizing the importance of preparing and forming teachers more in spirit than in mechanical skill (Standing, 1966). In Montessori, this spirit is compared to that of the ascetic, as if the scientist were *a worshipper of nature* (Montessori, 1912).

She again disagreed with positivism in 1948: "My experiences, however, were far from being rigid and logical conclusions corresponding to the application of an exact and positive method" (Montessori, 1948a, p. 7).

By 'scientific method,' Montessori essentially refers to four ideas:

1. *A scientific mentality must begin with the observation of reality.*

For example, the main pillars (L'Ecuyer & Murillo, 2020; L'Ecuyer et al., 2020) of her pedagogical proposal come from her observations in the classroom. Apparent fatigue and favorable conditions for concentration come from graphs that she drew on the basis of observation, and the concepts of sensitive periods and of normalization derive from this.

In *The formation of man*, Montessori wonders why reflection and reason are not used in education as they are in other fields of knowledge (Montessori, 2007). She insists on the importance of approaching education rigorously and seriously, making numerous, exact, and rational observations (Montessori, 1912).

2. *Theory must be based on unprejudiced observation.*

According to her, one of the characteristics of the experimental sciences consists in approaching an experiment with an open mind, without prejudices in terms of its result (Montessori, 1912).

3. *Educational practice must be informed by other fields of knowledge.*

Montessori upholds the unity of all knowledge.

4. *It is necessary to address problems on the basis of facts, not on the basis of sentimentalism or subjectivity.*

For Montessori, theory must be based on evidence.

All in all, we can affirm that scientism is not the epistemological foundation of her educational proposal. She insists that experimental science is not suited for giving anthropological explanations of the human person; there are realities that experimental science cannot measure: “If a problem of liberty is to be solved with machines, and if a problem of justice is to be regarded from the chemical point of view, similar consequences will be the logical end of sciences developed upon such errors” (Montessori, 1917, p. 64).

Montessori proposes an empirical, scientific investigation, realized in a direct and rigorous manner, but with a pedagogical foundation, with spiritual and ethical references that go beyond the limits of scientific knowledge.

She affirms that teachers are the “interpreters of the spirit of nature” (Montessori, 1912, p. 10). For Montessori, it is indispensable that the scientific mindset of the teacher — observation and the capacity of self-sacrifice for the sake of discovering the truth — be accompanied by love and a thirst for personal spiritual perfection.

Montessori disagrees with a materialistic or mechanistic approach to education. On numerous occasions in her writings, she uses the words ‘soul’ and ‘spiritual’ and reaffirms the importance of this dimension. She even goes so far as to say that the spiritual dimension was “the secret key” for her understanding of education (Montessori, 1912, p. 37).

She also emphasizes the importance of religion in education, which she considers incompatible with fantasy, but compatible with a scientific mentality. For her, “religion is not a product of fantastic imagination, it is the greatest of realities” (Montessori, 1917, p. 266). For Montessori, there is no contradiction between science and mystery. Her writings are filled with scientific explanations about natural phenomena, but she continually insists on the existence of mystery: “Neither the discoveries nor the theories that arise from modern discoveries explain fully the mystery of life and of its development” (Montessori, 1949, p. 73).

The compatibility and the unity that Montessori sees between the different fields of knowledge come from her ‘cosmic’ view of the world. This notion is very much in line with Antonio Stoppani, to whom she refers, who insisted that the natural order of nature comes from God, hence there can be no contradiction or opposition between religion and science, between God and nature, because the latter is the work of his creation: “Man must never be separated from nature, nor nature from man” (Stoppani, p. 20, 1915).

2.4. Freemasonry and modernist Catholic circles

In her first years of professional success, Montessori received support from various people belonging to Freemasonry. Baccelli, a minister of the time who belonged to this organization, selected her as a representative of the Italian delegation to two feminist congresses (De Giorgi, 2016).

In 1905, Credaro, a professor of pedagogy at the University of Rome, a positivist Freemason and a defender of secularism in schools, named Montessori professor of pedagogical anthropology at the Pedagogical School from 1905 to 1906. Montessori dedicated her inauguration speech for the second *Casa dei Bambini* to him.

Her friendship with Olga Ossani drew her even closer to the modernist circle in Rome. Ossani was married to Luigi Lodi, the owner of *La Vita*, a newspaper attentive to the demands of Catholic modernism, founded by prominent Freemasons and whose president at that time was also a Freemason (De Giorgi, 2016). In 1906, Montessori began to collaborate with this newspaper.

The opening of the *Casa dei Bambini*, the first Montessori school, was also due to the help of people with connections to Freemasonry. Eduardo Talamo, associated with the Masonic circle, asked Montessori to organize a preschool for the children of workers from the San Lorenzo neighbourhood. The name *Casa dei Bambini* was suggested by Ossani.

The straw that broke the camel's back for the Catholic media was her intervention in the first congress *Di Donne Italiane* [Of Italian Women], in 1908, in which she defended the importance of sexual hygiene. *La Civiltà Cattolica*, a Jesuit periodical that was well-respected in the Catholic circles of the time, reproached her for being an "apostle in Italy of a new sexual morality" (*La Civiltà Cattolica*, 1908, p. 528). In that same congress, there was a debate surrounding secularization in schools in which Montessori did not participate.

Montessori's first book was also an initiative supported by Catholic modernists. Alice Hallgarten, who met Montessori at a feminist congress, was the one to suggest that she put her method into writing. Alice's husband offered to finance the publication of the work and both offered to let Montessori spend the summer of 1909 in their secondary residence in order to draft the manuscript.

Benefitting from the connections provided by Freemasons in order to disseminate her ideas; participating in a feminist congress in which the secularization of schools was debated; living in the epicentre of the antimodernist movement; and accepting the aid of a Catholic family known for their modernist ideas, was not the best way to win over Catholics in an environment of suspicion and antimodernist worries that existed as the result of numerous warnings from Pius X.

2.5. Outcome of the suspicions: Defining stances

In 1909, a fourth *Casa dei Bambini* was opened in Rome, in the General House of the Franciscan Missionaries of Mary, with the aim of housing a large number of children orphaned by an earthquake in that city. In November 1910, Montessori completed the draft of a proposal for a pious association (Montessori, 2016) dedicated to the education of children. As part of the preparation of applicants, she proposed a program that included, among other matters, a criticism of modern psychological theories and formation in Thomistic philosophy. It is unknown why the initiative never materialized. No doubt, the antimodernist ecclesiastical atmosphere was unfavourable for its approval.

In any case, the opening of a centre in the General House of the Franciscan Missionaries allowed Montessori to define her stance relative to the suspicions that came from her connections with secularist circles. In order to understand the effect that this event had, we have to understand that Talamo, who had provided Montessori the opportunity to open her first *Casa dei Bambini*, considered Montessori as his "esteemed collaborator" in a wider project linked to Freemasonry, to which he belonged (De Giorgi, 2016, p. 19).

It is therefore logical that the opening of a *Casa dei Bambini* in the General House of the Franciscan Missionaries would spark a conflict between Talamo and Montessori, which would result in them breaking off their relationship in 1911.

In 1911, Montessori received the Apostolic Blessing from Pope Pius X (Montessori, 1958).

As a consequence of all this, Montessori lost friendships and the favours she had received from people associated with Freemasonry, beginning the criticisms from the secular sphere, such as for "preaching ultra-Franciscan love," for giving too much importance to religious education, and for being a "devout Catholic" (De Giorgi, 2016, p. 38).

Paradoxically, the Franciscan Missionaries were long under pressure from the Catholic press (the *Sentinella Antimodernista* in 1912 and *La Civiltà Cattolica* in 1910 and 1911) to break off their partnership with Montessori. Between 1915 and 1918, while she was in Barcelona, a well-known Spanish pedagogue, Ramón Ruiz Amado, accused her of "pedagogical modernism" in the journal *La Educación Hispano-Americana* (De Giorgi, 2018, p. 44).

Despite receiving the Apostolic Blessing from Benedict XV in 1918 for her and for the fruitfulness of her method (De Giorgi, 2018), *La Civiltà Cattolica* (1919, p. 219) again spoke in 1919 of her "erroneous philosophical theories" and "philosophical modernism." They did not like the term, "self-education." For those authors, Montessori was a naturalist.

In 1929, Pius XI published the Encyclical *Divini Illius Magistri*, a rebuke of educational naturalism. One of its passages could be considered a warning cry about the Montessori method:

> Such men are miserably deluded in their claim to emancipate, as they say, the child, while in reality they are making him

> the slave of his own blind pride and of his disorderly affections, which, as a logical consequence of this false system, come to be justified as legitimate demands of a so-called autonomous nature. (Pius XI, 1929, paragraph 63).

In 1930, Montessori was denounced to the Holy Office, but it did not follow up on the denunciation (Congregation for the Doctrine of the Faith, 1930; De Giorgi, 2016). In 1931, Montessori announced the publication of various works on the question of religious education: *La vita in Cristo [The life in Christ]* (Montessori, 1931) and *The mass explained to children* (Montessori, 1932). She authored other works with a religious theme: *Le sette parole di Gesù crocifisso [The seven last words of Jesus crucified],* a play entitled *Il mistico dramma [The mystical drama], La guida [The guide], and Il libro aperto [The open book]* (the Missal) (Montessori, 2016).

3. Principal criticisms from educators

3.1. In the United States: William H. Kilpatrick and John Dewey

In 1914, William H. Kilpatrick (1871–1965) of Columbia University, a student of John Dewey (1859–1952), published *The Montessori system examined* (Kilpatrick, 1914), following a brief visit to the *Casa dei Bambini*.

In his report, Kilpatrick qualifies the method as mechanical, formal, restricted, and lacking opportunities for imaginative and constructive play and for cooperation. He considers it obsolete with regard to the importance it gives to sense-training. Despite Montessori's explicit, harsh, and substantial criticisms of Rousseau's naturalism (Montessori, 1912), Kilpatrick affirms, "Madam Montessori belongs to the Rousseau-Pestalozzi-Froebel group of educators" (Kilpatrick, 1914, p. 61).

Again, despite the four references that Montessori makes to Wilhelm Wundt (Montessori, 1912), Kilpatrick reproaches Montessori for her ignorance of Wundt's contribution to psychology and rebukes her for centring her proposal in an overly local experience. However, Montessori not only refers to Wundt in her works, but disagrees with him. It is surprising that Kilpatrick would not have attentively read Montessori's first work before publishing his critique.

Two details stand out in Kilpatrick's report. First, he refers to Montessori as "Madam" rather than "Doctor." Second, his analysis takes Dewey's method as a comparative standard: "If we compare the work of Madam Montessori with that of such a writer and thinker as Professor Dewey, we are able to get an estimate of her worth from still a different point of view" (Kilpatrick, 1914, p. 63). Ultimately, he arrives at the conclusion that what is incorrect in her method is so by virtue of the fact that it is not in line with Dewey's method, while what is good in the Montessori method is nothing new, because it is already found in Dewey. It is clear that the work is a defensive analysis of a method that could eventually be considered a 'rival' of the method that Dewey had succeeded in establishing as the standard in America.

Dewey did not take long to express his own criticisms of Montessori. Following after Rousseau's romantic preaching about the superiority of the natural over the artificial, there was a belief among educators of the New Education and progressive education movements, according to which, genuine education could not take place in a classroom, but only in the 'real world.' These ideas coincided with the arrival of millions of European immigrants following the First World War, which necessitated a task of social integration, by means of group work in classrooms:

> The key to [the schools'] success was the socialization of school experience. […] The pragmatists did not perceive the Montessori student as free because for them freedom is manifested by imaginative interaction and not by methodological engagement. (Stoops, 1987, p. 6).

Thus, for progressive educators, if the school really wanted to educate, it had to strive to be 'like the world' and to educate 'for the world.' The school had a primarily social function and had to be representative of the reality of society: diverse and inclusive.

In *Schools of tomorrow* (Dewey & Dewey, 1915), Dewey criticizes Montessori for not giving her students creative freedom. In *Democracy and education* (Dewey, 1916), he criticizes her learning environment for being overly prepared, restricted, and technical. Dewey opines that the control of error and the *a priori* objective marked out by the method does not allow for a genuine educational experience, because this can only be found in the subject's transformation of a raw material into a finished product. For him, school has to be a laboratory like life itself, in which scientists construct and experiment with unknown objects (Dewey, 1916), rather than with materials prepared in order to teach something designed in advance.

Conversely, Montessori sees the classroom as a prepared environment — something akin to a cloister — designed according to the child's needs, where silence and the child's individual contemplative work reign. For her, only a student capable of personal discipline is capable of living in society.

3.2. In England: Edmond Holmes and William Boyd

In 1912, Edmond Holmes (1850–1936) conducted a friendly critique of the method (Holmes, 1912), commissioned by England's Board of Education. Despite being positive, this publication ended up injuring Montessori's reputation in English religious circles, due to a declaration that Holmes had published the previous year on the necessity of eradicating the doctrine of original sin from education (Holmes, 1911). Due to the conjunction of the two publications, Montessori was associated with Holmes' progressive and theosophic views.

On June 10, 1921, Montessori gave a conference in London (De Giorgi, 2019), in which she clarified her stance with respect to the question of original sin: she rejected naturalism, Pelagianism, and Protestantism, and subscribed to Catholic doctrine on the question. A few days previous, she wrote to the author of the articles published in 1919 in *La Civiltà Cattolica* to clarify that she could not be held responsible for all of the applications of her method by people whom she had not authorized, and sent him the text of her conference. In that conference, she asked that her method not be judged by comparing it to others that are based on a different conception of freedom than the one she embraced.

Two years later, William Boyd (1874–1962), a professor of education at the University of Glasgow, wrote a book called, *From Locke to Montessori: A critical account of the Montessori point of view* (Boyd, 1914). The book contains an endless series of criticisms on disparate subjects. There is no common thread running through the document and it does not explain the stance or the criteria on which the criticisms are based.

The book begins by quoting a note made by the producers of Montessori material, who caution against modifying the order of the material and taking it out of the context for which it was designed. Boyd interprets this warning as a proof of this being an instrumental method, in which there is neither intentionality nor spirit.

In reality, Montessori was the first to be concerned by the instrumentalization of her method, insisting on the intelligent purpose of the material and the prevalence of the spiritual dimension over the material.

He then reproaches her for having received financing for disseminating a method whose experiment was never completed, because the San Lorenzo project was abruptly suspended in 1911. Boyd makes no reference to the *Casa dei Bambini* that Montessori had been directing for years in Rome.

Boyd reproaches Montessori for not defining herself clearly. He says that her method is merely an aggregation of parts of other methods, lacking in coherence and without a unifying schema. He considers her method an opportunistic improvisation of previously existent ideas.

Four years after Boyd's critique, Robert Rusk (1879–1972), a professor of education at the University of Edinburgh published *The doctrine of great educators* (Rusk, 1918), a compendium of the twelve main figures whose theories had had the greatest influence in the course of the history of education, among whom he included Montessori.

In his treatment, Rusk describes the Montessori method extensively. His style is primarily descriptive. Rusk briefly criticizes Montessori on the subject of imagination and assimilates the method to Rousseau's negative education. Rusk describes the importance of sensory education in Montessori.

Rusk punctuates his criticisms of her method with arguments that it is a work in progress, about which a definitive judgment cannot yet be made.

3.3. In Ireland: Timothy Corcoran

In 1924, Timothy Corcoran (1871–1943), a professor at the University of Dublin, wrote a series of articles in the Irish Jesuit journal *Irish Monthly* (Corcoran, 1924a, 1924b, 1924c, 1924d, 1924e, 1924f), in which he energetically criticizes Montessori and reproaches her educational principles as being unorthodox from the perspective of Catholicism. It seems unacceptable to him that the role of the teacher should not be active in the classroom and he describes the method as dangerous. In addition, he accuses her of blasphemy, for speaking about Lombroso while simultaneously quoting Christian sources in her writings.

In the same year, Gerald Dease, who had been a Commissioner of National Education in Ireland and who was a relative of a religious sister who had welcomed the method into her religious community, published an article (Dease, 1924, cited in De Giorgi, 2018) in the same journal. He emphasizes that the Jesuits' criticisms are outdated and speaks of the two Apostolic Blessings from Pius X and Benedict XV and of the vote in favour of the method by prominent theologians who are in line with the Thomistic tradition.

Professor Robert Fynne, of Trinity College in Dublin, settled the debate in a book that placed Montessori in a completely different lineage from Rousseau. According to Fynne, Montessori is a great educator, gifted with an extraordinary intuition (Fynne, 1924, cited in De Giorgi, 2018).

4. Why so many criticisms?

4.1. A new way that did not fit into previous ones

Montessori did not easily lend herself to being labeled. In this respect, Boyd was right; she did not initially define her position clearly. Montessori had philosophical ideas about education that we can arrive at through the principles of her method, but she did not always use quotations in a way that could explicitly link her to one or another stance with respect to the antimodernist movement of the time.

4.2. Friendships beyond ideological disagreements

Montessori never stopped cultivating friendships or dealing with anyone because of their philosophical, religious, or political ideas. Neither did she reject help in disseminating her method from people who held to different positions from herself. It is precisely this manner of working that allowed her to reach all circles, but that also earned her systematic suspicion from one side or another.

It is interesting that she was reproached for supporting Mussolini's regime because she kept up correspondence with him, whereas Mussolini expelled her from her own schools for failing to conform to his regime. It might appear contradictory that Montessori was in contact with members of Freemasonry for many years, but that it was later those same members who threw her out of the *Casa dei Bambini* that she herself had founded. It might also seem incomprehensible that both Pius X and Pius XI were not receptive of her method, while Benedict XV and Paul VI appreciated and even praised it. Another example of these contradictions is found in the major disagreement that she had with the secular feminist Anna Maria Mozzoni. When the latter spoke of the "Modern Eve," Montessori had no inhibitions contrasting this figure with the maternity of Mary of Nazareth. Despite these differences with Mozzoni on this particular subject, in the same year, Montessori signed a petition to Parliament with her in favour of women's right to vote (De Giorgi, 2016). Looking at this episode in perspective, we can conclude that she did not act in order to please anyone, nor did she seek to belong to a particular group; she did what seemed correct to her at a given moment and allied herself with those who subscribed to her own ideas.

However much she moved among people who had certain stances, she did not renounce the spirit of her method. She distanced herself from Mussolini's regime when she became aware of the attempt to instrumentalize her work. She accepted invitations from the Theosophical Society on various occasions in order to give courses and conferences, but when they later used the method for their own ends, she lamented that they instrumentalized it without understanding it. Her conciliatory attitude had particular limits precisely because she had clear ideas of what she wanted and what she did not. When she had an intuition that someone wanted to take advantage of her prestige or her method, she brought the friendship or collaboration to an end. Thus, it is in her method and her personal correspondence that we can find the answers to these contradictions, not in the people who supported her, nor in the people with whom she dealt, simply because it was never easy to influence Montessori.

Ultimately, she refused to become the periodical instrument of anyone in the midst of the conflicts between positivists and spiritualists, between theosophists and Catholics, between Freemasons and Christians, between fascists and anti-fascists, etc. She had her educational agenda, and nobody was able to deter her along the way.

4.3. A method with characteristics specific to each stage

Criticisms often came from pedagogues who did not nuance their criticisms according to the stage of education.

In her first book, Montessori spoke of her observations of children between the ages of three and seven. A few years later, she published a book that dealt with the elementary stage of education. Montessori always emphasizes the characteristics specific to each stage, meaning that her statements cannot be taken from the context of one stage in order to then apply them to children in other stages.

Boyd, for example, criticizes Montessori for not correcting children when they make mistakes. He does not take into account that the Montessori teacher directs the student through material that controls the error and that the teacher has a far more active role in stages beyond that of Infancy (Montessori, 1948b).

Another example is the limited importance that Montessori gives to games involving the imagination in the stage of Infancy (drawing, theatre, stories, etc.). Montessori introduces these dimensions into Elementary classes, because she believes that children less than six years old should go through a sensorial education that is based in reality, before entering into the world of abstraction. She says that imagination should only be encouraged from the age of seven, since it is not good to encourage credulity in an immature mind (Montessori, 1937).

Montessori was aware that the confusion of stages could lead to sterile and unfocused debate: "To think of Lycea [lyceums, or secondary schools] using the Froebel method would be clearly nonsensical. To advocate Nursery School Methods in the University would be equally so" (Montessori, 2007, p. 5).

4.4. The instrumentalization of the method by third parties

Montessori was instrumentalized by people who wanted to appropriate the prestige of her method in order to support their own vision of education — sometimes naturalist, other times overly rigid. An example of this is the report commissioned from Holmes by the English Board of Education, in which the author praises Montessori for breaking with the order of the traditional school, allowing each child to do "what, for the time being, pleases him best" in a school with "no time-tables […], no set lessons, no classes" (Holmes, 1912, p. 8). Obviously, Holmes had not understood the structure of the program designed by Montessori, nor did he understand the system of materials that were designed to control error.

Over the course of her entire life, Montessori resisted attempts to instrumentalize her method for religious, economic, or political ends. She rejected an offer from the millionaire McClure, who proposed opening a centre in the United States so that she could maintain her freedom with respect to teaching her method and to protect it from the distortions that tend to occur in commercial operations. She also rejected an offer from American President Wilson's daughter, to offer a series of training courses under the patronage of the White House. She wanted to control everything that was done in the name of her method.

In order to guarantee the integrity of her method, she went to the extreme of only recognizing those who were personally trained by her as Montessori teachers. But much in spite of her efforts, she could not control everything, because, at the end of the day, the world of ideas is a free market. There is therefore no doubt that the instrumentalization of her method took and continues to take place, continually giving rise to misinterpretations.

4.5. A complex and nuanced proposal, with opaque language

There is another explanation for the criticisms of Montessori being so contradictory. She knew how to win over the public in her conferences, since she knew how to transmit complex concepts in an accessible and charismatic way. However, her approach in writing was not overly transparent. This fact may explain why few people succeeded in capturing the spirit of her method and why many of the people who criticized her did so on a superficial level. Montessori pedagogy is complex and every effort to excessively simplify her proposal is doomed to failure.

Montessori's proposal is very particular, nuanced, and original. However, none of her works integrates all of her thought and explains it in an accessible, structured, orderly, and systematic manner. Her proposal is filled with nuances that eschew prejudices, both on the side of the defenders of mechanistic education and on those of the New Education. Behind her method, there are philosophical assumptions and a particular anthropological conception of the human person, but this must be discovered by reading all of her works together, without prejudices or preconceived ideas. It is almost detective work. She does not detail, like other educators, her proposal in relation to the philosophy of education. In fact, she even says that she was reproached for knowing nothing about philosophy (Montessori, 1914). Nor does she deny it. She slowly revealed her ideas over the course of five decades, responding to criticisms and queries; sometimes she even gave the impression that her tenacity answered to an almost irrational intuition that was defined on the fly, extracting elements that coincided with her ideas from diverse theories. Her books are dense, technical, and opaque; few of those who express their views on her method have a holistic view of her writings, and thus it is tempting to remain at the level of headlines, prejudices, and quotations taken out of context.

Her most faithful defenders can even, without being aware of it, become her method's worst enemies. This happens when they read her in part and do not understand her holistically. For example, in the prologue of the first American edition of Montessori's first book, the Harvard professor Henry Holmes affirms, "The Montessori pupil does about as he pleases, so long as he does not do any harm" (Montessori, 1912, p. xx). We know that this is not quite the case: there is only one way to use the material and the control of error does not allow children to do whatever they want. The defenders of her method can also distort it when in good faith they propose fusing it with others. Holmes suggested combining the system of American early childhood education with the Montessori system in order to find a midway compromise between the two different approaches. Montessori laments educational eclecticism (Montessori, 2007), deeming it impossible to combine methods with fundamentally incompatible premises.

Montessori's writing style is figurative and baroque, with allusions to obsolete theories (e.g., the theory of recapitulation, eugenics) and her proposal is conveyed with sometimes tortuous language. She jumps from one idea to another and uses complex metaphorical anecdotes to convince the reader of her ideas. She does not tend to close the loop of her arguments in a structured manner. The American editions show an effort to structure the text by adding titles that were not in the original. Even so, the text does not flow. It would seem that she attempts to give us in a single stroke what she thinks about every question, without order or a structured development of her arguments. Some commentators of her works fall into hagiography and refuse to see the defects of the author and her work, which lends mystic airs to this pedagogue, almost cult-like in nature; other criticize her without having read her.

Perhaps this is why, in many Montessori schools, we find attempts to integrate elements that are not in harmony with what she upheld (e.g. Brain Gym, the use of technology in early childhood, the exclusion of the religious dimension, emotional education, etc.). Reading Montessori in depth is an arduous enterprise. Montessori has a very authoritative, even dogmatic, tone; she does not allow for dialogue. She uses dialectic, Stoops explains, though not to learn, but to convince.

> She uses logic to persuade not to learn. Both her deductions and inductions are interspersed by anecdotes; and, by strict criteria, they are often fallacious, sometimes outrageously so. The uses of induction found in some of her discourses could have a logician biting on his nails. But Montessori is simply persuading, and, in persuasion, it is often just as effective to sound logical as to be logical. (Stoops, 1987, p. 3).

Another question worthy of mention about Montessori's writings is that she makes recourse to quotations from authors with whom she fundamentally disagrees. For example, she cites Wilhelm Wundt on the importance of scientific pedagogy, but she disagrees with his mechanistic approach. She also cites Kant, but in another book, clarifies that she is not an apriorist. All of this can contribute to misleading a superficial reader, feeding into all sorts of prejudices with regard to her affinity to currents of thought with which she disagreed.

4.6. Ignorance of the method *in action*

In order to understand the Montessori method, it is necessary to understand the background of its principles, as well as the relation they have to the material. But this is also insufficient. Montessori insists that part of the formation in the method consists in the observation of children in the classroom. The method is based on the supposition that children want to work and enjoy doing so without external punishment or reward. Due to a pessimistic view of the child's nature, Standing says, some people believe that this is not possible (Standing, 1966).

All experts of the method insist that without seeing Montessori's principles *in action*, it is impossible to understand and adopt them. The method can even seem to be utopian. It is a lack of knowledge of Montessori's principles in action that explains why people who know so much about education, but who have never been in a Montessori classroom, can end up interpreting the method in a completely erroneous manner (Standing, 1966).

Montessori's vision stems from observation and direct contact with children, providing particular results that, in some cases, can only be understood by seeing them in action.

5. Conclusion

Montessori is one of the most controversial pedagogues of all time. It is strange that she was criticized on such contradictory points. The naturalists criticized the rigidity and artificiality of her method, as well as her rejection of productive imagination and fantasy; the progressives, the individualist and prescriptive character of her method; the modernists, her religiosity. Some criticized her for accelerated learning or for not respecting the freedom of the child, others for the opposite; Christians branded her a secularist, naturalist, positivist, and theosophist, while the theosophists defined her as being 'Catholic.'

These paradoxical criticisms are due, among other reasons, to the environment of antimodernist frenzy in which she developed her method, to her network of friends in Masonic circles, to the numerous nuances of her method, to her resistance to fitting into the existing educational currents, to the instrumentalization of her method by third party interests, to her opaque language, and to a lack of knowledge of her method in action.

Instead of attempting to understand the Montessorian proposal, many often seek to label her on the basis of already existing educational currents. This approach persists in the current sphere of education. The Montessori brand is often abused so as to sell all sorts of methods and products that are trendy, but that have no fundamental affinity with it. Montessori is not an easy author to understand, but her proposal is rich in nuance. In order to understand it, one must read it in its entirety, study it, and calmly meditate upon it, without filters or prejudices.

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Effects of self-regulated strategy instruction on the reading comprehension process and reading self-efficacy in primary students

Efectos de una instrucción estratégica-autorregulada en el proceso de comprensión y autoeficacia lectora del alumnado de educación primaria

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Abstract:

Self-regulation is an important factor in achieving successful reading comprehension. This study analyses the effects of a self-regulated strategy instruction programme versus a control group on reading comprehension performance, time spent applying strategies during the reading comprehension process and reading self-efficacy. The programme comprised two conditions (condition 1 and condition 2) in which the teachers provided direct and explicit teaching of self-regulation strategies before, during and after the reading process. In condition 2, explicit instruction in reading self-efficacy was added. In the control condition, teachers provided traditional instruction based on reading aloud, sequential reading, text questions and the use of dictionaries. A total of 180 Spanish primary school students from eight different Year 5 and 6 classes (aged 10-12 under the Spanish education system) were either assigned to one of the two experimental conditions (Condition 1: N = 47. Condition 2: N = 47) or to the control condition (N = 86). Pre-test/post-test/follow-up measures were taken (six weeks after the intervention) of reading performance, reading self-efficacy and time spent applying self-regulation

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strategies before, during and after reading through an online assessment. The results showed that the instructional programme had a positive and significant effect in the two experimental conditions compared to the control group in terms of reading performance and time spent applying self-regulation strategies *before and after* the reading process. However, no statistically significant differences were observed in the time spent applying strategies *during* reading and in reading self-efficacy, neither between the two experimental conditions nor between the experimental conditions and the control condition. The implications of these results and their contribution to educational practices are discussed.

Keywords: Reading comprehension, reading strategies, self-control, self-regulation, self-efficacy, primary education.

Resumen:

La autorregulación es un importante factor para garantizar una adecuada comprensión lectora. Este estudio analiza los efectos de un programa de instrucción estratégica-autorregulada frente a un grupo control en el rendimiento en comprensión lectora, el tiempo dedicado a aplicar estrategias durante el proceso de comprensión lectora y la autoeficacia lectora. El programa se desarrolla bajo dos condiciones (condición 1 y condición 2) en las que los profesores trabajaron la enseñanza directa y explícita de estrategias de autorregulación antes, durante y después del proceso lector. En la condición 2 se añadió una instrucción explícita en autoeficacia lectora. Mientras que en la condición de control los profesores impartieron la enseñanza tradicional basada en la lectura en voz alta, lecturas encadenadas, preguntas sobre el texto y uso del diccionario. Un total de 180 estudiantes de 8 clases de 5.º y 6.º de educación primaria (10-12 años) fueron asignados a las 2 condiciones experimentales (condición 1, N = 47 y condición 2, N = 47) y una condición de control (N = 86). Se tomaron medidas pretest-postest-seguimiento (6 semanas después de la intervención) del rendimiento lector, la autoeficacia lectora y del tiempo dedicado a aplicar estrategias de autorregulación antes, durante y después de la lectura a partir de una evaluación *online*. Los resultados mostraron un efecto positivo y significativo del programa instruccional en las dos condiciones experimentales frente al grupo control en relación con el rendimiento lector y el tiempo dedicado a aplicar estrategias de autorregulación *antes y después* del proceso lector. Sin embargo, no se observaron diferencias estadísticamente significativas en el tiempo dedicado a aplicar estrategias *durante* la lectura ni en la autoeficacia lectora entre las condiciones experimentales ni entre las condiciones experimentales frente a la condición de control. Se discuten las implicaciones de los resultados obtenidos y su aportación a las prácticas educativas.

Descriptores: comprensión lectora, estrategias lectoras, autocontrol, autorregulación, autoeficacia, educación primaria.

1. Introduction

Reading comprehension is a complex process that involves the building of thinking skills that activate cognitive, metacognitive and motivational resources to achieve a coherent representation of the meaning of the text, which is referred to by Kintsch as a situation model (Kintsch & Rawson, 2005). Active support in these thinking skills allows the reader to self-regulate their reading process. In fact, to form coherent cognitive representations, good readers use self-regulation strategies; are aware of the demands of the reading task; monitor their comprehension as they read; select the most relevant information; take action to resolve reading difficulties — for example, adjusting their reading speed as they read or reread a text —; and they ask questions to check their comprehension. In other words, they are flexible in their reading process (Minguela et al., 2015). However, readers with poor comprehension demonstrate little to no self-regulation of their reading comprehension (Berkeley & Larsen, 2018).

According to Zimmerman and Schunk (2015), a self-regulated reader is able to take control of their reading comprehension during a sequence of events: *before reading* by selecting strategies, planning and setting the aim of their reading; *during reading* by applying strategies and self-regulating their implementation; and *after reading* by reflecting on and relating the information to their prior knowledge. In this theoretical model, the reader needs to have a repertoire of self-regulation strategies that allow them to go beyond the surface meaning of the text and to progressively control and regulate their comprehension process (Vandevelde et al., 2013).

However, as self-regulated strategic control does not usually develop spontaneously, readers need direct and explicit instruction in self-regulation strategies and processes (Dignath & Veenman, 2021; Fonseca et al., 2018; Torrano et al., 2017). This type of instruction becomes even more significant during the transition from primary to secondary education as, by this time, students are expected to read independently in order to understand textual information (Berkeley & Larsen, 2018). However, in Spain, as indicated in the 2018 PISA reports, reading comprehension performance in Spanish students (477 points) is significantly lower than the OECD average (487 points) and the EU average (489 points) (OECD, 2019). One explanation for these poor results in reading performance could be a decline in motivation and confidence among Spanish students in their ability to use self-regulation strategies (Tonks & Taboada, 2011; Vandevelde et al., 2013). Research has shown that during the transition to secondary education, many students develop negative motivational beliefs about their ability to successfully complete tasks, leading to a reduction in reading self-efficacy beliefs (Olivares et al., 2016; Usher & Pajares, 2008) and greater difficulties when it comes to self-regulating their learning.

As a result of students struggling to apply self-regulation strategies during reading (Vandevelde et al., 2013), differences have emerged in the use of these strategies (Veenman et al., 2006). This has led researchers and educators to explore how to develop instructional practices that produce a change in the reading process (Elleman & Oslund, 2019). In this area of research, various meta-analyses have identified knowledge gaps in the instruction of self-regulation processes in reading comprehension. For example, the meta-analysis by Ripoll and Aguado (2014) into interventions for improving reading comprehension in Spain highlights a lack of instructional programmes that identify the type of strategies that effectively improve reading comprehension in Spanish students. On an international level, a meta-analysis by Berkely and Larsen (2018), following a review of 30 years of research into reading comprehension, concludes that most interventions analyse the effects of self-regulated strategy instruction on reading performance but do not consider changes in the reading process and self-efficacy beliefs following the intervention. As a result, these interventions do not allow for the identification of a reading pattern that could explain their impact on improving reading comprehension (see the meta-analysis by Ellema & Compton 2017; Elleman & Oslund, 2019). These knowledge gaps are precisely the focus of this study.

The aim of this study is to analyse the effects of a self-regulated strategy instruction programme not only on reading comprehension performance but also on time spent applying self-regulation strategies and reading self-efficacy in Spanish primary school students in Year 5 and 6 (aged 10–12 under the Spanish education system) compared to a control group.

The instructional programme comprises two conditions (condition 1: SRS, *Self-Regulated Strategy Instruction;* condition 2: SRS&SE, *Self-Regulated Strategy Instruction and Self-Efficacy*). Both conditions received 13 sessions of instruction in self-regulation strategies before, during and after reading and summarising a text, with techniques such as modelling and thinking aloud. In addition, condition 2 (SRS&SE) included explicit instruction in reading self-efficacy. The aim was to comprehensively explore the effects of a self-regulated strategy instruction programme in improving reading comprehension performance and to analyse the effects on the reading process itself and the self-regulation strategies used in this process. In addition, the study aimed to determine whether self-regulated strategy instruction is enough in itself to promote self-efficacy or whether explicit self-efficacy instruction is also required. The control group received traditional teaching in their class group with no explicit instruction in self-regulation processes. Pre-test/post-test/follow-up measures were taken (six weeks after the intervention) of reading performance, reading self-efficacy and time spent applying strategies in a reading and text summary task. An online evaluation method known as a *reading log* was used to analyse the reading process in the context of real reading tasks in a school setting. Using this log, we aim to obtain an estimate of the general temporal organisation of the students' activities during their reading comprehension process and to thereby determine, on an empirical level, whether instruction in the different stages of the self-regulation process produces a change in the students' strategic behaviour that improves their reading comprehension (Ellema & Compton, 2017; Elleman & Oslund, 2019).

The *first hypothesis* is that, after the intervention, students in both experimental conditions improve their reading comprehension performance compared to the control group. The *second hypothesis* is that both experimental conditions show a change in the strategies applied before, during and after the comprehension process. Lastly, the *third hypothesis* is a higher level of self-efficacy in the SRS&SE condition compared to the control condition and the SRS condition, which include no specific reading self-efficacy instruction.

2. Method

2.1. Participants

The study participants formed a total of 180 Spanish primary school students in Year 5 (N = 90) and Year 6 (N = 90), aged 10-12 under the Spanish education system, with a total of 97 girls and 83 boys. The students were from eight different groups/classes from two state-funded independent religious education centres located in the city of León (Spain). The groups/classes were randomly assigned to the two experimental conditions (SRS, SRS&SE) and the control group. One Year 5 class (N = 22, 13 girls and 9 boys) and one Year 6 class (N = 25, 16 girls and 9 boys) were assigned to the SRS experimental condition (total N = 47). One Year 5 class (N = 21, 11 girls and 10 boys) and one Year 6 class (N = 26, 16 girls and 10 boys) were assigned to the SRS&SE experimental condition (total N = 47). Two Year 5 classes (N = 47, 21 girls and 26 boys) and two Year 6 classes (N = 39, 20 girls and 19 boys) were assigned to the control condition (total N = 86).

The educational infrastructure of the two centres and their curricular organisation were similar. All students in the sample group were from a similar middle-class socio-economic background. Students with diagnosed special educational support needs were not included in the study.

In addition, with the aim of ensuring that there were no significant differences in the reading performance of students across the different conditions and between the two participating schools, before starting the intervention, students in the sample group took a reading process assessment test known in Spanish as the *test de evaluación de los procesos lectores-PROLEC-SE* (Reading Processes Assessment Test) (Ramos & Cuetos, 2000) and a comprehension strategy assessment test known in Spanish as the *test de evaluación de estrategias de comprensión-TEC* (Comprehension Strategies Assessment Test) (Vidal-Abarca et al., 2007). Both tools, in their original version, showed a high level of reliability with a Cronbach's alpha of .85 and .75, respectively, and construct validity through Pearson correlation, obtaining a strong correlation between them in their original versions (r = .72). In terms of the psychometric properties of these tools in this study, reliability could not be determined given that only one of the two PROLEC-SE tasks for measuring text comprehension processes was used and, for both tools, each student only completed one of the two proposed texts. However, and in these conditions, it was verified that moderate construct validity between the tests was maintained (r = .36).

Comparative analysis of the reading performance assessed through both tests showed no statistically significant differences in the students' performance across the experimental and control conditions, both through PROLEC-SE (F = 1.221; p = .298) and TEC (F = 1.215; p = .299). Likewise, a similar level of performance in reading comprehension was proven in students from the two education centres, through both assessment tests (PROLEC-SE: F = .142; p = .707; TEC: F = .013; p = .910).

2.2. Assessment tools

Assessment of reading comprehension performance:

All students were assessed in pre-test/post-test/follow-up assessments using a *reading and text summary task*. Three texts were used on different topics (Olympic Games, Astronauts and Desert), which were counter-balanced in the assessment sessions by condition and group. The texts presented the same level of difficulty, ideas and words. During the task, students could read the text whenever they needed to.

A global measure, which has been used in previous studies (see Spörer & Brunstein, 2009; Spörer et al., 2009), was used to assess reading comprehension performance: *quality of the summary*. The assessor marked the quality of the summary on a scale of 0 to 5, according to the following criteria: 0 = no response; 1 = summary only includes wording copied from the original text and irrelevant details; 2 = summary includes some wording copied from the original text and some original wording, plus irrelevant details; 3 = summary includes original wording, some irrelevant examples and does not truly capture the essence of the text; 4 = summary includes original wording, contains no irrelevant examples but does not truly capture the essence of the text; 5 = summary includes original wording, contains no irrelevant examples and truly captures the essence of the text. The summaries were assessed through double-blind assessment, and an agreement index of .90, .93 and .97 was obtained for the pre-test, post-test and follow-up, respectively. Although text summaries are a common measure for assessing reading performance (Block & Pressley, 2003; Spörer & Brunstein, 2009; Spörer et al., 2009), to ensure that the quality of the summary was a suitable means of assessing reading comprehension, we assessed its construct validity in relation to the two instruments used at the start of the study, the PROLEC-SE and the TEC tests, obtaining a significant and moderate correlation in both cases, r = .35 and r = .32, respectively. This is similar to the correlation index obtained between the two reading comprehension assessment tests referred to in the previous section (r = .36).

Online assessment of comprehension strategies:

Reading comprehension strategies were assessed via self-reporting by the students in real time in a *reading log*. *The reading log* is an adaptation for this study of the *triple task technique* of Olive et al. (2002), which allows for *online reporting* of the strategies used by the students while they complete the reading and text summary task on pen and paper. As the students complete the task, they hear a beep approximately every 45 seconds. When they hear this noise (neither before nor after), they must tick the strategy that they are using by selecting from a list of 11 strategies that appear on the log sheet. These strategies were established based on the process followed by an expert reader for a reading and text summary task:

Before the task: I analyse the task; *I think* about the text that I'm going to read; I make *notes* about reading strategies or about how to write the summary.

During the task: I read; *I think* about what I've read, what I'm going to read or the summary; *I make notes about the reading*; *I write the summary*; *I read the summary*.

After the task: I assess the summary; *I assess the reading*. At each stage, the activity *Unrelated* to the task was included (which students could tick if, when they heard the beep, they were doing or thinking about something unrelated to the task).

The students were instructed and trained in using the different categories before the pre-test assessment. The reliability of the measure was verified using a test that contained 24 examples of thoughts and actions that a student like those in the study would have or do when they heard the beep. The reliability of the test obtained a Kappa value of over .90. This test is an adaptation for this study of the *writing log* assessment tool that has been validly used in previous studies (see Torrance et al., 2007; Fidalgo et al., 2008) as an online tool for assessing the process that a person goes through as they perform a specific task. The results of the reading log allow us to calculate the estimated average time spent on each strategy by all students, by multiplying the number of times that the participant indicated a particular strategy in their *reading log* by the average interval between the beeps (45 seconds).

Assessment of reading self-efficacy:

Reading self-efficacy was assessed using a *reading self-efficacy scale* developed by Olivares et al. (2016), which distinguishes between three dimensions of self-efficacy, considering the levels of semantic processing proposed by Kintsch (Kintsch & Rawson, 2005). The first dimension, *decoding self-efficacy*, assesses self-efficacy beliefs about decoding skills and reading fluency (3 items). The second dimension, *textual self-efficacy*, assesses beliefs about the ability to successfully build the textual basis of the text (8 items). The third dimension, *situation* *model self-efficacy*, includes beliefs about the ability to build a mental model of the situation described in the text, integrating textual information with prior knowledge and aims (3 items). The scores for the different scales are calculated based on the total sum of the scores for the corresponding items weighted by the factorial weight of each item.

Before starting the reading and text summary task, the students were asked how confident they were that they could successfully complete in this task each of the actions described on the scale. The students responded on a scale of 0 (totally sure that they couldn't) to 100 (totally sure that they could). The scale proved to have good internal consistency (Cronbach's Alpha = .89). The confirmatory factor analysis produced a solid model with a CFI index of .971 and RMSEA of .05, with a 90% confidence interval of .04 and .06, with three agreement factors with the three dimensions of reading self-efficacy. As such, we can confirm that the confirmatory analysis produced a solid model, according to the following rules for evaluating the goodness of fit of the model: values of over .95 on the comparative fit index (CFI) and values of under .05 in root mean square error of approximation (RMSEA) indicate a good fit, and values of between .05 and .08 indicate an acceptable fit (Valdés et al., 2019). Furthermore, composite reliability of .62 was obtained in self-efficacy in decoding, .89 in textual and .70 in the situation model, with an average variance extracted of .35, .47 and .54, respectively.

2.3. Instructional programmes

The two conditions of the self-regulated strategy instruction programme (SRS and SRS&SE) followed the same instructional pattern or model (self-knowledge dimension and metacognitive self-regulation dimension). In addition, the SRS&SE condition included specific training in reading self-efficacy.

In the *self-knowledge of reading comprehension dimension*, students were explicitly instructed in cognitive reading comprehension strategies, mnemonic devices and knowledge matrices before, during and after a reading and text summary task (5 sessions). In *session 1*, prior knowledge about reading comprehension and different text types was activated. Students were instructed in *specific strategies* using three mnemonic devices. In the *before reading* stage (session 2), students worked on the mnemonic device IPOD (which in Spanish stands for: I identify the text type; I think; Reading objective; I develop a plan for the reading). In the *during reading* stage (session 5 and session 6), students worked on the mnemonic device ECO (which in Spanish stands for: I explore what I know about the theme and what the text can tell me; I understand each word and sentence and when I get stuck, I stop to solve the problem; I get the main idea of the text by following three steps: *discard* the irrelevant information, *generalise*, think of a sentence that sums up the theme of each paragraph and write it down, and *build* a summary in your own words). In the *after reading* stage (session 9), students worked on the mnemonic device END (which in Spanish stands for: I assess my task; I mark how satisfied I am with the completed task; I think about how to do the next reading task).

The *metacognitive self-regulation of the process dimension* (8 sessions) began with the teacher performing cognitive modelling through *thinking aloud*. Modelling was performed before (session 3), during (session 7) and after (session 9) the reading and text summary task, plus a full modelling of all stages in the comprehension process (session 11). Using *thinking aloud*, the teacher verbalised how to use the IPOD, ECO and END mnemonic devices, sharing the thoughts and actions that regulated their action. The SRS condition received an exemplary modelling, and for the SRS&SE condition, the teacher modelled by performing the role of a student who was disengaged with the task but then completed it successfully by applying the instructed strategies. In addition, in the SRS&SE condition, the modelling included phrases to bolster *reading self-efficacy* beliefs before, during and after reading (*I've planned my reading really well!*). After each modelling by the teacher, *the students emulated* the process that they had observed (session 4, 8, 10 and 12) by using thinking aloud in a new reading and text summary task in front of the teacher. During the task, the students received feedback from both the teacher and their fellow students on the accuracy of their execution. In this stage, guided practice was promoted with activities of increasing difficulty. The teacher gradually provided less support, and in the final session of the programme (session 13), the students worked individually and with no support to read and summarise a text.

In addition to instruction in self-knowledge and self-regulation of reading comprehension, all stages and sessions of the SRS&SE condition focused explicitly on *building an optimal level of reading self-efficacy* by using the four sources of self-efficacy proposed by Bandura (1977): a) *past experiences of success* with tasks of varying difficulty, personal and individual evaluation of how successfully the task was completed at the end of each session and a control list where students recorded the steps followed in the task; b) *vicarious experiences of success* through the teacher modelling success in the role of a student and self-instructions; c) verbal *persuasion* and social feedback; and d) *positive physiological states* based on thinking aloud, evaluation of the degree of satisfaction with the learning in each session and free choice of the text used for individual practice.

2.4. Instructional method for the control group

The students in the control condition received the same number of reading and practice sessions as the experimental groups (13 sessions). The instructional sequence for the control group could be described as an implicit type of instruction, in which the students worked on reading aloud, individual reading and sequential reading. After reading, the teacher asked a series of questions linked to the theme of the text (explicit and implicit ideas in the text), and the students produced individual summaries of what they had read.

In addition, as the sole strategy for solving problems linked to vocabulary, the students were instructed in how to use a dictionary.

3. Process

Before the instructional programme was applied, training sessions were provided for teachers/tutors. To ensure equivalence across the groups, in the first session, the reading ability of all students was assessed and all students were taught how to use the reading log. In the second session, the pre-test assessment was performed on reading performance in a reading and text summary task, reading self-efficacy and the reading process followed by the students during the task. Following this, the teachers/tutors delivered 13 instructional sessions (January to April), in a contextualised manner in each class group (1 hour/session). During application of the programme, the teachers received individualised training in how to prepare each session (13 training sessions) and a script that detailed, in writing, the steps that needed to be followed in each session. To ensure that the instructional programme was properly delivered and tracked, the students' portfolios were monitored and an online log was created of audio recordings of 100% of the sessions. This log was then analysed by the first author of this article. Any students who did not attend all the instructional programme sessions were removed from the sample group. After the intervention, the post-test assessment was conducted and, six weeks later, the follow-up assessment was conducted. The same conditions, norms, stages and application times were controlled in all the assessment sessions, both in the control group and the experimental groups. The material collected in the assessments was given to two assessors who had received prior training in how to assess the material, determining the agreement indices in the necessary measures. After coding, the data were analysed using the SPSS statistical software suite.

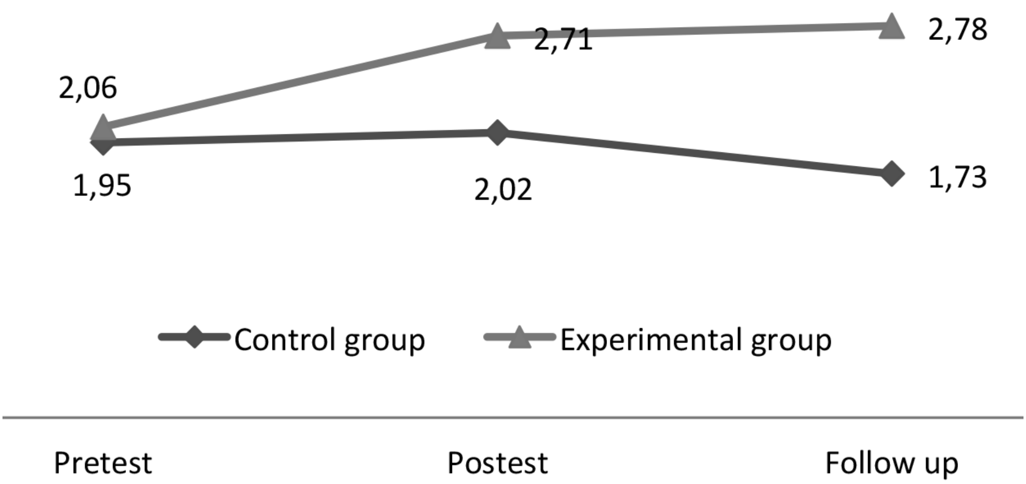
4. Results

4.1. Reading performance results

Initially, in the pre-test, we explored if there were any gender-based differences in reading performance (Anova). We found that the girls had a significantly higher reading performance (mean = 2.40, sd = .85) than the boys (mean = 2.06, sd = .90) in the pre-test (p = .021).

As no significant differences were observed in reading performance between the two instructional programme conditions (SRS and SRS&SE), both conditions were treated as a single experimental group. Using the scores obtained in the summary, repeated measures ANOVA analysis of variance was performed, firstly considering time (pre-test/post-test) by condition (experimental/control) and secondly time (pre-test/follow-up) by condition. Analysis of the comprehension measures, considering the time factor interaction by condition, showed that the intervention had a clear effect on the quality of the summaries in the experimental group. The analysis showed a clear increase in the quality of the summaries in the *experimental group* during the post-test ($F(1,168) = 13.1$, $p < .001$, ŋ2 = .072, d = .66). These results were maintained in the follow-up assessment ($F(1,168) = 39.0$, $p < .001$, ŋ2 = .189, d = .73) (Graph 1).

Graph 1. Averages obtained in text summary quality by the experimental group vs the control group.



4.2. Reading process results

Initially, in the pre-test, we explored if there were any gender-based differences in the process followed during the reading and text summary task (Anova). We found that the girls spent significantly more time reading ($p < .001$), making notes ($p = .002$) and thinking ($p = .029$) than the boys in the pre-test assessment.

We found no significant differences between the two instructional programme conditions (SRS and SRS&SE) in the process followed during the reading and text summary task; therefore, both versions were treated as a single experimental group. Table 1 shows the estimated average time that students spent on the activities in each condition and assessment stage.

Firstly, we performed a separate analysis in each condition (experimental and control) of the differences in the pre-test/post-test reading process and the pre-test/follow-up reading process, using the Wilcoxon signed-rank test with the Z value as statistical (statistically significant differences are marked with an asterisk in Table 2). We then performed a comparative analysis of the differences between the experimental and control conditions, both in the post-test and the follow-up, using the Mann–Whitney *U* test (distribution-free test); structuring these results according to the three stages into which the reading and summary process is divided: before, during and after.

TABLE 1. Estimated average time (minutes) on different strategies by experimental group and control group.

		Pre-test		Pos-test		Follow-up	
		Experimental	Control	Experimental	Control	Experimental	Control
Before	**Task analysis**	.25	.31	.33*	.26	.30	.18**
	Thinking	.19	.16	.36**	.12	.30**	.06**
	Notes	.17	.16	.31*	.10	.21	.05*
During	**Reading**	2.16	2.17	1.97	1.94*	1.88	1.58**
	Thinking	.74	.57	.68	.39*	.44**	.22**
	Making notes	2.48	2.38	3.48**	2.35	2.80	1.63*
	Writing summary	6.17	5.25	5.84	4.95	6.42	4.73
	Reading summary	.41	.28	.39	.22	.34	.10**
After	**Assessing summary**	.34	.21	.56**	.21	.39	.15
	Assessing reading	.21	.10	.34**	.13	.30*	.08
	Unrelated	.92	.83	1.04	1.22*	.61**	.74

Note: Statistically significant differences compared to the pre-test for the experimental group and the control group *$p < .05$, **$p < .005$ (Wilcoxon).

4.2.1. Results in the reading process before the task

Analysis of the changes that occurred in the reading process before the task showed clear effects in the experimental group after instruction. The experimental group achieved significantly higher results in the post-test compared to the pre-test in the average time spent *analysing the task* ($p < .05$) and *thinking* about the reading and summary that they were about to do ($p < .005$) — a change that was maintained in the follow-up ($p < .005$) — and *making notes* to plan their reading ($p < .05$). While there were no significant changes in the control group in the before reading activities analysed in the post-test, there was a significant reduction in the time spent *analysing the task* ($p < .005$), *thinking* ($p < .005$) and making *notes* ($p < .05$) in the follow-up compared to the post-test.

When we compared the experimental group and the control group, we found statistically significant differences in the post-test and the follow-up in favour of the experimental group. During the post-test, the experimental group spent significantly more time *analysing the task* ($p < .05$), *thinking* ($p < .005$) and *making notes* ($p < .005$) than the control group. These differences continued in the follow-up assessment, showing that the intervention had a clear effect on the experimental group, which continued spending more time than the control group *analysing the task* ($p < .005$), *thinking* ($p < .005$) and *making notes* ($p < .005$).

4.2.2. Results in the reading process during the task

The statistical analysis showed an increase in the experimental group in the average time spent *making notes* ($p < .005$) during the post-test and a reduction in the time spent *thinking* about what had been read or the text summary ($p < .005$) during the follow-up. However, there were no significant changes in the following activities: *reading the text*, *writing the summary* and *reading the summary*.

In turn, there was a reduction in the control group in the amount of time spent *reading the text* ($p < .05$) and *thinking* ($p < .05$) during the post-test assessment. However, there were no significant changes in *making notes, reading the summary and writing the summary*. Furthermore, during the follow-up assessment, there was a significant reduction in the control group in the time spent *reading the text* ($p < .005$), *thinking* ($p < .005$), *making notes* ($p < .05$) and *reading the summary* ($p < .005$).

When we compared the experimental group results and the control group results, we found statistically significant differences in favour of the experimental group. During the post-test, the experimental group spent significantly more time than the control group on activities such as: *thinking* ($p < .05$), *making notes* ($p < .005$), *writing the summary* ($p < .05$) and *reading the summary* ($p < .05$). These results were maintained in the follow-up assessment: *reading the text* ($p < .05$), *thinking* ($p < .005$), *making notes* ($p < .05$), *writing the summary* ($p < .005$) and *reading the summary* ($p < .05$).

4.2.3. Results in the reading process after the task

The analysis of changes compared to the pre-test in the reading process followed by the students after the task shows that the experimental instructional programme had a significant effect. The students in the experimental group spent significantly more time in the post-test *assessing their summary* ($p < .005$) and *assessing their reading* ($p < .005$); and the latter result was maintained in the follow-up ($p < .05$). In contrast, there were no significant changes in the control group, neither in the post-test nor the follow-up.

When we compared the experimental group and the control group, we found that the experimental group spent significantly more time than the control group *assessing their summary and assessing their reading*, both in the post-test (p < .005) and the follow-up assessment (p < .005).

4.3. Reading self-efficacy results

Initially, in the pre-test, we explored if there were any gender-based differences in reading self-efficacy, and we found that there were no statistically significant gender-based differences in the pre-test.

Since reading self-efficacy was treated differently in the two versions of the instructional programme (SRS and SRS&SE), these two versions were treated as two different experimental groups. Table 2 shows the descriptive statistics for reading self-efficacy by stage and condition.

Firstly, we analysed the differences in the pre-test measures between the three groups, using one-way ANOVA and Tukey's HSD test. The results of this analysis showed there were no statistically significant differences in the pre-test in terms of reading self-efficacy between the three groups. Secondly, to analyse the effects of the intervention on self-efficacy, we conducted two-way crossed ANOVA analysis: firstly, time 2 (pre-test/post-test) by condition 3 (SRS&SE, SRS, Control); and in a second analysis, time 2 (pre-test/follow-up) by condition 3 (SRS&SE, SRS, Control). For measures with statistically significant interaction, we conducted post hoc pairwise comparison analysis between the post-test and the follow-up scores in the three groups or conditions (SRS&SE, SRS and Control), controlling the error rate by using Tukey's HSD test. In addition, we conducted pre-test/post-test and pre-test/follow-up pairwise comparisons within each condition, with a significance level (alpha) of .05.

In relation to changes in reading self-efficacy, the analysis showed statistically significant differences between the three conditions in relation to self-efficacy in the situation model ($F(2,167) = 3.456$, $p < .034$, ŋ2 = .04) and, six weeks after the intervention, in the follow-up assessment ($F(2,167) = 3.276$, $p < .04$, ŋ2 = .038). In turn, the post hoc analysis in both the post-test and the follow-up assessment showed no statistically significant differences. That said, it did show a higher level of self-efficacy in the situation model close to the statistical significance of the two experimental conditions (SRS&SE and SRS) compared to the control group in the post-test (p = .08; p = .07; respectively). However, the post hoc comparisons in the follow-up assessment only showed an increase in the measure of self-efficacy in the situation model in the SRS&SE experimental group compared to the control group, once again close to statistical significance (p = .07).

It is interesting to note that, in all the dependent variables, we explored if the intervention had any differential effects in term of gender. However, in general, we found no consistent pattern of the intervention having a different effect on boys and girls.

Table 2. Descriptive statistics and results of the analysis of the self-efficacy measures, considering the time factor interaction (pre-test/post-test and pre-test/follow-up) by condition (SRS&SE, SRS, Control).

	SRS&SE			SRS			Control			Time (pre-test-post-test)			Time (pre-test-Follow-up)		
	Pre-test	Post-test	Fol-low-up	Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up						
	M (St)	M(St)	M(St)	M(St)	M(St)	M(St)	M(St)	M(St)	M(St)	*F*	*p*	η2	*F*	*p*	η2
Situation Self-efficacy	77.92 (16.26)	84.94 (16.96)	87.45 (8.73)	79.58 (13.40)	83.87 (17.29)	84.60 (13.74)	74.27 (19.71)	77.76 (22.21)	79.17 (19.61)	3.456	.034	.04	3.276	.040	.038
Textual self-efficacy	72.30 (15.39)	81.11 (16.90)	85.41 (11.01)	70.78 (13.68)	76.77 (17.49)	80.20 (12.39)	71.34 (16.38)	76.11 (18.71)	77.31 (15.84)	1.076	.343	.013	1.794	.170	.021
Decoding Self-efficacy	72.27 (20.53)	83.79 (19.31)	84.13 (16.54)	76.94 (16.37)	79.54 (18.49)	80.94 (16.01)	79.66 (20.28)	79.70 (20.41)	81.51 16.35)	.272	.762	.003	.402	.669	.005

5. Discussion and conclusions

The aim of this study was to analyse the effects of a self-regulated strategy instruction programme not only on reading comprehension performance but also on time spent applying self-regulation strategies and reading self-efficacy in Spanish primary school students in Year 5 and 6 (aged 10–12 under the Spanish education system) compared to a control group. The impact of the instruction provided important data on an instructional level by identifying changes in the strategies used by students to improve comprehension.

The results confirmed that self-regulated strategy instruction increased the students' reading comprehension performance in reading and text summary tasks. Compared to the control group, the experimental group showed a significant improvement in the quality of their text summaries after the intervention; and this effect continued six weeks after the instruction. The students were able to identify the main themes of the text, discarding secondary details, and to combine, group and connect similar ideas using concise wording. It has been proven that when students write about what they have read, it improves comprehension and promotes their self-regulation process (Gao, 2017).

In keeping with findings in other areas such as writing (Arrimada et al., 2018), this study seems to confirm the hypothesis that self-regulated strategy instruction produces a change in the strategic and self-regulated approach used by students to perform their reading task. Specifically, in the *before the task stage*, the experimental groups spent more time using strategies such as planning their reading, analysing the text, thinking about the reading that they were about to do, activating prior knowledge and making notes to achieve a better reading of the text. We found a similar pattern in the *post-task stage,* where, in the post-test and the follow-up, the experimental group significantly increased the time spent on strategies such as self-assessing their summary and reading, while no differences were found in the control group. However, no clear pattern seems to have emerged for the effects of the intervention in the *during the reading stage*. After the intervention, the experimental group only showed a significant increase in the time spent on the strategy of making notes during the post-test, while there was a reduction in the time spent on the strategy of thinking about the reading or the summary during the follow-up assessment. There were no significant changes in the activities of a self-regulated nature, such as reading the summary. The effects of the instruction were only apparent in the activity of note making while the students read or wrote their summary. This, in itself, suggests a more self-regulated approach than thinking about the summary and, in turn, suggests greater demand and cognitive effort than activities such as thinking and reading the summary. Perhaps, the instruction's lower impact on monitoring strategies could be linked to the cognitive complexity of the comprehension process. Specifically, in the *monitoring* stage, students need to repeatedly implement all the cognitive processes required to build the situation model and to combine them with metacognitive control and supervision processes to deal with any problems that might arise during reading (Zimmerman, 2008). In this respect, perhaps the elevated cognitive demands of this stage could exceed the cognitive capacity of students of this age, and they would need more time practising to successfully apply the instructed strategies.

On a motivational level, the results are not able to fully confirm an increase in the level of self-efficacy in the group that received specific self-efficacy instruction compared to the control group and the experimental group. The results only showed an increase close to statistical significance in both experimental groups compared to the control group in relation to high-level cognitive processes such as building the situation model; an effect that was only maintained six weeks on in the SRS&SE group. The students demonstrated positive believes about their ability to complete a task where they evoked and constructed a representation of the information in the text, combining explicit textual information with their prior knowledge, aims, interests and beliefs. In relation to the proposed hypothesis, it appears that self-regulated strategy instruction in itself has a positive effect on the reading self-efficacy beliefs linked to the situation model. However, this increase only continued in the long term in the group that received specific self-efficacy instruction. This would suggest that if the desired outcome is a long-term change in reading self-efficacy patterns, this would require specific instruction focusing on reading self-efficacy (Bandura, 1977).

In conclusion, the results of this study confirm the importance of integrating explicit strategy teaching with self-regulation methods (Berkeley & Larsen, 2018). In addition, the need for this type of self-regulated strategy instruction is even greater considering it not only results in improved reading performance in the short and medium term but also produces a change in the reading pattern assumed by students. Specifically, this pattern becomes more strategic and self-regulated, which is an aspect that is lacking in students in general (see Fidalgo et al., 2014) and which would have a notable impact on improving students' reading skills.

The results of this study provide indications about the type of activities and strategies used by students before, during and after reading. However, one limitation of this study is linked to the effects of the instruction six weeks after the intervention and, as such, it would be interesting to analyse the effects of the instruction over a longer period. A further limitation pending confirmation is linked to gender-based differences in the reading process as, although some research points to potential gender-based differences in the self-regulated learning process (Torrano & Soria, 2017), the intervention in this study had the same effect on both boys and girls and, therefore, gender had no effect on the pattern of the results. In turn, comparing this study with other types of online measures, such as eye-tracking or assessment of the thinking-aloud technique, could help to understand how readers adapt their strategies to different tasks (Hu & Gao, 2017; Karlsson et al., 2018; Krstić et al., 2018).

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Building the profile of students with the intention of dropping out of university studies*

Construyendo el perfil del alumnado con intención de abandono de los estudios universitarios

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Abstract:

The analysis of the problem of dropout from university studies is a subject of great importance and topicality owing to the repercussions it has, not only in the economic and social sphere, but also at a personal, family, institutional level, etc. The objective of this article is to define a profile for a student who intends to abandon their university studies and who, therefore, is at risk of academic dropout. Various characteristics with a possible impact on this situation were analysed, both those of an individual, academic and socioeconomic nature and those which are personal. Specifically, we studied the variables of age, gender, how studies are financed, average university grade and order of preference of the degree course, as well as those related to academic satisfaction, adaptability skills and the student's academic engagement. The analysis

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was conducted on students at the Universidad de La Laguna (ULL) according to degree field and academic year. The results obtained show that the students with the highest risk of dropping out of the degree programme are those in their first year, mainly in the field of sciences, who have chosen the degree course they are studying that was their third choice or lower, their average university grade has been a fail, they have a low level of academic engagement and are not very satisfied with the educational process.

Keywords: university education, academic dropout, university students, adaptability, engagement, satisfaction.

Resumen:

El análisis del problema del abandono de los estudios universitarios es un tema de gran importancia y actualidad por las repercusiones que tiene no solo en el ámbito económico y social, sino, también, a nivel personal, familiar, institucional, etc. El objetivo de este artículo es definir un perfil de estudiante con intención de abandonar los estudios universitarios y, por tanto, que está bajo riesgo de deserción académica. Se analizan diversas características con posible incidencia en esta situación, tanto de carácter individual, académico o socioeconómico como de tipo personal. En concreto, se estudian las variables de edad, sexo, forma de costear los estudios, nota promedio en la universidad, orden de elección de la titulación, así como las relacionadas con la satisfacción académica, la competencia de adaptabilidad y el compromiso académico del estudiante. El análisis se realiza en estudiantes de la Universidad de La Laguna (ULL) según rama de la titulación y curso académico. Los resultados obtenidos evidencian que los estudiantes con mayor riesgo de abandonar la titulación son aquellos que cursan el primer curso, fundamentalmente en la rama de ciencias, han elegido la titulación que cursan en tercera o siguientes opciones de preferencia, su nota promedio en la universidad ha sido de suspenso, tienen un escaso compromiso académico y están poco satisfechos con el proceso formativo.

Descriptores: educación universitaria, abandono académico, estudiantes universitarios, adaptabilidad, compromiso, satisfacción.

1. Introduction

Recently, one of the issues that higher education has most often addressed is dropout from studies (Bethencourt, et al., 2008; Himmel, 2018; Sánchez & Elías, 2017; Tinto, 1994; Torrado & Figueras, 2019). Its significance is due to the repercussions it has economically and socially (Bowen, 1997; Paulsen, 1998), individually (Cohn & Geske, 1992; Perna 2003), and also at a family and institutional level (Bowen, 1997; González & Pedraza, 2017). In the institutional sphere, universities place increasing importance on academic dropout due to the heavy financial investment involved (González et al., 2007), but, additionally, because it is an obstacle to training competent professionals who are qualified to enter the job market and society.

If we analyse the figures provided by official sources, it is striking that in recent years the percentage of students who drop out of studying at Spanish universities has remained constant (Ministry of Universities, 2021a), with high figures compared to the goals set by the European Union and the United Nations for 2030, which recommend increasing the number of people with degrees owing to the positive effects this has on individual development and social progress, by facilitating access to the labour market (Council of the European Union, 2021; United Nations, 2015).

A detailed study by fields of knowledge of the evolution of university data in Spain reveals that the field of arts and humanities has one of the highest dropout rates, followed by engineering and architecture in third place, social sciences and legal studies in fourth, and, lastly, with a lower dropout rate, the field of health sciences (Ministry of Universities, 2021a).

In the case of the Universidad de La Laguna (ULL), the evolution of the dropout rate indicates that it has always been near the average for Spanish public universities, being among the ten universities with the highest university dropout rates (Ministry of Universities, 2021b). In fact, in recent studies conducted with students from this university, it was found that between 35.6% (Álvarez-Pérez et al., 2021) and 39.9% (López-Aguilar, et al., 2022) of the students had expressed their intention to abandon their education. This means that these students will join the ranks of young people who face real difficulties in entering the labour market, due to their lack of preparation as a consequence of dropping out of their studies. This situation is more intense during the first years at university, as a result of the deep process of transition and change that students undergo at this time (López-Aguilar & Álvarez-Pérez, 2021; Rodríguez et al., 2018; Tuero et al., 2018; Yorke and Longden, 2008). For this reason, the research conducted has focused on the study of factors that have an impact on dropout in the initial stages of university and which may be due to influences that are personal, individual, academic, socio-economic, organisational, cultural, etc. (Álvarez-Pérez & López-Aguilar, 2017; Tinto, 1994).

2. Explanatory causes of academic dropout at university

The literature review on academic dropout at university shows that studies have principally focused on three lines of research. Firstly, the conceptual definition and theoretical delimitation of university dropout; secondly, the study of the reasons that may cause university dropout; and, lastly, the proposal of educational strategies to halt the advance of university dropout (Álvarez-Pérez & López-Aguilar, 2017). Regarding the causes that motivate university dropout, the research already conducted recognises that they are numerous, and may even be combined, depending on the characteristics of each individual and the circumstances in which they find themselves

(Álvarez-Pérez & López-Aguilar, 2017; García, 2015; Tinto, 1975).

As already indicated, the causes that explain academic dropout at university involve multiple factors. Some of these reasons relate to the relationship with the teachers (Álvarez & López, 2019), the feeling of belonging to the institution (Esteban et al., 2016), the process of adaptation to university (Esteban et al., 2016), personal expectations (Marín et al., 2000), academic proficiency (Castillo et al. 2003), curricular flexibility (Barefoot, 2004), belief in self-efficacy (Casas & Blanco, 2017), motivation to study (Sarahi et al., 2015), class attendance (Álvarez & López, 2011), effort and dedication regarding academic tasks (Belvis et al, 2009), lack of integration in the university environment (Rausch & Hamilton, 2006; García, 2015; Esteban et al., 2016) and the student's academic engagement (Álvarez-Pérez et al., 2021; López-Aguilar et al., 2022).

Analysing the individual causes in more detail, García (2015) classifies them as demographic, socio-economic and academic. This author considers that gender, the parents' educational level, economic activity, previous academic training and age are the factors that have the greatest effect on academic achievement. To a lesser extent, other factors concern residence, nationality, the student's socio-economic status and how their studies are financed, according to research analysed by the same author.

Focusing on the demographic factors, some authors have studied gender and age as the main elements that determine the profile of the student who drops out. However, the findings of this research do not provide conclusive results in terms of considering gender or age to be particularly influential. Thus, on one hand, there are analyses which consider that women present a greater probability of dropping out of studies (Casanova et al., 2018), due to, among other causes, the gap between expectations and the outcomes attained, or analysis such as by Céspedes-López et al. (2021) whose findings were not significant as regards gender. At the same time, there are studies which consider that the greater the age, the greater the possibility of dropping out (Araque et al., 2009; Céspedes-López et al., 2021; Constante-Amores, et al., 2021; Freixa et al., 2018). There is other research, in contrast, that takes the view that it is men who spend the least time at university (Constante-Amores et al., 2021; Gairín, et al., 2014) and that the age variable is not significant to determine whether a student will drop out (Esteban et al., 2017). Although age does not appear to be relevant in explaining dropout, studies such as those by Salvador & Peiró (1986) have demonstrated the importance of the academic year in the career development of university students.

Regarding academic characteristics (average grade at university and order of preference of the degree chosen) Arias and Dehon (2013), Casanova et al. (2018), Constante-Amores et al. (2021) and Esteban et al. (2017) consider that students studying their first choice of degree are less likely to drop out, making this order of preference the most important variable in terms of dropping out.

On the other hand, some authors associate the choice of degree with motivation and achievement to explain academic success (Rump et al., 2017). In this way, students who are not studying their first choice of degree have less motivation and/or lower levels of academic achievement, which directly affects the possibilities of dropout (Bernardo, et al., 2016; Bernardo et al., 2018; Céspedes-López et al., 2021; Freixa et al., 2018; López et al., 2020; Stinebrickner and Stinebrickner, 2012).

Mestan (2016) concludes, additionally, that more students who choose the fields of knowledge of Art and Humanities or Social Sciences and Legal Studies abandon their studies than those who choose other fields of knowledge. Similar results have been obtained by Constante-Amores et al. (2021), with the conclusion that these same students are the ones who abandon their studies the most.

As for the variables related to socio-economic aspects and basing the theoretical review on the way studies are financed, there are numerous works that have linked dropout to whether they have been awarded a grant which allows them to finance their studies, and the employment situation of the student who is studying a university degree. In the case of grants, as with the demographic characteristics, the findings of existing research are not conclusive. For Céspedes-López et al. (2021), economic difficulties represent one of the main barriers for students, to the extent that those who receive financial help or grants have a higher probability of dropping out of their studies. In contrast, Fernández-Martín et al. (2019) obtain different results, with students with a greater possibility of dropping out being those who do not receive a grant. Along these lines, Constante-Amores et al. (2021) express their belief that having the benefit of a grant affects university dropout significantly by reducing it.

In relation to the students' employment situation, the conclusions seem to demonstrate greater similarity. García et al. (2015) associate working and studying at the same time with the possibility of abandoning university studies. This idea is also shared by Freixa et al. (2018), Montmarquette et al. (2001) and Gairín et al. (2014), as they consider those who only study are more likely to finish their studies and achieve their academic goals.

Another set of factors that may help to identify the causes that lead students to drop out of the university degree they are studying, apart from those already analysed, are those related to the students' other personal aspects that, in combination with the above-mentioned factors, may provide an even fuller profile. Focusing on these factors, in this research we analyse three of them (academic satisfaction, adaptability skills and academic engagement), as the main determinants in the processes whereby students continue with their studies (Álvarez-Pérez et al., 2021; López-Aguilar et al., 2022). For Lent and Brown (2008), academic satisfaction is understood to be related to the well-being the student feels when performing tasks and activities in their role as a learner/student. It follows that students with high levels of academic satisfaction develop a better learning process, achieve their academic goals, have a positive perspective regarding self-efficacy, show greater self-confidence and skills for success in their studies and receive more support from society (Lent et al., 2007). Navarro et al. (2014), confirm that the students who are most engaged and involved in the achievement of their academic goals are those who have a higher level of academic satisfaction, with this satisfaction having a positive association with other variables such as social integration, persistence in studies, academic success and general satisfaction with life.

With reference to adaptability skills, Wilkins et al. (2014) argue that students with greater chances of remaining at university and being successful on their degree course are those who have developed appropriate adaptability skills. These are understood as the abilities that the student possesses to address the different tasks during their academic journey, in a suitable way, as well as for handling any unwanted personal situations.

And, finally, as far as academic engagement is concerned, Ayala and Manzano (2018) associate it with the involvement that the student should have with their academic training. Thus, when students assume the responsibility that their studies represent, they are capable of engaging with them and they persevere, by demonstrating a will to overcome situations of conflict (Manzano, 2002).

In fact, the objective of this study is to analyse the profile of students who have expressed their intention to permanently abandon the university degree course they are studying at the ULL, by examining both their demographic, academic and socio-economic characteristics and others such as academic satisfaction, adaptability skills and academic engagement.

3. Hypotheses and methodology

Considering the theoretical models and the data from the Ministry of Universities reports that have been examined above, and with the aim of focusing this research on the determination of individual features (demographic, academic and socio-economic), as well as other personal characteristics in the profile of students who have contemplated permanently abandoning their university degree course, we propose the following hypotheses:

H1. The probability of contemplating permanently abandoning a university degree course increases in male students, in younger age groups, who are in their first year of degrees in social science and legal studies and whose studies are financed by their family, their average university grade is a fail or a straight pass and the degree course was not their first choice.

H2. The probability of contemplating abandoning a university degree course permanently increases in students who have low levels of academic satisfaction, adaptability skills and academic engagement.

The target population is students who, at the moment of data collection, were in the first or second year of university degrees at the ULL. The data on the number of students was provided by the Gabinete de Análisis y Planificación (GAP) (Analysis and Planning Office) at the ULL, with 8,369 students being enrolled for the academic year 2020-2021.

We prepared a questionnaire containing 10 questions with multiple-choice answers that were dichotomous or used a 7-point Likert scale, the latter being applied to the questions relating to academic satisfaction, adaptability skills and academic engagement. As a basis for the construction of the scales, we used works by Lent and Brown (2008) for academic satisfaction, by Savickas and Porfeli (2012) for adaptability skills and by Schaufeli et al. (2002) for academic engagement.

The questionnaire was administered to 1,205 students but once the database had been refined (removal of duplicate cases, identification of atypical cases using the Mahalanobis distance, etc.), the answers from 1,038 students were used, providing a representative sample of the population, with a confidence level of 99% and a sampling error of 3.75%. Different descriptive and multivariate statistical techniques were applied to the database. The program used was SPSS 21.

Based on the objective outlined above, we selected the most suitable multivariate statistical analysis. Contingency tables were constructed to separate the answers into two groups, based on the question "Have you thought, at any time, about permanently dropping out of the university degree course that you are studying?", which has the dichotomous answer (No, Yes), with this being the variable used as a dependent variable in the subsequent analysis. The Chi-square (χ^2) statistic was applied to confirm whether there were significant differences between the answers in both groups. Following this, we conducted a Binary Logistic Regression Analysis (Cornfield et al., 1961; Walter & Duncan, 1967), to enable us to characterise the students according to the dependent variable. This type of regression is based on principles such as the odds ratio and probabilities, and allows us to verify which variables influence the probability of an individual contemplating abandoning their studies. The aim of the analysis is to make it possible to predict the behaviour of a certain variable, that is to say, it enables the estimation of the probability of an event defined by the dependent variable occurring, due to the fact that there is a range of independent variables and they are considered to be predictor or forecast variables. The variables used in the analysis and their different categories can be seen in Table 1.

TABLE 1. Classification of the questionnaire variables used in the analysis.

Dependent	Have you thought, at any time, about permanently dropping out of the university degree course that you are studying?	1=No 2=Yes
Independent	Age	1=18 or 19 years old 2=20 years old or over
	Gender	1=Male 2=Female
	Degree field	1=Arts and Humanities 2=Sciences 3=Health Sciences 4=Social Sciences and Legal Studies 5=Engineering and Architecture
	Year	1=First 2=Second
	Financing of studies	1=Paid for by the family 2=Working 3=Working and with help from the family 4=Grant
	Average university grade	1=Fail 2=Pass 3=Merit 4=Distinction
	Order of preference of degree choice	1=First choice 2=Second choice 3=Third choice and lower
	Academic satisfaction (overall evaluation)	1=Low (1 ≤ evaluation < 4) 2=Medium (4 < evaluation < 6) 3=High (6 ≤ evaluation ≤ 7)
	Adaptability skills (overall evaluation)	1=Low (1 ≤ evaluation < 4) 2=Medium (4 < evaluation < 6) 3=High (6 ≤ evaluation ≤ 7)
	Academic engagement (overall evaluation)	1=Low (1 ≤ evaluation < 4) 2=Medium (4 < evaluation < 6) 3=High (6 ≤ evaluation ≤ 7)

4. Results

Table 2 presents the results separated by the dependent variable. It can be observed that the Chi-square (χ^2) statistic presented a significance of 1% in seven of the ten variables analysed. The variables of gender and financing of studies did not prove to be significant. In principle, age could be considered to be significant in line with recommendations by Rosnow and Rosenthal (1992). Once the dependent variable has been standardised to calculate the effect size of this variable on the dependent variable, if the T-test is applied to independent samples, the result of Cohen's d is lower than 0.2, which indicates that it has an insignificant effect, as in 1988 the biostatistician Cohen suggested quantifying the effect size as small (d = 0.2-0.3), medium (d = 0.5-0.8) and large (d = over 0,8), approximately. Nevertheless, its importance was evaluated by introducing it into the model presented below.

TABLE 2. Contingency table.

Variable	Categories	No	Yes	Sig.
Age	18 or 19 years old	70.2	64.3	0.051
	20 years old or over	29.8	35.7	
Gender	Male	31.7	33.8	0.500
	Female	68.3	66.2	
Degree field	Arts and Humanities	7.9	15.9	0.000
	Sciences	4.6	11.4	
	Health Sciences	17.7	13.0	
	Social Sciences and Legal Studies	63.3	51.1	
	Engineering and Architecture	6.4	8.6	
Year	First	55.5	43.5	0.000
	Second	44.5	56.5	
Financing of studies	Paid for by the family	35.8	38.1	0.761
	Working	3.4	3.0	
	Working and with help from the family	3.0	2.2	
	Grant	57.8	56.8	
Average university grade	Fail	3.4	9.5	0.000
	Pass	34.7	44.3	
	Merit	58.4	43.8	
	Distinction	3.4	2.4	
Order of preference of degree choice	First choice	76.8	66.5	0.000
	Second choice	18.1	22.2	
	Third and lower choices	5.1	11.4	
Academic satisfaction (overall evaluation)	Low	18.6	50.5	0.000
	Medium	62.6	45.1	
	High	18.9	4.3	
Adaptability skills (overall evaluation)	Low	6.7	19.2	0.000
	Medium	60.5	62.2	
	High	32.8	18.6	
Academic engagement (overall evaluation)	Low	21.0	52.7	0.000
	Medium	61.4	42.4	
	High	17.7	4.9	

Subsequently, a logistic regression model was constructed to express the probability of an event occurring, in this case the dependent variable Y = "Have you thought, at any time, about permanently dropping out of the university degree course that you are studying?" This model was aimed at evaluating the probability that this dichotomous variable, representing, on a logarithmic scale, the difference between the probability of alternative 1 (1=Yes) and its opposite 0 (0=No) being associated with the predictor or independent variables which were significant in the Chi-square (χ^2) test.

The method for selecting variables for the model was "introduce" because this enabled the researcher to decide which variables should be introduced into or extracted from the model according to the results. The significant variables were introduced into the model, including the age variable, and another analysis was conducted without the age variable. The results indicate that the model that includes the age variable in the logistic regression analysis reduces its predictive power. As an example, it is worth highlighting that the part of the variance of the dependent variable that is explained by the model containing the age variable decreases substantially compared to the results of the model that does not contain this variable (0.122 Cox and Snell's R-squared and 0.168 Nagelkerke's R-squared compared to 0.205 Cox and Snell's R-squared and 0.281 Nagelkerke's R-squared). The same occurs with the percentage of classification for the cases (64.3% compared to 72.4% for the model presented). Therefore, we decided to eliminate it and work with the other significant variables.

Subsequently, we summarised the model's goodness of fit using the findings of the different tests applied to measure the independent variables with the dependent variable.

1. The significance of the Chi-square of the model in the omnibus test. If the significance is lower than 0.05, it indicates that the model helps to explain the event, that is to say, the independent variables explain the dependent variable. We contrasted the combined significance of the variables included in the model. In this model the result was significant (0.000).

2. Cox and Snell's R-squared, and Nagelkerke's R-squared. They indicate the part of the variance of the dependent variable that is explained by the model. In this case, the results vary between 20.5% (0.205 Cox and Snell's R-squared) and 28.1% (0.281 Nagelkerke's R-squared).

3. The Hosmer-Lemeshow test. This should not be significant so that there are no differences between the observed values and the expected values. In the case of this model, it was not significant (0.937).

4. Overall percent correctly classified. This indicates the number of cases that the model is able to

predict correctly. On the basis of the regression equation and the observed data, a prediction was made about the value of the dependent variable (predicted value). This prediction is compared with the observed value. If it is correct, the case is correctly classified. If it is not correct, the case is not correctly classified. The more cases that are correctly classified, that is to say, the predicted value coincides with the observed value, then the model explains; therefore, the independent variables are good predictors of the event or dependent variable. In this case, the model correctly classified 72.4% of the cases and, when they were separated, 83.8% of those who have not considered dropout and 51.9% of those who have considered it.

There is an explanation below of the results of the model that is presented in Table 3. The reference category is a student of Engineering and Architecture, in their second year, with an average university grade of Distinction, who is studying a degree that was their third choice or lower, and evaluates their levels of academic satisfaction, adaptability skills and academic engagement as high.

To perform the analysis according to this reference category, consideration should be given to, on one hand, the significance of B as a contrast for individual significance — if B is less than 0.05, it is significant — and, on the other, the sign of B, which indicates the effect of each variable on the dependent variable. Exp (B) — the exponential value of B — represents the odds ratio and these values can be compared to each other to find which variable has the most influence or most closely associated. When Exp (B) is greater than 1, it shows that an increase in the independent variable increases the odds ratio of the event occurring; when Exp (B) is less than 1, this indicates that an increase in the independent variable reduces the odds ratio of an event occurring. To compare the exponential values of B with each other, those that are less than 1 should be transformed to its inverse or reciprocal.

The results of the model are interpreted below, excluding adaptability skills as they did not prove to be significant.

Fields. The positive and negative effects of the types of fields on the event (having considered dropping out of university studies) were observed. Specifically, the results were as follows:

- Arts and humanities: The value of B was positive and the result of Exp (B), 1.575, indicates that a student in this field is 1.5 times more likely to consider dropping out than a student of Engineering or Architecture.
- Sciences: The value of B was also positive and the result of Exp (B), 2.837, indicates that a student in this field is 2.8 times more likely to consider dropping out than a student of Engineering or Architecture.

TABLE 3. Variables in the equation.

		B	S.E.	Wald	df	Sig.	Exp(B)	I.C. 95.0 % for EXP(B)	
								Lower	Upper
Step 1(a)	Field			32.642	4	.000***			
	Arts and Humanities	.454	.341	1.775	1	.183	1.575	.807	3.074
	Sciences	1.043	.371	7.915	1	.005**	2.837	1.372	5.866
	Health Sciences	-.269	.323	.694	1	.405	.764	.406	1.439
	Social Sciences and Legal Studies	-.379	.282	1.801	1	.180	.684	.393	1.191
	First year	-.557	.153	13.208	1	.000***	.573	.424	.774
	Average grade			8.105	3	.044**			
	Fail	1.034	.542	3.636	1	.057*	2.813	.972	8.146
	Pass	.574	.454	1.596	1	.206	1.776	.729	4.326
	Merit	.273	.452	.366	1	.545	1.314	.542	3.185
	Order of preference			15.327	2	.000***			
	First choice	-.972	.275	12.474	1	.000***	.378	.221	.649
	Second choice	-.546	.305	3.200	1	.074*	.580	.319	1.054
	Satisfaction			33.705	2	.000***			
	Low	1.635	.338	23.438	1	.000***	5.128	2.645	9.938
	Medium	.745	.308	5,860	1	.015**	2.107	1.152	3.853
	Adaptabilidad			.750	2	.687			
	Baja	-.161	.298	.291	1	.590	.851	.474	1.528
	Media	-.172	.199	.748	1	.387	.842	.570	1.244
	Engagement			28.086	2	.000***			
	Low	1.447	.337	18.416	1	.000***	4.249	2.195	8.228
	Medium	.600	.305	3.870	1	.049**	1.822	1.002	3.314
	Constant	-1.495	.673	4.944	1	.026**	.224		

Note: Significant coefficients: *10%; ** 5%; ***1%; B: parameter vectors for estimation; S.E.: standard error for B; CI: confidence interval.

- Health sciences: With a negative value for B, the result of Exp (B), 1.309, indicates that a student in this field is less likely to consider abandoning their university studies than a student of Engineering or Architecture, specifically, around 1.3 times less likely.

- Social sciences and legal studies: B has a negative value and the result of Exp (B), 1.462, indicates that a student in this field is less likely to consider abandoning their university studies than a student of Engineering or Architecture, namely, around 1.4 times less likely.

Year. Based on the negative value of B and the result of Exp (B), 1.745, we can say that a student in their second year is 1.7 times less likely to consider dropping out than a student in their first year.

Average university grade. The results were all positive, specifically, as follows:

- Fail. With a positive value for B and according to the result of Exp (B), 2.813, a student with a fail grade is 2.8 times more likely to consider dropping out than a student with a distinction.

- Pass. B is positive and the result of Exp (B), 1.776, indicates that a student with a pass grade is around 1.8 times more likely to consider dropping out than a student with a distinction.

- Merit. A positive value for B and the result of Exp (B), 1.314, indicate that a student with the grade merit is around 1.3 times more likely to consider dropping out than a student with a distinction.

Order of preference of degree choice. The results for B were all negative. After a more detailed analysis, it was observed that:

- First choice: With B having a negative value and taking into account the result of Exp (B), 2.646, we can conclude that a student who has indicated the degree as their first choice is 2.6 times less likely to consider dropping out than a student who has indicated their third or lower choice.

- Second choice. With a negative value for B and according to the result of Exp (B), 1.724, a student who has indicated their second choice is 1.7 times less likely to consider dropping out than a student who has indicated their third or lower choice.

Academic satisfaction. The results were positive. After a more detailed analysis of the evaluation of the level of satisfaction, it was observed that:

- Low. With B having a positive value and taking into account the result of Exp (B), 5.128, a student who has evaluated their level of academic satisfaction as low is 5.1 times more likely to consider dropping out than a student who has evaluated their level as high.

- Medium. With a positive value for B and according to the result of Exp (B), 2.107, a student who indicated their evaluation as medium is 2.7 times more likely to consider dropping out than a student who has evaluated their level as high.

Academic engagement. With positive results for B, it was observed that:

- Low. With B having a positive value and taking into account the result of Exp (B), 4.249, we can conclude that a student who has evaluated their level of academic engagement as low is 4.2 times more likely to consider dropping out than a student who has evaluated their level as high.

- Medium. With a positive value for B and a result for Exp (B) of 1.822, a student who gives an evaluation of medium is 1.8 times more likely to consider dropping out than a student who has indicated a high level of academic engagement.

5. Discussion and conclusions

The main purpose of this study was to determine the characteristics of university students with a high risk of dropping out. This is important input, which should be used for the design of institutional recommendations on education, of a preventative nature, which can help to address this issue. In this research, not only have students' individual characteristics been considered, in keeping with the work by García (2015), but their other personal characteristics have also been examined, providing, as a new development, fuller results concerning the profile of this type of students.

The findings of this work demonstrate that both the first and second hypotheses have been partially confirmed. Focusing, first of all, on the individual characteristics, the demographic variables did not prove to be significant in differentiating the students who drop out from those who do not. Therefore, this coincides with the work by Céspedes-López et al. (2021) and Esteban et al. (2017), as they considered that gender, according to the former, and age, according to the latter, are not influential when applying measures to reduce dropout that are specific to the students' gender and age.

It is the same case for the socio-economic variable relating to the way studies are financed, whose effects were not representative in determining the profile of students either. Whether the studies are financed by the family or with income earned through working or a grant, this does not contribute to the definition of the particularity of academic dropout.

In terms of the academic variables and in relation to the degree course being the first choice or another option, the results obtained in this work are consistent with the conclusions reached by Casanova et al. (2018), Arias and Dehon (2013), Constante-Amores et al. (2021) and Esteban et al. (2017), in considering that this is essential in enabling students to reach greater academic achievement through being motivated by seeing their expectations fulfilled as regards studying what they want right from the beginning of their career development at university. The further away they are from their first choice, the lower their level of satisfaction will be with the studies they are pursuing, which may entail lower engagement with their educational process and poorer academic outcomes, leading them to consider abandoning their studies. In fact, the findings obtained in this research reveal that students with an average university grade of fail or a straight pass are those who are more likely to consider dropping out compared to those who have achieved a distinction.

Additionally, it should be noted that the student's academic year is also important in the analysis of the causes of university dropout. The results obtained suggest that completing the first year is generally decisive in there being a higher possibility of remaining on the degree course, which is why it is necessary to specifically address this first stage of university integration, as this is the time when the student may experience greater stress, uncertainty, lack of motivation, etc.

As for the field of knowledge with the highest incidence of university dropout, the conclusions do not exactly coincide with those reached by either Mestan (2016) or Constante-Amores et al. (2021), who suggest that it is the fields of Arts and Humanities, and Social Sciences and Legal Studies which have the highest dropout rate. In the case of this study, the student with the highest probability of considering dropping out is in the field of sciences, followed by arts and humanities, at the opposite end of the scale to the field of health sciences.

In summary, it can be said that the probability of contemplating abandoning a university degree course permanently does not increase in male students, from younger age groups, who are studying the first year of degrees in social science and legal studies, with financing for studies coming from their family. However, it is true that the circumstances of having an average university grade of a fail or straight pass, and the not studying their first choice of degree course, both have a substantial influence on the achievement of the student's academic goal of graduating, mainly as a result of the level of motivation generated by all of the foregoing factors.

Secondly, in terms of the other personal aspects of academic satisfaction and academic engagement that define the additional characteristics of students that drop out, and without including the variable related to adaptability skills, as this did not prove to be significant in our case, this research confirms that students who are more engaged with their educational process, and who feel greater satisfaction with the course they are studying, are the least likely to consider abandoning their university studies, thereby confirming the arguments presented by Lent et al. (2007), Navarro et al. (2014), Wilkins et al. (2014), and Ayala and Manzano (2018). The relationship that exists between these two elements is itself, moreover, a cause of academic success since students who are generally more satisfied with the course they are studying are more motivated to engage with their education, thereby attaining higher academic achievement and, therefore, being more willing to strive for the proposed goal of reaching graduation.

Ultimately, in conclusion, the profile of the student with the highest probability of dropping out of studies is one who is in the first year, mainly in the field of sciences, is studying their third choice or lower, has had an average university grade of a fail, has little academic engagement and has a low level of satisfaction when performing activities as a student.

Furthermore, the results obtained demonstrate that the profile of students who drop out is not influenced by the characteristics relating to gender, age and the financing of studies, as well as having developed adaptability skills to address different academic tasks satisfactorily, define their path according to their future goals, and plan their career and take good decisions.

The design of university educational policies focusing on the improvement of the outcomes of students' academic success should take measures into account that are mainly aimed at the personal and individual aspects that allow students to cope with the period of transition to university studies.

For the university, enabling the student to attain a good level of academic satisfaction and engagement with their studies will help to further motivate these institutions to achieve good academic results. If, in addition, students study their first choice of degree course, they will be at a lower risk of abandoning their studies.

The findings of this study have limited generalisability (obtained at the Universidad de La Laguna), although they show a high degree of representativeness. Based on these results, a publicly-funded R&D&i research project is in development, with five national universities participating (Zaragoza, Castilla la Mancha, Huelva, Santiago de Compostela and La Laguna), aimed at conducting further examination of the variables associated with academic dropout.

Annex 1. Questionnaire on the intention of dropping out of university studies

Questionnaire on the intention of dropping out of university studies

Dropping out of studies is one of the most worrying problems in education these days and for this reason a group of teachers at the Universidad de La Laguna are conducting a study to analyse the factors underlying this issue. This is why we are contacting you, to request that you fill in this short online questionnaire. We kindly ask you to answer honestly. The answers collected here will be completely anonymous and confidential.

Thank for your collaboration.

IDENTIFICATION DATA

Age: ____

Gender: ☐ Male | ☐ Female

Degree course you are currently studying: ______________________________

Highest academic year that you are studying:
☐ First | ☐ Second | ☐ Third | ☐ Fourth

How are you financing your studies?
☐ With a grant | ☐ Working | ☐ My family are paying | ☐ Working and with help from the family | ☐ Others (please specify)

Have you thought, at any time, about permanently dropping out of the university degree course that you are studying?
☐ Yes | ☐ No

What is your average grade to date in your university studies?

☐ Fail (4.9 or less) | ☐ Pass (between 5 and 6.9) | ☐ Merit (between 7 and 8.9) ☐ Distinction (between 9 and 10) | ☐ Outstanding

In your order of preference when choosing your university course, in what position was the degree you are studying?

☐ First choice | ☐ Second choice | ☐ Third choice | ☐ Fourth choice | ☐ Fifth choice

ACADEMIC SATISFACTION

I am satisfied with...(1 not at all satisfied; 7 completely satisfied)

	1	2	3	4	5	6	7
The relationship I have with the teachers.	☐	☐	☐	☐	☐	☐	☐
The relationship I have with my classmates.	☐	☐	☐	☐	☐	☐	☐
The methodology used in class.	☐	☐	☐	☐	☐	☐	☐
The topics that are taught in class.	☐	☐	☐	☐	☐	☐	☐
The degree course topics are in line with those in my profession.	☐	☐	☐	☐	☐	☐	☐
The systems of assessment used by the teachers in the different subjects.	☐	☐	☐	☐	☐	☐	☐
The services, support and help that the university and my Faculty/School offer me.	☐	☐	☐	☐	☐	☐	☐
The decision to study this degree course.	☐	☐	☐	☐	☐	☐	☐
The educational environment on the degree course.	☐	☐	☐	☐	☐	☐	☐
I enjoy studying the degree course for which I have enrolled.	☐	☐	☐	☐	☐	☐	☐
The topics addressed on the degree course.	☐	☐	☐	☐	☐	☐	☐
The motivation that I have in relation to the degree course that I am studying.	☐	☐	☐	☐	☐	☐	☐
The degree course that I am studying meets my expectations.	☐	☐	☐	☐	☐	☐	☐

ADAPTABILITY SKILLS

Indicate to what extent you agree with the following statements related to your future academic and professional development (1 completely disagree; 7 completely agree)

	1	2	3	4	5	6	7
I think about what my future as a worker will be like.	☐	☐	☐	☐	☐	☐	☐
The decisions that I take today may affect and determine my future.	☐	☐	☐	☐	☐	☐	☐
I am preparing myself to face my future employment.	☐	☐	☐	☐	☐	☐	☐
I know what decisions I have to take to achieve my professional goals.	☐	☐	☐	☐	☐	☐	☐
I plan how to achieve my objectives in the short, medium and long term.	☐	☐	☐	☐	☐	☐	☐
I think I am a competent person who can perform any kind of task.	☐	☐	☐	☐	☐	☐	☐
I am optimistic about life and the possibilities of finding a job.	☐	☐	☐	☐	☐	☐	☐
When I take decisions, I weigh up what my own interests and hopes are.	☐	☐	☐	☐	☐	☐	☐
I look for information about the situation in the labour market.	☐	☐	☐	☐	☐	☐	☐
Before taking a decision, I analyse the different options and alternatives that I have.	☐	☐	☐	☐	☐	☐	☐
I am eager to discover new opportunities in life.	☐	☐	☐	☐	☐	☐	☐
I consider that when I perform tasks I do so efficiently.	☐	☐	☐	☐	☐	☐	☐
I take care to do all types of activity correctly.	☐	☐	☐	☐	☐	☐	☐
I easily overcome problems that occur on a daily basis.	☐	☐	☐	☐	☐	☐	☐
I have acquired suitable skills and knowledge to solve any problems that I may encounter in the professional world.	☐	☐	☐	☐	☐	☐	☐
I know how to adapt to the requirements of the world of employment.	☐	☐	☐	☐	☐	☐	☐
I have acquired suitable skills to interact with other people in the world of work.	☐	☐	☐	☐	☐	☐	☐

ACADEMIC ENGAGEMENT

Indicate to what extent you agree with the following statements (1 completely disagree; 7 completely agree)

	1	2	3	4	5	6	7
When I do classwork, I feel strong and full of energy.	☐	☐	☐	☐	☐	☐	☐
When I get up in the morning I want to go to class, start studying or do classwork.	☐	☐	☐	☐	☐	☐	☐
I can spend long periods of time studying continuously (without getting tired).	☐	☐	☐	☐	☐	☐	☐
Despite the difficulties I may encounter, I consider myself to be a constant, determined person when it comes to classwork.	☐	☐	☐	☐	☐	☐	☐
Even if I am not feeling well, I still do my classwork.	☐	☐	☐	☐	☐	☐	☐
The course that I am studying is meaningful to me.	☐	☐	☐	☐	☐	☐	☐
I am enthusiastic about the university studies that am pursuing.	☐	☐	☐	☐	☐	☐	☐
The course that I am studying motivates me to do new things related to the training I am undertaking.	☐	☐	☐	☐	☐	☐	☐
I am proud to be studying this degree course.	☐	☐	☐	☐	☐	☐	☐
Pursuing these university studies is a major challenge for me.	☐	☐	☐	☐	☐	☐	☐
I feel strong and enthusiastic when I am doing activities in class.	☐	☐	☐	☐	☐	☐	☐
Times flies when I am doing classwork.	☐	☐	☐	☐	☐	☐	☐
I forget about everything around me when I am concentrating on my studies.	☐	☐	☐	☐	☐	☐	☐
I feel happy when I am doing classwork.	☐	☐	☐	☐	☐	☐	☐
I am engaged and absorbed by the studies I am following.	☐	☐	☐	☐	☐	☐	☐
When I do classwork, I get so involved that I lose track of time.	☐	☐	☐	☐	☐	☐	☐
I find it difficult to stop doing classwork.	☐	☐	☐	☐	☐	☐	☐

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Adolescents' vulnerability to disinformation: Its measurement and relationship to critical thinking and moral disengagement

La vulnerabilidad de los adolescentes frente a la desinformación: su medición y su relación con el pensamiento crítico y la desconexión moral

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Abstract:

Young adolescents are more vulnerable to disinformation owing to the time that they spend online and their content consumption habits. The consequences of this phenomenon can be serious, both for the individual and at a social and political level. To alleviate this situation, different agencies recommend healthy practices regarding consumption and exchange of information; from checklists to self-learning exercises for the development of critical thinking. This research proposes a tool for the identification of behaviours among adolescents when giving credibility to information or content and the motives that lead them to share it, contributing at times to the spread of misleading information. After an exhaustive process of design, piloting, and psychometric validation using an English-speaking sample (N = 417), a reliable instrument was obtained. We also measured its correlation with critical thinking and moral disengagement. The results lead us to conclude that this is a new tool with which to observe the information consumption behaviours of young people and thus measure their vulnerability to disinformation. Similarly, we have confirmed how greater critical thinking is positively re-

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lated to more responsible consumption when giving credibility to content or news, and how moral disengagement is linked to the fact of sharing such items with greater ease.

Keywords: disinformation, young people, teenagers, scale, critical thinking, media literacy, moral disengagement.

Resumen:

Los jóvenes adolescentes son más vulnerables ante la desinformación por el tiempo que emplean conectados y sus hábitos de consumo de contenidos. Las consecuencias de este fenómeno pueden llegar a ser graves tanto a nivel individual como social y político. Para paliar esta situación, desde distintas instancias se recomiendan prácticas saludables para el consumo y el intercambio de información, desde listas de chequeo hasta ejercicios de autoaprendizaje para fomentar el pensamiento crítico. Esta investigación propone una herramienta con la que identificar los comportamientos de los adolescentes a la hora de darle credibilidad a una información o contenido y las motivaciones que les incitan a compartirlo, contribuyendo en ocasiones a la difusión de información engañosa. Tras un exhaustivo proceso de diseño, pilotaje y validación psicométrica en una muestra de habla inglesa (N = 417), se obtiene un instrumento fiable. Se mide también su correlación con el pensamiento crítico y la desconexión moral. Los resultados permiten concluir que estamos ante una nueva herramienta con la que observar los comportamientos de consumo de información de los jóvenes y medir así su vulnerabilidad desinformativa. Asimismo, se constata cómo un mayor pensamiento crítico se relaciona positivamente con un consumo más responsable a la hora de darle credibilidad a un contenido o noticia, y cómo la desconexión moral lo hace con el hecho de compartirlo con mayor ligereza.

Descriptores: desinformación, jóvenes, adolescentes, escala, pensamiento crítico, alfabetización mediática, desconexión moral.

1. Introduction

Despite supposedly being digital natives, or perhaps because of it, young people these days display an evident vulnerability to disinformation. Some studies go as far to show that children and adolescents do not even think about the reliability of the information to which they are exposed (Dumitru, 2020). This is combined with the fact that their self-perceived skills (overestimated) in identifying false or misleading information makes them even more vulnerable (Herrero-Diz et al., 2021). An overestimation, moreover, that increases when the young person compares themselves to people around them, producing the well-known "third-person effect" (Corbu et al., 2021). The explanation for this may lie in the development of a "survival skill" that has become necessary due to constant contact with information, which is impossible to analyse correctly (Greifeneder et al., 2021).

All of this affects young people's individual well-being. Thus, for example, the study by Plan Internacional (2021) reveals that one in four young females feels physically unsafe as a result of disinformation, and 98% are worried because much of the false content in circulation aims to discredit or humiliate them. Likewise, 46% experience sadness, depression, stress, worry or anxiety as a consequence of the exposure to incorrect information and disinformation online.

In social and political terms, clearly this all has serious consequences for free and rational political deliberation, an essential ingredient in democracy (McKay and Tenove, 2021). Faced with this situation, institutions and the media endeavour to offer solutions leading to news or media literacy (Dumitru, 2020), mainly with two objectives: to discover the attraction and effectiveness of so-called fake news, and to provide users with defence strategies and mechanisms to fight it (Gómez-Calderón et al., 2020). Most young people do not even know that content can be checked, as they have no knowledge of the tools to do so (Pérez-Escoda et al., 2021).

Thus, several initiatives have been developed to help young people evaluate information and assess the credibility of content they receive (Dring, 2020). Initiatives concerning media literacy or news literacy that, in line with Jones-Jang et al. (2021), should be more than just an explanation of the disinformation phenomenon, and should lead to actively conducting an accurate search for information and show critical understanding, through knowing how to use fact-checking tools. Age is a key protective factor, according to Newman and Zhang (2020). This means that the earlier literacy is acquired, the better the defence strategies will be.

In this sense, there are numerous experiments in which young people address different information and content related to disinformation, using rubrics, questionnaires, checklists, etc. (McGrew, 2020; Tamboer et al. 2020; Herrero-Diz et al., 2021). Of special interest are those that differentiate between critical assessment strategies with an *ad hoc* design, for specific content, and general strategies that can be used regardless of the content. The former includes verification of the source or link, using common sense, checking the way it is written and/or distributed, and observing the context of the news. For general content, strategies could be added relating to analysis, assessment and deduction, verification of the writing style or the design, observation of the context, asking others and checking other sources. All of which is unusual among young people (Tamboer et. al, 2020).

Similarly, McGrew (2020) emphasises the importance of investigating a website's source, analysing information critically and locating reliable sources on the internet. To this effect, she suggests explicit training in fact-checking strategies that could help students to develop effective strategies. Guan et al. (2021) state that, in their opinion, good media literacy can counteract polarisation and conspiracy theories through the exercise of scepticism and critical thinking.

With the aim of helping young people not to place so much trust in algorithms, to improve their critical judgement and thereby reliably evaluate the content they receive, as proposed by Ackland and

Gwynn (2020), this research presents a new tool with which to assess adolescents' vulnerability to disinformation. It involves a psychometrically validated scale that measures certain information consumption habits which are indispensable in fighting disinformation. To this effect, earlier work has been used as a basis, mainly in relation to pre-existing approaches, such as C.A.R.S. (Harris, 1997); C.R.A.A.P. (Blakeslee, 2004); R.A.D.A.R. (Mandalios, 2013); or P.R.O.V.E.N. (Caulfield, 2017). They all propose lists of recommended habits or tasks for deciding whether or not to give credibility to content or alleged news item. On this basis, we suggest constructing a validated measure to observe certain behaviours that provide protection against disinformation.

Likewise, related to the fact of giving credibility to a piece of news or content, several authors state the importance of critical thinking (Jones-Jang et al., 2021; Tamboer et al., 2020; Guan et al., 2021). This is a construct that could be defined, in accordance with Paul and Scriven (2003), as the process of conceptualising, applying, analysing, synthesising and/or evaluating information gathered from observation, experience, reflection and reasoning, as a person's guide to actions and beliefs. Equally, numerous studies reveal the importance of improving students' skills in terms of how they think and analyse information and the key role of educational centres and teachers in the acquisition of critical thinking (Pithers & Soden, 2000).

In the same way, with reference to the second key behaviour of people that exacerbates the effects of disinformation, that is to say, sharing information received without checking it, it would be of interest to associate this behaviour with the construct of moral disengagement (Bandura et al., 1996). This is a cognitive factor that is usually involved in behaviours that are morally questionable or clearly illegal. Bandura (2002) defines it as the process of disengagement from acquired values and standards in order to justify socially reproachable conduct using logical arguments, thereby avoiding shame or blame. This process would explain how people can exhibit unethical behaviour without experiencing discomfort. The action of spreading information without checking whether it is false, or even in the knowledge that it is, which is sometimes the case, is an act of social irresponsibility — the subject is either unaware of this or activates the above-mentioned process of moral disengagement. Specifically, this occurs through the implementation of one of its mechanisms, the "displacement of responsibility", which is defined by Bandura (2002) himself as the act of not assuming responsibility for one's actions, since this responsibility is displaced towards another person or groups of people. This is where the role of moral education, broadly defined as the help provided to young people so that they can acquire a set of beliefs and values relating to what is right and wrong (Halstead, 2010), may be a key element in the fight against disinformation. Specifically, with reference to raising awareness about the individual responsibility of checking certain content which is received before sharing it and thereby avoiding becoming a possible agent for spreading untruths.

Therefore, the main objective of this work is to create a scale, which has been psychometrically validated, that, for the first time, provides a tool that is useful and easy to use and which can be employed to measure adolescents' vulnerability to disinformation, taking into account their behaviours, habits and motives associated with content consumption. The hypotheses drawn from the above are as follows:

H1: The proposed scale of vulnerability to disinformation for young people demonstrates the necessary reliability and validity.

H2: There is a negative correlation between vulnerability to disinformation (giving credibility without checking) and critical thinking.

H3: There is a positive correlation between vulnerability to disinformation (sharing content without checking) and moral disengagement.

To prove these hypotheses, in line with DeVellis (2017), the study was conducted in the following two stages.

2. First stage: Creation and refining of the Scale of Vulnerability to Disinformation (SVD)

2.1. Procedure and participants

As mentioned above, firstly we conducted a literature review to detect the existing instruments to mitigate vulnerability to disinformation. We also included the perspective provided by the "Cuestionario sobre los Hábitos de los Estudiantes para Compartir *fake news* por el Móvil" (*Questionnaire on student habits when sharing fake news on mobile phones*) or CHECK-M (Herrero-Diz et al., 2020), which incorporates elements from the Ofcom Report (Ofcom, 2019), or the above-mentioned C.R.A.A.P. test (Blakeslee, 2004). We used this as a basis to develop the SVD, initially composed of 30 items grouped into two dimensions and 7 subdimensions.

– Dimension 1: "To give credibility to information or news that I receive on social media, internet or my mobile..." ("Credibility"), composed of: basic information check (5 items), quantitative reading level (6 items), further qualitative analysis of the content (4 items), thinking about possible intentions underlying the information (5 items).

– Dimension 2: "When I share information or news that I receive on social media, internet or my mobile..." ("Sharing"), composed of: fact-check (4 items), responsibility (3 items), and extrinsic motivation (3 items).

Subsequently, a content validity analysis was conducted on the instrument by means of expert judgement, in order to obtain evidence of validity based on the test contents (Sireci & Faulkner-Bond, 2014). Specifically, this involved journalists with expertise in fact-checking and digital content (N = 3) and educators and researchers in the field of Education (N = 2), with 3 men and 2 women, aged between 32 and 40 years old. The answers from one of them were rejected as being incongruous.

The experts used a 4-point Likert-type scale (from 1, not at all, to 4, extremely) to assess the dimensions in terms of the degree of representativity (i.e. if the elements created are representative of the dimension they are supposed to belong to) and relevance (i.e. the degree or importance of these elements in representing the facet of the dimension for which they were designed), as well as evaluating the items as regards comprehension (i.e. if the item is understood correctly), ambiguity (i.e. judgement on the possibilities of the item being interpreted in different ways) and clarity (i.e. to what extent the item is concise / accurate / direct) (Gwet, 2014).

Following this, the scale was piloted with a sample of 49 Spanish adolescents, 69.4% women, with an average age of 16.84 years (SD = .99). 34.7% (n = 17) were in their first year of upper secondary education, 20.4% (n = 10) were in their second year of upper secondary education, 1 was in the third year of lower secondary education (2%), 32.7% were in the fourth year of lower secondary education (n = 16), 4.1% (n = 2) were on a university degree course and 6.1% (n = 3) were in Vocational Training.

After the expert judgement and piloting, the initial instrument of 30 items was reduced to 25 distributed across the same two dimensions, eliminating subdimensions 19 under "Credibility" and 6 under "Sharing".

2.2. Data analysis and results

The expert judgement analysed representativity using Fleiss' Kappa coefficient (Fleiss et al., 2003). Overall agreement was calculated, as well as the degree of agreement for each dimension on the scale, using Landis and Koch (1977) as a reference, who considered agreement to be poor with values of K < .20, fair between .21 and .40, moderate between .41 and .60, substantial between .61 and .80 and, finally, almost perfect between .81 and 1.00.

As can be seen in Table 1, overall agreement between the experts for dimension 1 ("Credibility") was moderate (K = .45, < .001, 95% CI .34-.56) and almost perfect for dimension 2 ("Sharing") (K = 1.00, < .001, 95% CI .81- 1.19).

The significance of each item and comprehension, ambiguity and clarity were assessed using the Content Validity Index (CVI, Lynn, 1986) and the Content Validity Ratio (CVR, Lawshe, 1975). An in-depth analysis of the responses revealed that 10 items in dimension 1 created considerable doubt regarding the subdimension to which they corresponded (items 2, 3, 7, 8, 13, 14, 17, 19, 23 and 24). Additionally, the items "If it is a video, I only need to watch the first few seconds" and "I consider what relation the information has to other topical issues" did not attain the minimum value for statistical significance (CVR = .5, <.58), but the CVI was in fact acceptable for all the dimensions (CVI1 = .72, CVI2 = .75, CVI3 = .67, CVI4 = .90, CVI5 = .75, CVI6 = .75, CVI7 = 1). Concerning the evaluation of the items, they all demonstrated acceptable values in comprehension and clarity, although the item "I try to contact the author or find more information about him/her" proved to be ambiguous (CVI = .50).

TABLE 1. Results of agreement between raters.

Items	Agreement		
	K	p	95 % CI
Credibility	.45	<.001	.34-.56
1. Basic check	.45	<.001	.27-.63
2. Quantitative level	.29	.002	.11-.47
3. Further qualitative analysis	.23	.015	.05-.41
4. Intentions	.88	<.001	.70-1.07
Sharing	1.00	<.001	.81-1.19
5. Fact-check	1.00	<.001	.73-1.27
6. Responsibility	1.00	<.001	.73-1.27
7. Extrinsic motivation	1.00	<.001	.73-1.27

Note: K = Fleiss' Kappa; p = statistical significance; 95% Confidence Interval.

Lastly, the results of the pilot were considered to be satisfactory, as a Cronbach's alpha of .79 (>.70) was attained for the overall scale. Furthermore, 11 items demonstrated a discrimination index lower then .30 (DI9 = -.16, DI10 = -.17, DI11 = .27, DI19 = .16, DI23 = -.20, DI25 = .10, DI26 = .22, DI27 = .06, DI28 = -.06, DI29 = .12, DI30 = .18). These results led to the review of several items and to maintaining the two dimensions, "Credibility" and "Sharing", which comprise the refined scale.

3. Second phase: SVD reliability and evidence of validity

3.1. Procedure and participants

To validate the SVD, the sample of participants for the study was collected in 2021 using an online panel of British consumers, who signed the corresponding informed consent form. English was the first language of all the subjects. For this reason, the questionnaire was translated into this language using the process of back translation (Harkness & Schoua-Glusberg, 1998). After refining the incomplete responses, the valid sample of adolescents aged between 16 and 18 years old was ultimately composed of 417 participants. Applying a criterion of proportionality according to sex and age, 27.3% (n = 114) of the participants were 16 years old, 33.3% were 17 years old (n = 139), and 39.3% were 18 years old (n = 164). 50.8% indicated their sex as female (n = 212), 46% as male (n = 192), and 3.1% indicated "other" (n = 13). In relation to the level of studies, 36.9% (n = 154) were studying for lower secondary education exams (GCSE), 38.4% (n = 160) were studying for upper secondary education exams (GCE), 13.2% (n = 55) were not currently studying and 11.5% (n = 48) were studying vocational education and training (VET).

The study was conducted in accordance with the recommendations made by Organic Law 3/2018 and the Spanish Data Protection Agency. The project and the experimental protocol were approved by the Comité de Ética de la Universidad Loyola Andalucía (Loyola Andalucía University Ethics Committee). All of those surveyed gave their consent to participate in this study. Their parents' or tutors' informed consent was not required, as the participants were over 16 years old (Law 41/2002).

Qualtrics (www.qualtrics.com) was used for data collection and the recruitment of the adolescents. Qualtrics contacted them and sent them the link to the study for completion, which included control variables, including completion time. All the participants were rewarded financially, on the essential condition that they responded to all the questions and sent the questionnaire after completing it. The study was available from 21/04/2021 to 14/05/2021.

3.2. Measurement

Regarding the complete battery of questions in the questionnaire, the following variables were measured:

1. *Vulnerability to disinformation:* measured using the "Vulnerability to Disinformation Scale" (SVD), the refined version, described above and composed of 25 items on a 5-point Likert-type scale (from 1[never] to 5 [always]), grouped into two dimensions, "Credibility" (19 items) and "Sharing" (6 items).

2. *Moral disengagement:* evaluated using 12 Likert-type items (from 1, completely disagree, to 5, completely agree) included in the Moral Disengagement scale defined by Bandura et al. (1996). The items corresponding to the following mechanisms of moral disengagement were included: advantageous comparisons that individuals make concerning their own harmful behaviour (e.g., damaging property is not a major issue considering that other people do worse things), displacement of responsibility (e.g., if people live in poor conditions, they cannot be blamed for their aggression) and diffusion of responsibility (e.g., a young man who belongs to a gang cannot be blamed for the problems that the gang causes). The Cronbach's alpha for the 12 items was .79.

3. *Critical thinking:* this was measured using the subscale judgement/critical thinking, included in the questionnaire VIA-Y (*Values in Action for Youth*) by Park and Peterson (2006), which measures character strengths in adolescents. It consists of eight Likert-type items (from 1 = complete disagreement to 5 = complete agreement) and evaluates adolescents' perception of the information they use when taking decisions and the extent to which they reflect when deciding (e.g., when I take a decision, I consider the good and bad aspects of each option). The reliability of the sample was acceptable ($\alpha = .72$).

In addition to these three measurements, the participants responded regarding the following sociodemographic variables: gender, age, area of residence and studies in progress at the moment of participating in the study.

3.3. Data analysis and results

Firstly, we analysed the validity of the construct, that is to say, the factorial structure of the instrument. To this effect, the total sample was randomly divided into two parts; one half with 219 people was used to conduct the Exploratory Factor Analysis (EFA) and the other half with 198 participants for the Confirmatory Factor Analysis (CFA).

At this preliminary stage, the matrix was suitable for factorisation (Osborne et al., 2014). Specifically, the KMO value (KMO = .86, >.70; Kaiser, 1970) confirmed the suitability of the sample for subsequent analysis and Bartlett's sphericity test was not significant (χ^2 = 2,297.3, gl = 300, p <.01). The mean score of the items ranged from 1.90 (*SD* = 1.05) and 3.58 (*SD* = 1.10); with near-normal values for asymmetry (-.81, .94) and kurtosis (-1.01, .503), but with multivariate kurtosis proving significant in Mardia's test (MK= 10.89, p <.01).

The EFA used "Unweighted Least Squares" (ULS) as the extraction method and the oblique rotation used was Promin (Lorenzo-Seva, 1999), given the data characteristics (see the results section) and the presumed correlation between the factors. Several checks were conducted to confirm that the optimal exploratory model was that composed of two factors, namely:

a) The Parallel Analysis based on the Minimum Rank Factor Analysis (PA-MRFA) with an interval of 95% (Timmerman & Lorenzo-Seva, 2011), suggested the presence of two factors.

b) We analysed the degree of dominance of the general factor or closeness to unidimensionality (Ferrando & Lorenzo-Seva, 2019), observing that the data fitted a multidimensional model, as the "Explained Common Variance" (ECV) index was .755 (values of >.85 indicate that the model is essentially unidimensional; Rodríguez et al., 2016), and the UniCo index was .819 (values of >.95 suggest that the data may be considered to be unidimensional; Lorenzo-Seva, & Ten Berge, 2006).

c) The two-factor model showed a good fit ("Goodness of Fit Index", GFI = .965, >.95; Hooper et al., 2008). The saturation of the items in the factors is presented in Table 2, which shows that all the items demonstrate factor loadings that are over or very close to .40 in the same factor and below .30 in the other factor.

d) The model explained a variance of 42% (.31 for factor 1, and .11 for factor 2). Furthermore, the correlation between the two factors was acceptable (.38) (Ferrando & Lorenzo-Seva, 2014).

e) The construct's replicability or h-index (Hancock & Mueller, 2001) helped to confirm, based on values of over .70, that the latent variable was well defined by its indicators and could be stable in other studies.

TABLE 2. Scale of Vulnerability to Disinformation (SVD) for young people, and their factor weighting in the EFA (ULS and Promin rotation).

Item	Factors	
	F2	F1
I check whether the author of the content or notice is mentioned.		.503
I look at whether the website or medium is well-known.		.772
I check that the website address is reliable.		.608
When it is a video, I check who made it.		.569
I look at whether the information is recent.		.507
I check whether the photo matches the rest of the content.		.607
I try to contact the author or find more information about him/her.		.454
I compare the information with other sources.		.609
I only read the headline.*		.389
I need to read the whole news item or content.		.537
I consider whether the information contains data or figures from reliable sources.		.706
I check whether the information is well-presented (no spelling or grammar mistakes, misprints, etc.).		.654
I have doubts about a news item if the headline is excessively dramatic.		.415
I think about whether the content that has reached me bears any relation to reality.		.662
I can easily tell if the news or content is humorous or a joke.		.515
I think about whether the information is trying to influence my emotions (to make me laugh, get angry, feel outrage...).		.624
I analyse whether the content, apart from informing, has another purpose (political, ideological, financial...).		.680
I think about whether the information aims to harm someone or something.		.656
I can easily distinguish between what is information and what is an opinion.		.532
When a piece of information or content is funny, I immediately share it, without checking it.	.655	
If a piece of news makes me feel outraged or angry, I immediately share it, without checking it.	.608	
When I receive a piece of news that makes me happy, I share it quickly, without checking it.	.778	
When I share content, it is just to amuse myself and my friends.	.671	
I share news or content mainly to influence the opinion of others.	.620	
If I know that it is false, I share it to warn my contacts.	.454	

Note: * Reversed item

f) Concerning the quality and effectiveness of the estimated factor scores, it can be said that the results were acceptable (Marginal Reliability = .83 and .92 for factors 1 and 2, respectively, >.80). The constructs' replicability was satisfactory and, additionally, the "Expected Percentage of True Differences" index (EPTD; Ferrando et al., 2019) also presented acceptable values, with cut-off points of ≥90% (see Table 3); which indicates that the factor scores obtained may be used to evaluate people in an individual, differentiated or organised way.

TABLE 3. EFA indices, overall and by factors.

	Overall indices			Indices by factors						
		Closeness to unidimensionality			Correlations between factors		Construct replicability		Estimated factor scores	
Model	GFI	Unique	ECV		1	2	H-Latent	H-Observed	Marginal reliability	EPTD
2 factors	.965	.819	.755	F1	--	--	.827	.823	.827	89.6 %
				F2	.381		.918	.898	.918	93.4 %

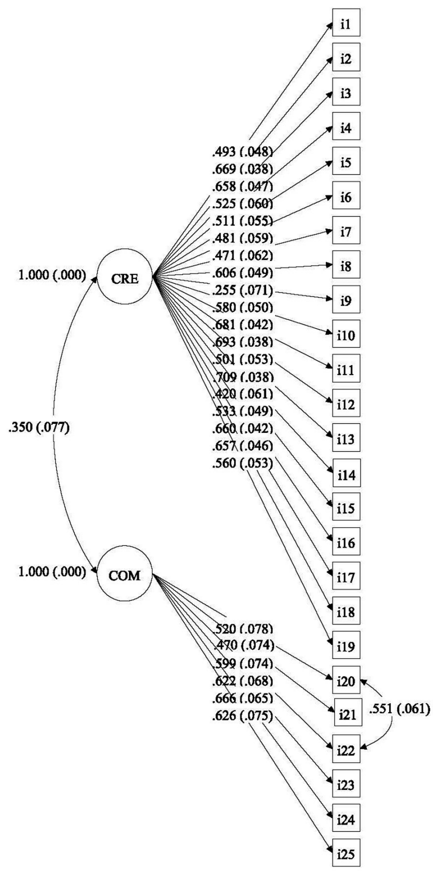
Note: GFI: Goodness of Fit Index; ECV: Explained Common Variance; S: Bentler's simplicity index; L: Loading simplicity index; EPTD: Expected percentage of true differences.

Subsequently, we tested the factorial structure derived from the EFA (two-factor model with 25 items) by means of CFA, using "Weighted Least Square Mean and Variance" (WLSMV) as the estimation method. To evaluate the model fit, we analysed the Root Mean Square Error of Approximation" (RMSEA) and "Root Mean Square of Residuals" (RMSR) indices, which presented optimal values below .08 (Hooper et al., 2008), as well as the "Comparative Fit Index" (CFI) and the "Tucker and Lewis Index" (TLI), which are considered acceptable from .90 o .95 (Hooper et al., 2008). The model presented an acceptable fit, but two indices remained below the cut-off point (RMSEA = .068, 90% CI = .059–.077; CFI = .89; TLI = .88; SRMR= .072). The Modification indices (MI) provided information regarding a correlation that was likely to be included in the model (MI = 27.86) between item 20 ("If the information is funny, I share it immediately without checking it") and 22 ("If the information makes me happy, I share it quickly without checking it") in factor 2.

The model, including this parameter, improved slightly, to the extent that all the indices were above the cut-off point (RMSEA = .065, 90% CI = .057–.074; CFI = .90; TLI = .90; SRMR= .069). All the parameters were statistically significant (p <.05). Factor 1 presented factor loadings which ranged from .26 (item 9) to .71 (item 14) (*M* = .56, *SD* = .05). The factor loadings in factor 2 ranged from .47 (item 21) to .67 (item 24) (*M* = .58, *SD* = .07). Additionally, the residual variances ranged from .50 to .94 and the proportion of explained variance for the items varied from .07 to .50. The correlation between both factors was .35, and the parameter that was included with the correlation between the errors in items 20 and 22 was .38.

Graph 1 shows the model, which reports the standardised and residual factor loadings, as well as the covariance between the latent variables.

Graph 1. Diagram of the resulting CFA. Standardised factor weightings, standardised errors in the items and covariance between factors.



The reliability of the resulting factors was analysed using the Omega coefficient (ω), with satisfactory results (F1: ω = .88, IC = .86–.91; F2: ω = .73, CI = .69–.79), greater than .70 (Dunn et al., 2013); likewise, the item-total correlation was acceptable (>.30), ranging from .23 to .62 for factor 1 and from .39 to .60 for factor 2.

Furthermore, in line with the opinion of Fornell-Larcker (Fornell & Larcker, 1981) it can be stated that the scale has acceptable convergent and discriminant validity (see Table 4). With reference to the former: a) the value of the "Average Extracted Variance" (AVE) stood at over .50 for both dimensions; b) the "Composite Reliability" index (CR) was greater than the AVE. As for the discriminant validity: a) the correlation between the factors was acceptable (r = .35 <.85), and b) the square root of the AVE (CV) for each construct was greater than the correlation between the constructs (r = .35, <.87 for F1, .72 for F2); and the AVE value for each dimension was greater than the squared correlation of the dimensions.

TABLE 4. Reliability, evidence of convergent and discriminant validity.

Construct	Reliability		AVE	Correlations between factors		Convergent validity	Discriminant validity
	ω	CV		1	2		
Credibility	.88	.87	.75	**.87**	.12	Yes	Yes
Sharing	.73	.72	.52	.35	**.72**	Yes	Yes

Note: ω = Omega; CV = Construct reliability; AVE = Average Variance Explained. Square Root of the AVE (in bold); correlation between the factors (lower diagonal); correlation to the square of the factors (upper diagonal).

Finally, we analysed the relation between the test scores (study variable) and other external variables (Elosúa, 2003) as complementary evidence of convergent and discriminant validity. We used the subscale "displacement of responsibility" from the Moral Disengagement scale by Bandura et al. (1996), and the subscale judgement/critical thinking from "Values in Action for Youth" (Park & Peterson, 2006). Both the dimensions of Credibility (F1) and Sharing (F2) showed a significant correlation with critical thinking (Park & Peterson, 2006). In line with expectations, the more an adolescent checks the credibility of a piece of news, the greater their critical thinking is (r = .45, p <.001); likewise, the more they share, the less critical thinking they demonstrate (r = -.14, p <.005). In terms of the correlation with moral disengagement, no significant association was observed with any of the factors, but if the individual focus is on the mechanisms of moral disengagement, it can be observed that the dimension Sharing (F2) demonstrated a positive correlation with "displacement of responsibility" (r = .14, p <.005) (see Table 5).

To implement the EFA and obtain the different indices involved in its interpretation, the Factor 11.5.1 program was used. The CFA was implemented using the Mplus program. The Omega reliability coefficient was calculated with the Jasp program, and the rest of the analyses were conducted with the SPSS program. A benchmark of ≤.05 for the level of significance was set in all the analyses.

Table 5. Validity based on the correlation between variables.

Construct	Critical thinking		Moral disengagement		Advantageous comparison		Displacement of responsibility		Diffusion of responsibility	
	r	p	r	p	r	p	r	p	r	p
Credibility (F1)	.45**	< .001	.02	.668	-.05	.333	-.03	.566	.09	.062
Sharing (F2)	-.14*	< .005	.06	.242	.09	.083	.14*	< .005	-.01	.863

Note: r = Pearson's correlation; p= statistical significance; *significant correlation of <.005; **significant correlation of <.001.

4. Discussion and conclusions

Following the analyses described above, we can state that we have a new and effective tool to observe certain habits regarding consumption of seemingly informative content by adolescents, who are particularly vulnerable to disinformation (Ackland & Gwynn, 2020; Corbu et al., 2021). With the validation of the Scale for Vulnerability to Disinformation (SVD), we can therefore accept hypothesis H1. By reason of its simplicity and concision, this scale is also useful as an instrument for self-assessment, as well as being an excellent pedagogical tool, both within and outside the classroom. It has 25 items and two factors: giving credibility to an apparent news item or content (F1) and sharing it (F2), two sets of behaviours that therefore require two different coping strategies and interventions.

At the same time, the scale's performance was confirmed in relation to two other variables involved in vulnerability to disinformation: critical thinking and moral disengagement. The former proved to be positively linked to being more careful about giving credibility to content, as well as having a negative connection to the act of sharing. With moral disengagement, and specifically with displacement of moral responsibility, a positive connection appeared with the act of sharing certain content more readily. Therefore, hypotheses H2 and H3 can also be accepted, in line with Guan et al. (2021) and others.

As regards the limitations of this study, firstly it should be noted that, although the psychometric analyses were satisfactory, it would have been advisable to conduct or duplicate the initial pilot with an English sample as well, not only a Spanish one. Along these lines, it would be interesting to perform a second validation of the scale on the Spanish population, and in other languages. Work is already underway on this subject, in the interest of enhancing the universality of the tool.

To sum up, this instrument shows considerable potential for the measurement and (self-) assessment of young people's vulnerability to disinformation, and is extremely useful for the implementation and assessment of training or literacy programmes to combat disinformation. Needless to say, neither adults nor the elderly are immune from being affected by disinformation, which leads to another future line of research into the validation of this SVD with other age groups. However, it is true that adolescence is a critical stage in many senses. We believe that this is when personality, political and social views, moral values, etc. are shaped; these are key aspects at a stage when, as described in the Media & Information Literacy Curriculum For Educators & Learners (MIL), young people show increasing mistrust of the media, science and institutions and a growing tendency towards hate speech, intolerance and polarisation (Grizzle et al., 2021). We should also bear in mind that they will soon come of age and, among other things, they will be eligible to vote. Therefore, it is not an exaggeration to consider it absolutely crucial, in all democratic societies, to fight the vulnerability to disinformation of the population in general, and specifically young people, as far as possible (Corbu et al., 2021).

The tool proposed in this study represents further progress in this sense and may be a useful instrument in responding to demands such as those outlined by Nieto et al. (2021) who, following research into Information Literacy Skills (ILS) among practising and future teachers of Primary and Lower Secondary Education (Spanish levels EP and ESO), concluded that they have difficulty in performing important information-processing tasks such as the search for and assessment of information, activities which “should be specifically encouraged” (*Ibidem*, p. 491). This test invites us to conduct this assessment exercise and think about our habits when we access information and it concerns us directly. To some extent, it leads us to face the decisions that we take in relation to what we do with information, such as sharing it or trusting its authenticity.

In view of the foregoing, we can only defend the importance of the role of teachers in the fight against disinformation, as, along with journalists and librarians, “the triad of truth-workers” as recognised by Head and Wihbey (2017), they can contribute to educating citizens — users and consumers of information — to be responsible and critical. Proof of this can be seen in the positive effects on our young people which are beginning to appear after their participation in different teacher-guided activities. Training in media and information literacy affects them positively, and this has been demonstrated by the results of other projects such as the Civic Online Reasoning programme, by the University of Stanford, for the development of critical thinking among students in the United States, or News Wise (United Kingdom), which focuses on training students and teachers to combat disinformation. Research conducted into the benefits of these two initiatives reveals that students improved their skills when faced with vast amounts of information and were able to recognise the different types of deception. Once trained, the students took better decisions regarding the quality of the information to which they were exposed.

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Studies

Analysis and good practices of the university guidance system for students with disabilities

Análisis y buenas prácticas del sistema de orientación universitaria para estudiantes con discapacidad

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Abstract:

In order to achieve real inclusion and participation of all the members of the university community, it is necessary to promote actions based on respect and recognition of rights. In this process, guidance for university students with disabilities has become particularly important. This study, within the framework of the project "Analysis of institutional and informal support and guidance systems for university students" (funded by the Castilla y León Regional Department for Education), focuses on describing and analysing the adequacy of support and guidance services for students with disabilities in Spanish public universities, by identifying good practices. The method used is based on documentary analysis and content analysis of the actions and services providing support and guidance for students with disabilities included in the verification reports on university degrees and the websites of the 47 Spanish public universities. For the data analysis, a system of categories was established using the MAXQDA program. The results were differentiated according to the designation, scope of action, objectives, procedures, recipients, stage of studies and specific actions regarding disability. The results show that all the universities analysed have support services for these students at the

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centre of guidance organisation and management. The main good practices of note involve the network of agents that this process co-ordinates, including foundations, companies and institutions, as well as the plans, projects and/or programmes that encourage participation and that are adapted to the needs or difficulties that this group may encounter, especially those related to volunteering and adjustments.

Keywords: guidance, disability, university, counselling services, higher education.

Resumen:

Para poder conseguir la inclusión real y la participación de todos los miembros de la comunidad universitaria es necesario fomentar acciones de respeto y reconocimiento de derechos. En este proceso, ha cobrado especial importancia la orientación a los estudiantes universitarios con discapacidad. Este estudio, enmarcado en el proyecto «Análisis de los sistemas de apoyo y orientación institucionales e informales para estudiantes universitarios»(-financiado por la Consejería de Educación de Castilla y León) se centra en describir y analizar la adecuación de los servicios de apoyo y orientación a los estudiantes con discapacidad en las universidades públicas españolas, identificando buenas prácticas. El método seguido se fundamenta en el análisis documental y análisis de contenido sobre las actuaciones y los servicios de apoyo y orientación a estudiantes con discapacidad incluidos en las memorias de verificación de títulos universitarios y de las webs instituciones de las 47 universidades públicas españolas. Para el análisis de los datos se ha establecido un sistema de categorías en el programa MAXQDA. Los resultados se han diferenciado en función de la denominación, ámbito de actuación, objetivos, procedimiento, destinatarios, momento de los estudios y actuaciones específicas en discapacidad. Los resultados reflejan que todas las universidades analizadas cuentan con servicios de atención a estos estudiantes como centro de organización y gestión de la orientación. Como principales buenas prácticas destaca la red de agentes coordinados en este proceso, incluyendo fundaciones, empresas e instituciones; así como los planes, proyectos y/o programas que fomentan la participación y que se ajustan a las necesidades o dificultades que puedan surgir a este colectivo, especialmente las relativas al voluntariado y las adaptaciones.

Descriptores: orientación, discapacidad, universidad, servicios de orientación, educación superior.

1. Introduction

This study is part of the project funded by the Castilla y León Regional Department for Education "Análisis de los sistemas de apoyo y orientación institucionales e informales para estudiantes universitarios" (*Analysis of institutional and informal support and guidance systems for university students*) (2019-21) by the Grupo ÉVORI (Evaluación, Orientación y Políticas Educativas) (*Educational Evaluation, Guidance and Policies*) at the Universidad de León. This project and study both focus on the guidance and counselling process, whose main aim is to provide a response and offer help in the numerous situations that a person may encounter during their development in different areas of life. The concept of guidance arose as a consequence of a socio-economic need related to the professional sphere (Amor Almedina & Dios Sánchez, 2017; Pantoja-Vallejo et al., 2020; Pérez & Serra, 2016), later being reshaped under a more general, global perspective, thereby making guidance a key element in modern society, particularly as regards academic guidance and couselling (Amor Almedina & Dios Sánchez, 2017; Pantoja-Vallejo et al., 2020). Guidance is now defined as process of continuous assessment and assistance to all people, in all their aspects, with the objective of strengthening human development throughout a person's life (Amor Almedina, 2020; Pérez & Serra, 2016).

Guaranteeing high-quality education and accommodating the diversity of all the students is one of the most difficult challenges faced by education, including at university level. Efforts to safeguard the principle of equal opportunities in higher education have increased considerably in a visible way, especially as far as students with disabilities are concerned (Álvarez, 2016; Novo-Corti et al., 2015) and this is expressed in the Preamble to Organic Law 4/2007, of 12 April, amending Organic Law 6/2001, of 21 December, on Universities (LOMLOU). To this effect, guidance is considered to be a tool with which to facilitate and implement actions to encourage the inclusion of students, while at the same time improving their academic and personal achievements (Lorenzo et al., 2017). The current model includes the creation of specific support services designed as a mechanism that offers a holistic approach to the student with a disability (Álvarez Pérez, 2016), thereby responding to the Spanish University Student Statute (article 65.3). In this model, universities have made a great effort to meet the needs of students with disabilities, adopting a series of measures within the guidance and support system, such as pre-university guidance, prior assessment of needs in order to create an individual action plan, information campaigns among the university community regarding disability, and the coordination of internal and external services (Ferreira Villa et al., 2014a).

To boost success at university for students with disabilities, the necessary adjustments and modifications to the curriculum need to be put into practice (Núñez, 2017; Rodríguez Martín et al., 2014), as well as new methodologies, adaptation of resources, processes concerning tutorial activity, and the search for evaluation strategies that are in keeping with individualisation. Guidance and counselling are an essential process for personalisation in teaching (Martínez Clares et al., 2019) and to create a common European system that is more competitive and of higher quality. Orientation and mentoring become essential and relevant processes for personalized teaching, which requires identification of student's tutoring needs for implementation. This study aims to increase the knowledge of mentoring and student needs through the design and validation of an ad hoc questionnaire, applied to 572 students in the second, third and fourth year of the different Degrees in Educational Sciences. The Confirmatory Factor Analysis shows the validity of the five-dimensional structural model around which the tutorial content must revolve (adaptation to context, personal identity, integration, teaching-learning and professional development and the support services or university programmes aimed at these students can contribute to this. These services are in place in European universities to ensure the principles of equal opportunities and non-discrimination (Galán-Mañas, 2015). However, it is necessary to establish and mainstream standards of quality and indicators of good practices in running these services for students with disabilities (Álvarez Pérez, 2016). According to data provided by Fundación Universia, most Spanish universities offer some type of support and care service to students with disabilities, whether through specific programmes or services, or by adaptations to university access and the students' stay there (Cotán, 2017). These services have been in operation for several years but only some of them show evidence of having thoroughly and systematically analysed the inclusion of these students. Their courses of action focus on informing, guiding and managing the needs of students with disabilities, intervening on an individual or group level, and they are aimed at promotion, welcoming, permanence and graduation (Galán-Mañas, 2015).

The information and guidance provided by these services is one of the cornerstones for students with disabilities so that they can become fully integrated into university, as are teacher training and information in order to foster a more suitable approach to their needs (Moriña, 2015) and to eliminate any negative attitudes (Álvarez Pérez, 2016; Arias et al., 2016; Novo-Corti et al., 2015; Rodríguez Martín et al., 2014). To assist in this support process, it is recommended that there be a figure or educational agent who acts as a link between students with disabilities and the relevant teachers involved, so that they can assume the task of addressing the needs detected and ensuring that information reaches the students, thereby easing the inclusion process (Moriña et al., 2014).

Guidance and counselling services for these students should be based on prior analysis and diagnosis, so that careful consideration can be given to university education and assessment by all the professionals involved. Specifically, the main activities of these services should be based on: co-ordination; guidance on choosing university courses; student welcome protocol; planning of support and assessment; information, support and training for teachers; awareness-raising regarding disabilities by all the agents involved in the education system; preparation for the transition to a working life (González et al., 2017).

In accordance with the above, this study analyses the support and care for students with disabilities in Spanish public universities, by identifying good practices. It is based on the premise that the adaptation of this support should endorse the social dimension of the European Higher

Education Area (EHEA) (Rodríguez Martín et al., 2014), remedy the shortcomings of social policies, improve the quality of education and the accomplishments of the entire university community (Ferreira et al., 2014b; Galán-Mañas, 2015), by enabling the comprehensive development of all students and establishing a conception that involves the student population as a whole (Amor Almedina, 2020) and all their stages of transition (González-Moreira et al., 2021).

2. Objectives

The objective of this study is to describe and analyse the support and guidance for students with disabilities in Spanish public universities, by identifying good practices. To achieve this objective, we will analyse (1) the approaches to support and guidance systems included in the design of new university degree courses, (2) the actions organised by the support and guidance services that are available to students with disabilities through the university websites, and (3) good practices in support and guidance for these students.

3. Method

3.1. Design

The methodology used in this study is documentary analysis based on content analysis. This analysis is planned and systematic and enables us to analyse and gain in-depth knowledge of the social phenomenon under study, using the main documentary sources of data as a basis (Rapley, 2014). The methodology was applied by means of specific computing procedures that allow for and facilitate the collection and management of a large amount of data, whilst extracting the key information. This procedure enhances the validity of the results and their significance for decision-making.

3.2. Sample

The objective of this study is, specifically, the analysis of the support and guidance systems for students with disabilities in Spanish public universities from two perspectives: the design of university degree courses and the actions of the university guidance and counselling services. In keeping with the design outlined in the research, the documents selected for this study are a reliable, practical and relevant source (Bisquerra, 2009). In selecting both the population of degree courses and the institutional websites, we have used the Registro de Universidades, Centros y Títulos (Register of Universities, Centres and Qualifications) (RUCT) at the Ministry of Science, Innovation and Universities. This study focuses on the 47 Spanish public universities, rejecting university subsidiaries and authorised foreign educational centres (n = 6), online centres (n = 1) and those that do not offer Bachelor’s degree courses (n = 2) in order to improve the homogeneity of the results and their usefulness in decision-taking.

On one hand, in the analysis of the approaches to support and guidance systems included in the design of new university degrees, we will analyse the verification reports for the degree courses in the sample. In creating this sample of degrees, we have chosen Bachelor's degree courses offered at the universities analysed, in all fields of knowledge, that have been published in the B.O.E. (*Spanish Official State Gazette*) and are currently officially registered. The justification for the choice of Bachelor's degree courses was determined by the fact that these courses offer a more homogeneous view than master's degree courses, which differ in their institutional responsibilities, student profile and curricular design. This search resulted in 2,024 single honours Bachelor's degrees (42 joint honours degrees were eliminated). For the final sample selection, we calculated the distribution of the population of Bachelor's degrees with the combination of university/field of knowledge and we also calculated the number of degrees needed in the sample for each cluster, by analysing 412 qualifications (for an error of ±5% (p = q = 0.5), the sample should contain 323 degrees according to the standard procedure for finite populations). Finally, it was decided that the sample should represent all the clusters, and in accordance with the criterion of maximum diversity in the types of degrees, the final sample contains 380 degree courses.

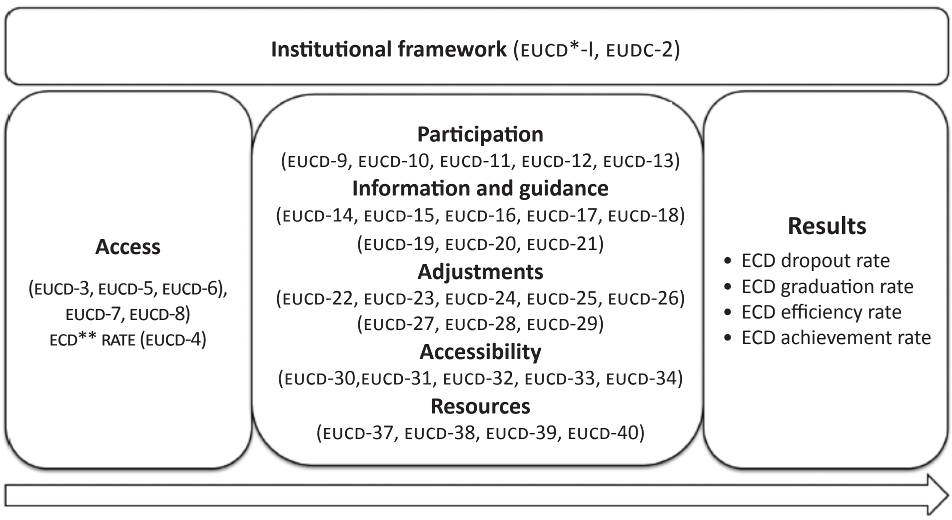
On the other hand, for the analysis of the actions organised by the support and guidance services for students with disabilities, the data collection source was the 47 institutional websites whose URL addresses are registered with the RUCT, the main source for access to information for the students themselves (Fundación Universia, 2020). To locate the specific sources of information at each university, we conducted a search using a loop procedure beginning on each university's main website, which was limited to specific sections regarding the disability support services and units.

3.3. Collection and data analysis

Data collection and analysis was conducted using the program MAXQDA Analytics Pro 2020 (20.2.2). This software enables the automatic and manual categorisation of open texts, the creation of category systems for analysis and the building of explanatory models. The documents and information from the websites analysed were collected using the *Web Collector* extension for this software, which captures and digitises webpages in PDF format.

In the content analysis of both the verification reports and the websites, categories (codes) were created and assigned to specific segments of information in the documents selected. This analysis, based on thematic coding, allows the data to be organised and categories in a way that they can be interpreted and given a meaning (Wood and Smith, 2018). The process of categorising the segments consists of a cyclical, inductive approach, which is based on the development of an organisation system using the information, whereby data that are comprehensible by themselves and that correspond to key ideas in the study are fragmented. This process enables us to respond to the question outlined, as well as linking data collection to data analysis (Flick, 2015). In line with Schreier (2012), we used two types of categorisation strategies. Firstly, we designed categorisation strategies using the concept as a basis, that is to say, deductive strategies based on the system of indicators to evaluate support and care for university students with disabilities (Ferreira et al., 2014b). This system is composed of 40 indicators and eight areas that were identified within the process of guidance and support for these students, which relate to the subcodes established in this study: institutional framework, access, participation, information and guidance, adjustments, accessibility, resources and results (Graph 1).

Graph 1. System of indicators to evaluate support and care for university students with disabilities.



* EUCD (Estudiantes universitarios con discapacidad) = USWD (University students with disabilities).
** ECD (Estudiantes con discapacidad) = SWD (Students with disabilities).
Source: Ferreira et al., 2014b.

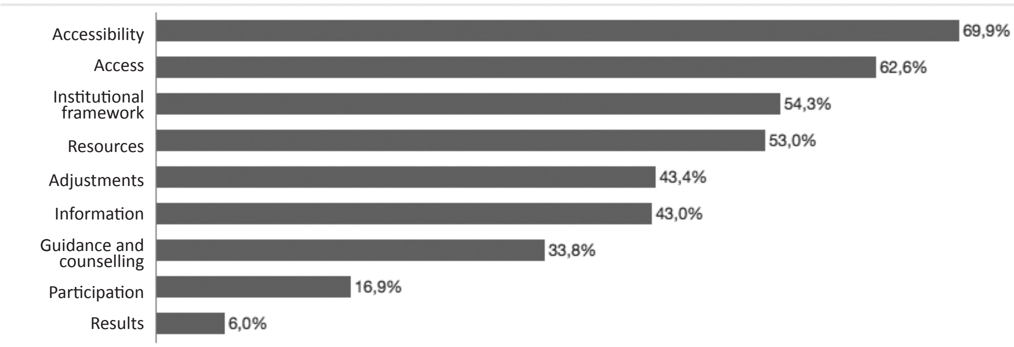
In the case of the websites, we also used the general description of the actions organised by the disability support and care units: designation, scope of action, objectives, procedures, recipients and stage of studies. Secondly, using these categories as a basis, we subsequently designed categorisation strategies that were determined from data for the inductive strategies. The coding system emerged as a hierarchical system built on the iterative process of several cycles used in the study.

4. Results

4.1. Approaches to support and guidance systems in the design of new university degrees

The results obtained by analysing the approaches to support and guidance systems using the verification reports reveal that the two most-mentioned aspects in degree course design are those relating to accessibility and access (Graph 2). The reports mention accessibility primarily in connection with the actions which will be organised in order to meet student needs in the academic and pedagogical spheres, in terms of mobility and access to communication. As for access for students with disabilities, it should be noted that this is the aspect for which study planning establishes the most guidelines to assist these students, emphasising the importance of their transition to university education.

Graph 2. Presence of the indicators related to disability in the verification reports of the Bachelor's degree courses analysed.



Regarding the institutional framework, the reports mention regulations on disability, principally at national level, among which are the following:

- Royal Decree 1791/2010, of 30 December, which approves the University Student Statute.
- Royal Decree 2271/2004, which regulates access to public employment and the provision of jobs for people with disabilities.
- Royal Decree 1414/2006, of 1 December, which states the consideration of persons with disabilities, for the purposes of Law 51/2003, of 2 December, on Equal opportunities, non-discrimination and universal accessibility of persons with disabilities.
- Royal Decree 505/2007, of 20 April, which establishes the basic conditions of accessibility and non-discrimination of persons with disabilities when using and accessing urban public spaces and buildings.

As for the resources analysed, on one hand human resources are reported, with specific staff to implement guidance and assessment mechanisms for people with disabilities and their families. As part of these resources, universities such as the UMA refer to student collaborators who provide study support. On the other hand, material resources are specified, which enable access to new technologies with computing equipment and technical resources adapted for curricular access (voice recorders, carbonless notebooks, FM systems, among others), adaptation of classroom equipment and material provided during classes (notes and hands-on activities). In some cases, mention is also made of assistance in the form of economic resources at an individual level relating to transport. Lastly, social resources are far less common (UGR, UJA, UPV), such as assessment regarding accommodation or acting as a link with all the institutions and non-governmental organisations that collaborate with the university (for example, ONCE, FAAS, CANF-COCEMFE).

Adjustments specified in the reports concern issues at a structural level, assessment or access to the curriculum. At times, these adjustments are introduced to provide access to information, mainly focusing on the initial stage of university as regards the enrolment process or curricular adjustments. Along the lines of the other items analysed, guidance and counselling primarily concentrates on the moment of access and, again, on academic and institutional aspects.

The two items that were least present in the verification reports were, on one hand, participation (17%), which represents an approach involving low levels of student activity regarding university life and, on the other, with 6%, the data on the rates of success, failure and dropout among this population (Graph 2).

4.2. Actions by the support and guidance services at universities for students with disabilities

Details of the results of analysing the actions by the support and guidance services at universities for students with disabilities are presented under the main codes analysed: designation, scope of action, objectives, procedures, recipients, at what stage the students are and disability. The “document code matrix” (Annex 1) provides a visualisation of the list and identification of the sources analysed by university and the codes identified (1,117 coded segments) in the system established.

4.2.1. General characteristics of the actions

The designation of the disability support and care services differs from one university to another. In some cases, they are referred to as services, and in others offices, areas or units. The terms *Disability* or *Diversity Support Services* or *Units* are prevalent in the designation. The needs and requirements of students with disabilities have been grouped under three spheres of action, considered to be the most urgent in achieving equity and equal opportunities: academic, personal and professional. Taking these three areas into account, there is a great difference between them, with the academic sphere predominating (75.4%). This area primarily covers aspects such as requirements relating to access and admission (reserved places for disabled students and exemption from public fees), different study grants for students with disabilities, teaching guides on disability support and/or care and issues concerning academic mobility (ERASMUS+ grants). The personal sphere (18.3%) includes aspects related to access to counselling and mental health for this collective, the availability of accommodation and specially adapted transport, as well as access to adapted sports at university for students with disabilities (examples can be found at UJI, UPC, UPGC, UMA and ULE). Finally, regarding the professional sphere (6.3%), there are work placement programmes for students with disabilities, as well as external internships and employability skills, or the creation of job banks, as is the case at the UB.

The analysis of university disability support and care services also registered the objectives of these services. Generally, they focus principally on:

1. *Promoting* a quality service, by ensuring equal opportunities for students with disabilities and establishing actions aimed at eliminating any difficulties that may arise.

2. *Raising awareness* among the whole university community about the situation of people with disabilities, whilst guaranteeing their integration and participation in university life.

3. *Guiding* and *advising* students with disabilities at an individual level, providing the most suitable technical help and adjustments in each case.

4. *Training*, through different educational actions related to disability, encouraging participation and organising actions designed to eliminate difficulties.

5. Lastly, other objectives were identified, such as *diagnosing*, *informing* and *researching*, but they featured to a lesser extent.

As part of the disability services, the procedures in the guidance and counselling process offer individual and group actions. Among them it is worth mentioning, at an individual level, evaluation by guidance specialists, individual interviews with students who request specific information and actions promoting the integration of students with disabilities, such as adjustments. In turn, at a group level, actions were identified relating to accompanying students with disabilities, action programmes for the integration of people with disabilities in the university and programmes concerning support for diversity, volunteering and social involvement, as well as actions for overall awareness-raising, participation and training. It should be noted that the volunteering activities and programmes are present as group procedures at all the universities analysed.

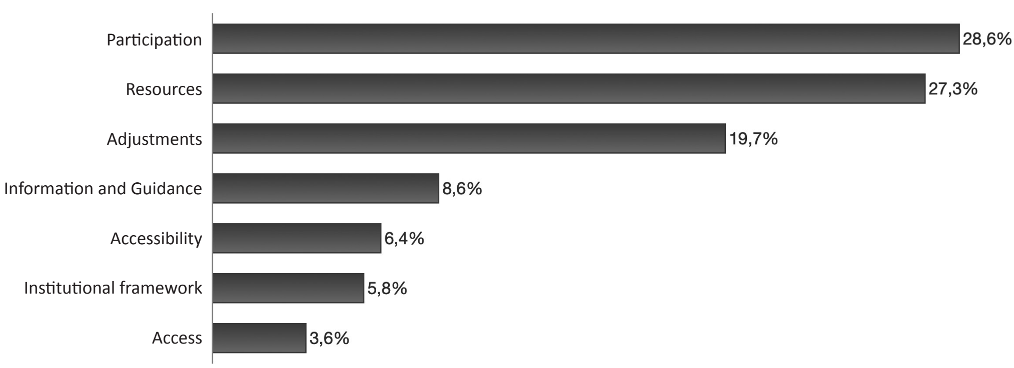
The analysis revealed how disability support and care services were, primarily, aimed at students with disabilities or with specific special educational needs, but we also encountered actions intended for the whole university community, in coordination with the different agents that collaborate in these services. The most noteworthy are the foundations, particularly Fundación ONCE and Fundación Universia, which contribute to the promotion of the various programmes and grants which are available to the collective. There is also a network of collaboration with different institutions and associations, such as the Ministry of Health and Social Policy, the Ministry of Employment and Social Security, Ministry of Education, Culture and Sport, the Asociación Roosevelt and the CERMI (*Spanish Committee on Representatives of People with Disabilities*) among others. We also identified collaboration by companies such as Telefónica, Repsol, La Caixa, Vodafone España and Banco Santander. Lastly, it is worth mentioning that we did not find any information on the websites regarding participation by the families of students with disabilities.

In terms of the stage of studies, we mainly found actions intended to occur before the students join university, with welcome plans and programmes, scheduled visits, meetings with ex-alumni with disabilities, open days, adjustments to university access and co-ordination with higher education centres to provide the future students with information and guidance. In the "during" period, in all the universities analysed support and assessment are also offered, although this is only implied, if requested by a student with a disability. Finally, at the stage of finishing their studies and finding employment, there are universities that are especially noteworthy in facilitating external internships and access to grants and job banks or providing assessment during this process of entering employment (UAM, UB, UMH and UPV-EHU).

4.2.2. Specific actions in the areas of the process of disability support and guidance.

In line with the areas established by Ferreira et al. (2014b), the main specific actions organised by disability support and care services are aimed at participation (28.6%), followed by provision of resources (27.3%) and implementation of adjustments (19.7%), as well as information and guidance (8.6%), not forgetting issues of accessibility (6.4%), regulations (5.8%) and access (3.6%). No explicit data was found on information in the area of results (Graph 3).

Graph 3. Coded segments in the areas of the process of support and guidance for students with disabilities at university.



Within the disability support and care services, the most prominent area relates to the involvement of students in university life and the actions that favour participation by these students in the different programmes offered by the university. This area promotes awareness-raising, an introduction to and contact with the disabled collective through actions and activities aimed at fostering and facilitating integration, such as sessions relating to the field of disability, conferences, experiential workshops and activities on social involvement (in collaboration with foundations and associations). Within these actions, volunteer work is significant, often focusing on the figure of the student collaborator, present in all the universities, but also involving participation programmes such as student assistant programmes, collaboration grants funded by different foundations at each university, programmes regarding assistance, welcome plans and note-taking programmes. Also of importance in this point are awareness-raising campaigns, such the UJI's project "ROMPAMOS BARRERAS" (Let's break down barriers) or Project "INCLUYE" (Include).

We can consider resources to be the assistance or means a person uses to achieve an end or satisfy a need. The analysis revealed different resources offered by the services, of a material and didactic nature (adapted computers, trackball mice, virtual keyboards and tablets; calculators, FM systems and voice recorders; electronic magnifiers; specific software; specific resources and material; action guides, plans and protocols; ZOOM and JAWS programmes; interactive whiteboards: netbooks; multimedia libraries; FM radio equipment; hearing loops or resource banks), and human (teacher/tutor, internal assistant, note-taker, specialist in specific educational support needs, sign language interpreter, volunteer, counsellor, student collaborator, psychiatrist, doctor, psychologist, apprentice collaborator or personal assistant).

As regards education, adjustments relate to types of educational strategies, particularly aimed at students with special educational needs, so that the most suitable response can be provided to the needs that arise, by modifying different aspects or situations that influence learning development. In most cases, the adjustments and resources are connected to each other. One of the adjustments present at most of the universities involves measures for extended time and adaptations in exams (including admissions tests), using resources such as accessible Microsoft, braille, magnified text and ZoomText, alternative formats, time extensions, adapted seats or oral exams using a sign language interpreter. Adjustments were also identified in different sports activities offered by the universities (UJI, UMA, UPGC).

The category of information and guidance is mainly related to curricular aspects. In this category, we identified Inclusion Plans, the Diversity Support Plan, Welcome Plans, the Tutorial Action Plan and specific educational guidance. Considering information and guidance as an additional way to promote accessibility to information and contents leads to the organisation of open, informative sessions, guides on diversity support, resources, teachers and adjustments, and also action protocols. Furthermore, different universities provide training courses and foster teacher training in the field of inclusion and diversity.

Accessibility refers to aspects linked to the possibility of using any object, place or access to a service. In this framework, we found that all the universities present aspects related to the elimination and suppression of physical barriers through plans and projects to this purpose. Some measures that are available to students with disabilities are the loan of lift keys, reserving places both in the classroom and other rooms, access ramps, reserved parking spaces and transport, adapted toilet and washing facilities, individual service in libraries and catering, among others. Accommodation programmes are also offered to students with disabilities (UAM and USC) and reserved parking spaces (UGR). Additionally, specific software is available on loan to promote internet accessibility and support in the laboratories and sessions that are held in the computing classrooms (UNIRIOJA). Likewise, support is provided for movement around the campus (using figures such as the collaborator or volunteer) (UJI) and adapted sports facilities are available on campus (UPC).

As regards the institutional framework, in relation to the framework of rights to assist university students with disabilities, different regulations identified on the websites of these services were consistent with those indicated in the verification reports.

Lastly, relating to access, we identified the factors that, to some extent, are influential when students begin their university studies. The most coded segment refers to the reservation of 5% of the places available on each degree course and at each centre for those students with disabilities have a 33% degree of disability. Another of the measures established corresponds to the exemption from paying the enrolment fee for these students. As specific actions, we identified individual support and educational guidance for students at the stages of pre-enrolment and enrolment (UMH) or providing accommodation adapted to their needs (UAM). At this point, it is also important to emphasise the establishment of specific adjustments to university admissions tests.

4.3. Good practices in support and guidance for students with disabilities

With the information analysed, from both the reports and the websites, it is possible to offer general guidelines on good practices in support and care for this collective, remedying the shortcomings and needs detected. Specifically, focusing on the following aspects:

Preparation: linked to actions prior to joining university and the initial welcome at the university centres.

- A plan for transition to university with a clear definition of the stages of assistance for students with additional support for their families, initiated previously in secondary education and the admissions tests, establishing relations involving co-ordination with guidance and counselling services in secondary education in order to become acquainted with the students with disabilities who are going to join the university and to plan the necessary support sufficiently in advance.

- The existence of welcome sessions where students have access to other people's experiences and where they can build relationships and clarify doubts among peers with different experiences.

Adjustment: caring for the process of assisting and guiding students with disabilities in the different areas of their comprehensive training.

- Preparation of adjustments that allow for good, personalised study planning and design to adapt to each student's needs, employing all the accessible resources that the student can normally use and that are effective for their academic, personal and professional growth.
- Support and care in the cultural, sporting and social sphere that is available at the university and managed by the institution itself, putting these students in touch with the student associations or university outreach services that will allow them to engage in active participation.
- Conducting individual interviews as part of the access protocol with each of the students, thereby easing the process of transition to university.

Co-ordination: team work is essential, involving all the agents who participate in the process of guiding these students.

- Co-ordination and collaboration are required between the tutor, counsellor, teacher or all those agents engaged in the students' academic, personal and professional development, in order to achieve real inclusion, providing suitable assistance for these students' needs.
- The preparation of complete plans, with specific, viable ideas and proposals for each university, according to the conditions there, that consider accompanying the student throughout their studies and include recommendations on entering the labour market through all types of companies in the relevant sector.

Awareness-raising: visualising and normalising disabilities is fundamental in ensuring awareness among the entire university community, thereby encouraging participation to achieve real and effective integration.

- Outreach and awareness in the university community concerning the social and work problems faced by people with disabilities, combined with overcoming possible stereotypes among the students with disabilities themselves.

Evaluation: it is important to consider whether the mechanisms available to these students are working, as this is the only way they can be improved and adapted to the needs that may arise.

- Listening actively to students is a key part of this process of continuous improvement. Direct support and care services for students with these characteristics should provide spaces and measures which enable them to express doubts and needs, and where suggestions can be made so that a quality service can be provided, through actively listening to the university population's requirements.

- The specific data on the rates of success, dropout and satisfaction among these students is central to ascertaining whether the ultimate goal is being achieved, which is the reason for all these types of measures: success in training students with disabilities in all aspects.

5. Discussion and conclusions

This study reveals that there is now a model of specific support services for students with disabilities in place, as established by the regulations since 2010. From the data analysed, it can be deduced that there are disability support and care services or units in all the Spanish public universities studied, independently of the variety of terms used to designate them. This leads to the conclusion that university students with disabilities will find support within the institution, whether this is at an individual level or as a group (Red SAPDU, 2017) (*Network of Services for Persons with Disabilities in Universities*). Nevertheless, the tendency is moving towards the promotion of comprehensive guidance and counselling services at university intended for all the members of the university community, without forgetting the need for a specific area that covers the needs of students with disabilities (Álvarez Pérez, 2016). This thereby combines the work performed so far with the specialisation of the existing experts, resources and actions involved with this collective. This ideal scenario, in which there is a general framework of guidance and its specialisation, would provide greater meaning to the concept of inclusion and normalisation (Farriols Hernando et al., 2014).

This study enables the support and guidance for students with disabilities to be described. It appears to confirm the universities' intention of achieving real, effective inclusion but it represents a challenge for institutions and teachers that derives from the influence of different factors on the guidance and counselling process (lack of resources, instruments, attitudes, services, legislation, participation by the educational community and the different agents, etc.). The results obtained in this work reinforce the arguments presented by Álvarez (2016), which insist on guaranteeing quality education in terms of equality and with a focus on diversity, objectives established by the different services identified in the universities. Furthermore, different dimensions can be observed within the process of guidance and counselling, which correspond to the spheres of action: professional, personal and academic. Particular significance is attached to the consideration of academic content, as well as to cognoscitive issues (including values, regulations and attitudes), thereby achieving the students' overall development and well-being (Álvarez Pérez, 2016; Amor

Almedina & Dios Sánchez, 2017; Martín Romera et al., 2020). The personal sphere also affects the other dimensions, as a healthy lifestyle at a psychosocial level has an effect on all the other areas, including the academic and professional spheres (Farriols Hernando et al., 2014; Martínez Clares et al., 2019). Research in recent years has indicated the additional need to contemplate guidance and counselling in social aspects (Escolano-Pérez et al., 2019; Pereira González et al., 2019; Red SAPDU, 2017) and for actions targeting student well-being (Ferreira, 2021).

As a contribution to the descriptive analysis conducted, and after detecting possible improvements in some aspects of disability guidance and counselling, we have indicated good practices regarding preparation, adjustment, co-ordination, awareness-raising and evaluation, which should be maintained or promoted in the universities that do not yet provide them. Such good practices focus on the importance of welcoming these students to the university, thereby favouring their transition and the process of assistance. To this effect, it is essential for there to be co-ordination involving all the agents, particularly teachers, as well as preparation of personalised plans, a key step in the process of guidance. It is clear that universities are making a great effort to promote participation and awareness; however, one of the good practices that should be developed is evaluation using mechanisms such as listening actively to students and collecting specific data on their time at university and their success rates.

During the data analysis, it was observed that there is a need for a more in-depth, systematic diagnosis on supporting and caring for students with disabilities in universities, as well as the introduction of inclusive actions, although it is certainly true that the necessary instruments are not always available to put this into practice. For this reason, it is absolutely necessary to implement different programmes for support, guidance and assessment in order to favour the complete and effective integration of students with disabilities, by putting the different relevant adjustments and adaptations into practice, as well as seeking new evaluation strategies (Núñez, 2017). These requirements lead to the development of an integral, comprehensive model in which interventions address the students' real and individual needs (Martínez Clares et al., 2019). For this reason, some of the suggestions offered involve the necessity of establishing new educational policies, promoting favourable attitudes to inclusion in earlier educational stages, reinforcing them with plans, projects and/or programmes that foster people's participation and awareness regarding disabilities, and that are adapted to the needs or difficulties that this collective may encounter. Therefore, and as an addition to the documentary analysis presented in this article, the research group to which we belong is currently conducting several studies. These studies analyse the actions aimed at individual support and care for students in Spanish universities in order to, subsequently, compare their impact on the teaching/learning process through interviews and questionnaires involving the heads of the support units and services for students with disabilities, with the emphasis on the use of ICT in providing information and guidance on university access and while students are at university, as well as in addressing their personal needs.

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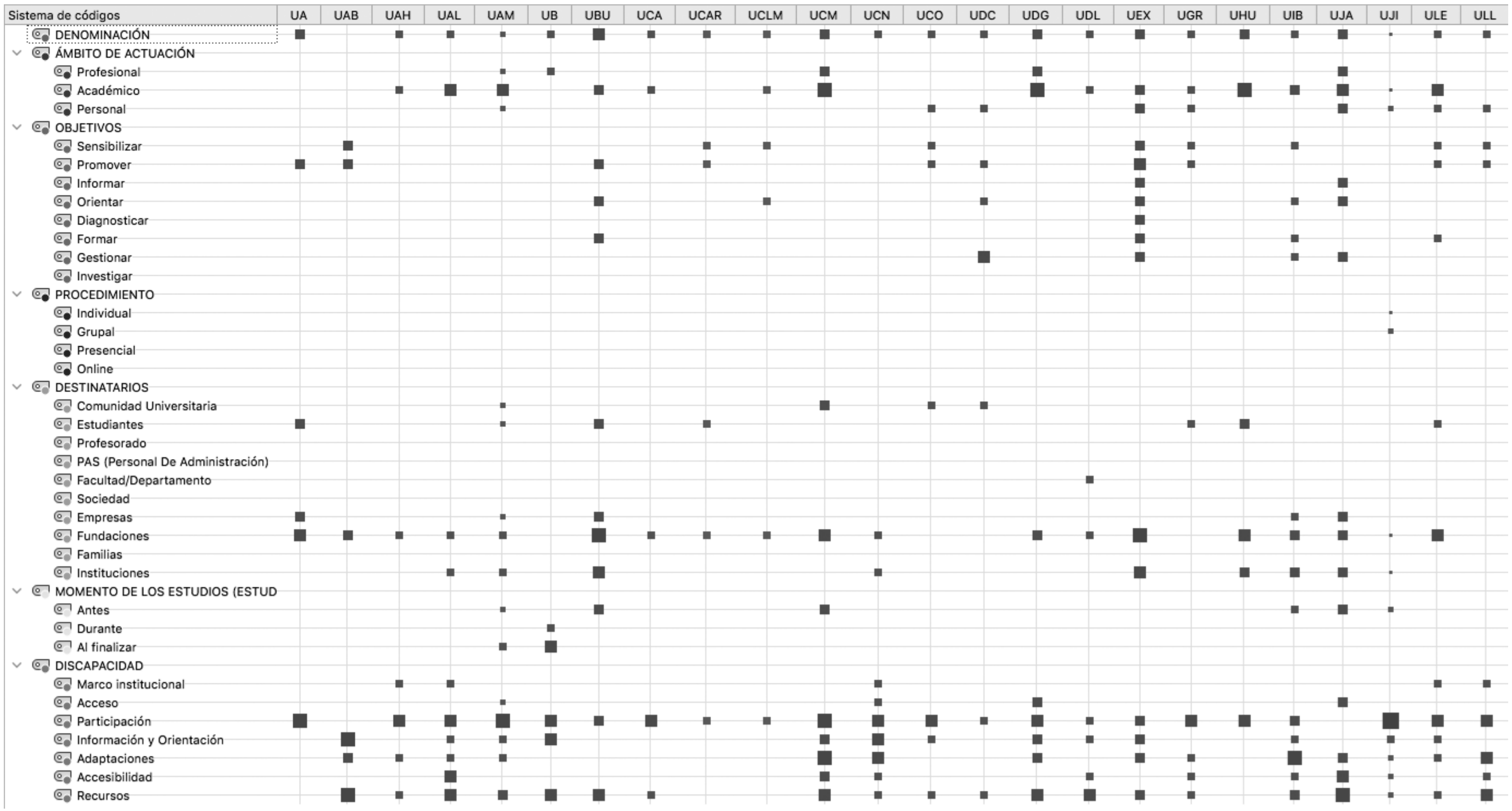
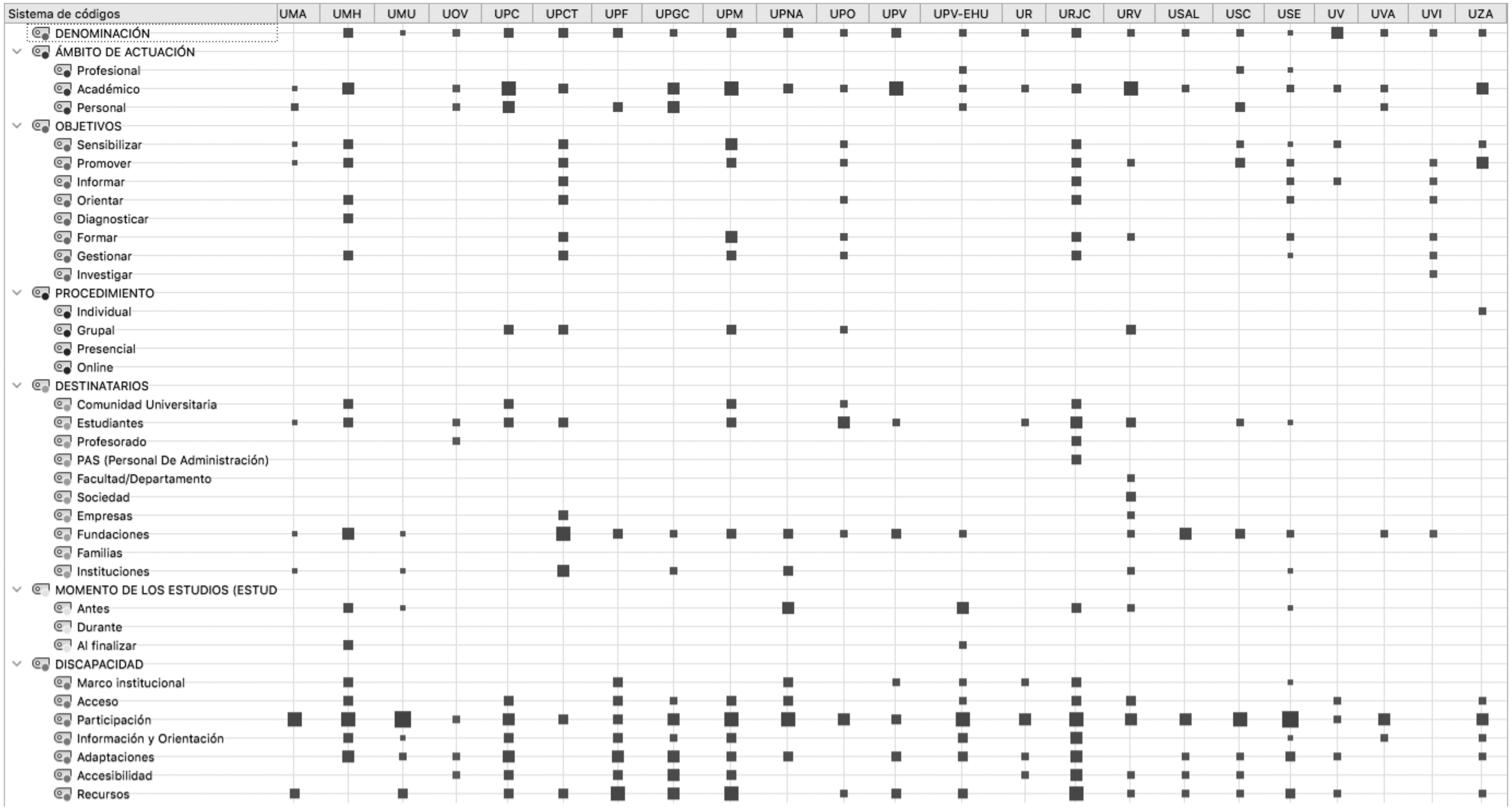
ANNEX 1. List of codes and sources analysed by university.





Note: Translation of the codes and fonts in the table in order of appearance:
Code system: DESIGNATION, SCOPE OF ACTION, Professional, Academic, Personal, OBJECTIVES, Raising awareness, Promoting, Informing, Guiding, Diagnosing, Training, Managing, Researching, PROCEDURE, Individual, Group, Face-to-face, Online, RECIPIENTS, University community, Students, Teachers, PAS (Administration and Services Staff), Faculty/Department, Society, Companies, Foundations, Families, Institutions, STAGE OF STUDIES, Prior to commencement, During, On completion, DISABILITY, Institutional framework, Access, Participation, Information and Guidance, Adjustments, Accessibility, Resources.

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Psychometric properties of the Social Network Addiction Questionnaire (SNAQ) for undergraduates

Propiedades psicométricas del cuestionario de adicción a las redes sociales (ARS) a población universitaria

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Abstract:

Social network addiction in young people has been extensively studied and associated with multiple factors. Among the scales designed to measure this, the 24-item version of the Social Network Addiction Questionnaire (SNAQ) is one of the most widely used. This study analyses the psychometric properties of the Spanish version adapted to undergraduates. The content and construct validity of the scale was explored using the Rasch model and a confirmatory factor analysis. The data categorisation structure, construct dimensionality, model fit, subject and item reliability, Wright Map structure, and differential item functioning (DIF) were specifically analysed. 1,809 students from 24 Spanish universities participated. The results indicate that the SNAQ presents good reliability and dimensionality, and a good model fit; however, elements in need of improvement are appreciated mainly in the proposed Likert scale, in the development of new items that measure the extremes of addiction to social network sites and in the wording of one item. With respect to factor analysis, three factors were obtained that

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coincide with the original construct. With the improvements that have been observed through validation, the questionnaire could confidently be used to measure the construct in the university population. The instrument fills an important gap in the identification of addictive behaviours in the use of social networks, which could lead to a subsequent intervention involving undergraduates.

Keywords: social networks, addiction, Rasch model, undergraduates, Spain.

Resumen:

Las conductas adictivas hacia las redes sociales en jóvenes han sido ampliamente estudiadas y relacionadas con múltiples factores. Entre las escalas diseñadas para su medición, la versión de 24 ítems del cuestionario de adicción a redes sociales (ARS) es una de las más utilizadas. En este estudio, se analizaron las propiedades psicométricas de la versión española adaptada al alumnado universitario. Se exploró la validez del contenido y del constructo de la escala a través del modelo de Rasch y un análisis factorial confirmatorio. Se analizó específicamente la estructura de categorización de datos, la dimensionalidad del constructo, el ajuste del modelo, la fiabilidad de los sujetos e ítems, la estructura del Mapa de Wright y el funcionamiento diferencial del ítem. Participaron 1809 estudiantes de 24 universidades españolas. Los resultados indican que la ARS presenta buena fiabilidad, dimensionalidad y un buen ajuste del modelo, sin embargo, se aprecian elementos de mejora principalmente en la escala Likert propuesta, en la elaboración de nuevos ítems que midan los extremos de la adicción a las redes sociales y en la redacción de un ítem. Con respecto al análisis factorial confirmatorio, se obtuvieron tres factores que coinciden con el constructo original. Con las mejoras que se han observado a través de la validación se podría utilizar el cuestionario con garantías de medición del constructo en estudiantado universitario. El instrumento cubre un vacío importante en la identificación de conductas adictivas en el uso de las redes sociales, que podría propiciar una posterior intervención con el alumnado universitario.

Descriptores: redes sociales, adicción, modelo Rasch, alumnado universitario, España.

1. Introduction

Social network sites (SNS) have become popular in recent years as a result of people searching for information and having the ability to share it interactively (Kong et al., 2021). This has produced an increase in research that examines the use of SNS in young people (Pertegal-Vega et al., 2019), by analysing the effect of this use on undergraduates' lifestyle habits (Austin-McCain, 2017), the fear of missing out (FOMO, Buglass et al., 2017) or their academic use (Gómez et al., 2012). Numerous studies have focused on exploring the effects of problematic use of SNS among young people (Baker and Algorta, 2016; Banjanin et al., 2015; Seabrook et al., 2016).

Some studies have analysed young people's excessive use of SNS as an impulse control disorder, considering it to be a behavioural addiction (Fioravanti et al., 2012). According to Suárez-Perdomo et al. (2022), university students present different profiles of SNS addiction, related to academic procrastination; the greater the addiction, the worse the procrastination. Other authors have focused their attention on discovering the prevalence rate of addiction in adolescents (Jacobsen & Forste, 2011). SNS addiction has also been linked to social life, with the conclusion that this addiction increases the incidence of disorders such as depression, stress and anxiety (Azizi et al., 2019).

In the university setting, conditions relating to emotional problems have been identified as having the same pattern as in other addictions: the person generally becomes an addict to the behaviour as a relief from negative feelings, or as an escape or control mechanism (Balakrishnan & Shamim, 2013; Busalim et al., 2019). Other associated, relational problems include the fact that people who demonstrate SNS addiction are more concerned about friendships online than those offline (Çam & Isbulan, 2012). This addiction, moreover, produces unease, anguish, anxiety and symptoms of depression which may lead to isolation from the social environment (Kuss & Griffiths, 2017). SNS addiction has also been linked to health problems, as their excessive use may cause sleep disorders (Fossum et al., 2014), as well as encouraging a sedentary lifestyle involving a lack of exercise, rest and recovery which could lead to problems related to psychological and physiological deterioration over time (Andreassen, 2015; Xanidis & Brignell, 2016).

Considering that students with an addiction to SNS spend more time online than performing other types of activities, one of the most-studied repercussions is the effect on academic achievement. To this effect, it is expected that students with addictive behaviours involving SNS will show lower academic achievement (Andreassen, 2015). However, Mushtaq and Benraghda (2018) evaluated the positive and negative effects of SNS in academic achievement and observed that undergraduates view SNS as useful tools for the performance of academic achievement activities. Likewise, different studies (e.g., Arquero & Romero-Frías, 2013; O'Keeffe & Clarke-Pearson, 2011) have demonstrated the potential of SNS when they are used for educational purposes.

According to Cao et al. (2018) the excessive use of SNS does not automatically determine addiction. For this reason, it is deemed necessary to have sensitive instruments that can accurately identify whether or not a person shows SNS addiction. In this sense, Andreassen (2015) enumerated a set of instruments to detect SNS addiction, focusing particularly on the addiction to Facebook. Table 1 briefly presents the instruments identified.

The literature also includes the Social Network Addiction Questionnaire (SNAQ) (ARS, Escurra & Salas, 2014), based on the DSM-IV-TR by the American Psychiatric Association (APA, 2008), which does not recognise psychological addictions as disorders. The authors' objective was to diagnose SNS addictions as harmful to students' education.

Table 1. Measurement instruments for social network addiction.

Instrument	Authors (year)	Items	Characteristics
Bergen Facebook Addiction Scale (BFAS)	Andreassen et al. (2014)	6	Analyses addiction to Facebook, using the following criteria for addiction: salience, mood modification, conflict, withdrawal, tolerance and relapse. It is scored on a five-point scale (1 very rarely, 5 very often).
Facebook Dependence Questionnaire (FDQ	Wolniczak et al. (2013)	8	Measures dependence on Facebook. The set of items is based on a scale of internet addiction and measures self-control, satisfaction, time spent and efforts to reduce this, concerns, anxiety and other activities/issues related to Facebook. Dichotomous nominal response system (Yes/No).
Social Networking Website Scale (SNWAS)	Turel & Serenko (2012)	5	Based on the Computer Engagement/Addiction Scale by Charlton and Danforth (2007). The items are scored on a seven-point scale (1 completely disagree, 7 completely agree).
Addictive Tendencies Scale (ATS	Wilson et al. (2010)	3	Based on general addiction theory and research into excessive use of texting and instant messaging. Composed of three basic criteria: salience, loss of control and withdrawal. The items are all scored on a seven-point scale (1 completely disagree, 7 completely agree).

To do so, they used a panel of experts in clinical, educational and psychometric psychology for the drafting, comprehension and clarity of the definitions and coherence of the items in order to reach a clear diagnosis of possible addiction. The first step was the substitution of the concept of substance for that of SNS. The instrument was subdivided into three dimensions:

1. *Obsession with social network sites*. Conceptually this covers mental engagement with SNS, through constantly thinking, even fantasising, about being online, demonstrating anxiety and worry about lack of access.

2. *Lack of self-control in the use of social networks*. Concern about lack of self-control over SNS use with the resulting neglect of academic tasks and studies.

3. *Excessive use of social networks*. Difficulty in controlling the use of SNS, demonstrating overuse

and overexposure, which indicates the impossibility of exercising self-control when using these networks and being incapable of reducing the time spent on social network sites.

This instrument contains elements that can contribute to the analysis and diagnosis of SNS addiction in university students, favouring the evaluation of its consequences for academic success. In view of the foregoing, the objective of this study is to validate the Spanish version of the SNA ("ARS") Questionnaire (Escurra & Salas, 2014). Thus, the intention is to obtain an instrument with defined psychometric indicators of construct validity according to the parameters provided by the Rasch model. The purpose is to enable its use to confidently obtain accurate measurements of addictive behaviour relating to social networking among undergraduates.

2. Method

2.1. Participants

1,809 Spanish undergraduates participated from 24 Spanish universities, of which 1,316 (72.7%) were female, 465 (25.7%) male and 28 (1.5%) non-binary. According to their autonomous region in Spain, 32.6% were from the Canary Islands, 17.9% from Andalusia, 14% from Madrid, 8.6% from the Basque Country, 7.4% from Castilla and León, 7.2% from Catalonia, 7.1% from Galicia, 4.1% from Asturias, with under 1% from the regions of La Rioja, Cantabria, Aragón and Extremadura. The average age of the participants was 21.7 years old (SD = 5.62), with ages ranging from 17 to 70 years old. 27.8% were in their first year, 30% in their second, 21.3% in their third, 17% in their fourth and 3.9% in their fifth year, the latter studying degrees in faculties such as Sciences, Health Sciences or Fine Arts. Purposive sampling was conducted, focusing principally on two criteria: 1) access to institutional e-mail accounts belonging to departments attached to universities and 2) representation in the sample of all the autonomous regions in Spain.

2.2. Instrument

The SNA questionnaire (Escurra & Salas, 2014), adapted to the university population, contains 24 items divided into three factors. The first factor collects information about obsession with SNS (10 items; ω = .90), the second factor about the lack of self-control in SNS use (6 items; ω = .87) and the third factor about excessive SNS use (8 items; ω = .87). Table 2 shows the items that comprise the scale (ω = .95).

The item response options are presented on a five-category Likert scale (where 1 is completely disagree and 5 is completely agree) According to the publication by Escurra & Salas (2014), the SNA exceeds the critical values that have been scientifically established for reliability indices (α). We therefore analysed the RMSEA, NNFI, TLI, GFI, NFI, AGFI and CFI values, adjusted to fit the indices recommended by the scientific community.

Table 2. Items on the SNA scale.

Items	Code
I feel a great need to stay connected to social networks.	A01
I need to spend an increasing amount of time on my social networking.	A02
The amount of time that I used to spend online on social network sites is no longer enough, I need more.	A03
As soon as I wake up, I connect to social network sites.	A04
I do not know what to do when I disconnect from social network sites.	A05
I get in a bad mood when I cannot connect to social network sites.	A06
I feel anxious when I cannot connect to social network sites.	A07
Going on social network sites and using them gives me with a feeling of relief, I relax.	A08
When I go on social networks I lose track of time.	A09
I generally spend more time on social network sites than I originally intended to.	A10
I think about what might be happening on social networks.	A11
I think about controlling my activity as regards connecting to social networks.	A12
I can disconnect from social networking for several days.	A13
I try unsuccessfully to control my habits concerning prolonged and intense use of social network sites.	A14
Even when I am involved in other activities, I cannot stop thinking about what is happening on social networks.	A15
I spend a lot of time during the day going in and out of social network sites.	A16
I spend a long time on social network sites.	A17
I keep an eye on the notifications that social network sites send me on my phone or computer.	A18
I neglect my friends or family as a result of social networking.	A19
I neglect my tasks and studies as a result of social networking.	A20
Although I am in class, I secretly go on social network sites.	A21
My partner, friends or family have drawn my attention to the time and energy I dedicate to things on social network sites.	A22
When I am in class and not online on social networks, I feel bored.	A23
I think the intensity and frequency with which I go on and use social networking is a problem.	A24

2.3. Procedure

Firstly, the Comité de Ética de la Investigación y de Bienestar Animal (*Committee on Ethics in Research and Animal Well-Being*) at the Universidad de La Laguna approved the questionnaire as being suitable (CEIBA2021-0464). Secondly, we contacted departmental administration teams at different universities by institutional e-mail, requesting that the text attached be distributed to all the teaching staff. Likewise, using the snowball technique, we asked the teachers to share an introductory text providing information about the purpose of the study and a link to the questionnaire to be completed, through their Virtual Classrooms. To ensure that ethical procedures were followed, informed consent was sought and anonymity was guaranteed, in accordance with Organic Law 3/2018, of 5 December, on Personal Data Protection and Guarantee of Digital Rights.

2.4. Statistical analyses

To analyse the psychometric properties of the SNA questionnaire, we used the Rasch Andrich Rating Scale Model by Andrich (1988), by means of the statistical package Winsteps 3.90.0 by Linacre (2015). Analysis was conducted on the data categorisation structure, psychometric dimensionality, fitting the data to the model (validity) and reliability. In addition to the statistical analysis, we used the following tools: the Wright Map and differential item functioning (DIF) on several variables (gender, age, autonomous region and academic year).

To assess the effectiveness of the response categories, the data categorisation structure should satisfy the following conditions for it to be considered as correctly calibrating the categories (Oreja-Rodríguez, 2015; Azpilicueta et al., 2019): (1) there should be at least 10 observations per response category to set stable threshold values; (2) the mean measures and thresholds should increase progressively as the variable increases on the scale of measurement; (3) the OUTFIT values should be below 2, as a value greater than 2 indicates that the category offers more misinformation than information; (4) the measures obtained should increase in value.

Regarding the construct dimensionality, this was verified by conducting a Principal Components Analysis of Residuals (PCAR) of the items. The dimensionality was calculated by establishing an expectation of probability depending on the difficulty of each item and the ability of each person (Bond and Fox, 2012). Linacre (2009) suggests that the recommended value of the gross variance explained by the measures should be ≥50% and the gross variance explained by the items should be over four times the unexplained variance in the first contrast.

The reliability of the scale was calculated by means of the parameters established between the subjects and the items, which were interpreted using Cronbach's alpha, with the range of measurement being between 0 and 1. An acceptable minimum value is .70 (Sekaran, 2000). Another indicator of reliability is the separation measure, which indicates the number of levels in standard error units, into which the sample of items and persons can be grouped. In Rasch (1980), the reliability index for separation (subjects and items) is equivalent to the KR-20 coefficient for dichotomous items or to the Cronbach's alpha coefficient in polytomous scales (Oreja-Rodríguez, 2015). For the separation and reliability indices, the items are considered to be sufficiently separated into difficulty levels to allow the sense and meaning of the latent variable to be reproduced (Wright and Stone, 2003). On one hand, the "person" separation index enables us to determine the ability of the instrument to separate persons along the variable measured. On the other hand, the "item" separation index allows us to determine the strata relating to features that the items can distinguish. The greater the separation, the better the instrument will separate person ability and item difficulty (Wright, 2002).

The Wright Map for combined measurement enables us to observe the position on the continuum of both persons and items graphically. Furthermore, differential item functioning (DIF) enables the identification of bias in item interpretation. A significant contrast between two groups of persons is one which presents a difference of >.50 logits with $p \leq .05$ when a two-tailed Welch's test of statistical significance is calculated (García-Álvarez, 2015). Finally, the results of the Confirmatory Factor Analysis were $\chi 2$ (1808, 227) = 5493.823 ($p < 0.001$), RMSEA = .113, CFI = .86 and TLI = .85.

3. Results

3.1. Analysis of the data categorisation structure

The scale presents more than 10 observations per category. The mean measures and thresholds (calibration) increase monotonically. The OUTFIT index in all categories is close to 1. Furthermore, it can be observed that the measures obtained increase in value. The combined results enable us to determine optimal categorisation in the response categories established (Table 3).

In this case, the distance between the thresholds was not greater that the 1 logit established for a five-category Likert scale.

TABLE 3. Summary of the five-category structure.

Response category	Observed count	Mean measure	Outfit MNSQ	Thresholds (calibration)	Means
1	14875	-1.48	1.17	None	(-2.16)
2	9841	-.74	.97	-.71	-.84
3	7680	-.25	.83	-.29	-.03
4	6520	.20	.93	.13	.82
5	4312	.64	1.31	.87	(2.24)

3.2. Psychometric dimensionality

Following the analysis of the psychometric dimensionality, from the unexplained gross variance in the first contrast it was observed that this can provide information regarding dimensionality. Using PCAR, we were able to conclude that the test only measures one dimension, as a second dimension would need to have the strength of at least two items to be above the noise level (Table 4).

Table 4. Variance of standardised residuals.

	Value	Empirical	Modelled
Total gross variance	48.0266	100.0%	100.0%
Gross variance explained by the measures	24.0266	**50.0%**	51.1%
Gross variance explained by the persons	6.3106	**13.1%**	13.4%
Gross variance explained by the items	17.7161	**36.9%**	37.7%
Unexplained gross variance (total)	24.0000	**50.0%**	48.9%
Unexplained gross variance in 1st contrast	**2.5097**	5.2%	–
Unexplained gross variance in 2nd contrast	2.0595	4.3%	–
Unexplained gross variance in 3rd contrast	1.8496	3.9%	–
Unexplained gross variance in 4th contrast	1.6157	3.4%	–
Unexplained gross variance in 5th contrast	1.4760	3.1%	–

The data in Table 4 show the empirical and modelled values. The data obtained enable the verification of optimal dimensionality, as they present a gross variance explained by the measures of ≥50% and a gross variance explained by the items (36.9%) of over four times the unexplained variance in the first contrast. Additionally, the eigenvalue of the unexplained gross variance in the first contrast is 2.5097, close to 2.

The PCAR process (applied to the residuals) decomposes the correlation matrix to find components (or latent factors) with which the items may have a strong correlation (factor loading). After finding the first component, the attenuated correlation in each combination has a minimum value of .829 points, indicating a correlation between the items and enabling the measurement of the latent variable. The detailed analysis of the standardised residuals in the first contrast reflects an item with a factor loading of over .50 (A06 =.53).

3.3. Model fit (validity)

The results indicate a good fit to the model for items and persons according to the INFIT and OUTFIT values found (between .5 and 1.5). The items outside the MNSQ (mean square) fit range are considered to be overestimated (very predictable) or underestimated (erratic). Following the analysis of the INFIT and OUTFIT indices (Table 5), it can be observed that, with the exception of A13, the items present values that are within the permitted range (.5 and 1.5). In contrast item A13 presents misfit values in the INFIT and OUTFIT indices (2.98 and 4.43 respectively) (Table 5).

Table 5. Estimates of INFIT and OUTFIT.

Item	Total score	Measure	Standard error	INFIT MNSQ	OUTFIT MNSQ	PTMEA values
A13	5765	-.79	.02	2.98	4.43	-.24
A18	5087	-.45	.02	1.22	1.24	.52
A12	5868	-.84	.02	1.21	1.22	.60
A21	4957	-.38	.02	1.14	1.16	.54
A22	3177	.70	.03	1.10	.98	.54
A04	6122	-.98	.02	1.06	1.08	.60
A19	2711	1.15	.03	1.04	.89	.52
A23	3758	.29	.03	1.03	1.00	.56
A09	6141	-.99	.02	.98	1.02	.59
A11	3603	.39	.03	1.02	1.01	.57
A14	4334	-.04	.02	.90	1.00	.62
A05	3127	.73	.03	.99	.89	.56
A08	4136	.06	.02	.93	.98	.55
A07	2967	.89	.03	.95	.82	.57
A06	2893	.95	.03	.92	.88	.54
A15	2673	1.19	.03	.91	.80	.56
A02	3695	.33	.03	.82	.88	.56
A10	6260	-1.05	.02	.83	.87	.66
A03	3138	.74	.03	.85	.80	.56
A20	4322	-.04	.02	.82	.80	.65
A24	4567	-.18	.02	.75	.71	.72
A01	5081	-.43	.02	.63	.69	.65
A16	5434	-.62	.02	.61	.62	.72
A17	5422	-.62	.02	.58	.59	.72
Mean	4384.9	.00	.03	1.01	1.06	
P.SD	1178.8	.71	.00	.44	.72	

We also examined the correlation between the measures in order to perform a diagnosis regarding possible incorrect data coding or errors in items. With the exception of A13, the correlation between the item measures demonstrates positive values. Item A13 presents a negative value (-.24), which indicates incongruence or errors in the data coding.

3.4. Reliability

For this questionnaire the indices of separation (26.13) and reliability (1) for the items were considered to be optimal. Similarly, the indices of separation (2.75) and reliability (.88) for the persons also proved to be satisfactory. To interpret these indices, for persons an index of >2 for separation and .80 for reliability were considered to be acceptable and for items >3 for separation and .90 for reliability (Linacre, 2018). The measurement error of the 24 items was .03 (Table 5).

3.5. Structure of Wright Map

Graph 1 shows the structure of the Wright Map, which reflects the distribution of persons (left-hand side) and items (right-hand side) together.

Graph 1 allows us to analyse the distribution of persons and items and their influence on the effectiveness of the questionnaire. The persons have a normal distribution, which is frequent behaviour. The items present a restricted distribution in a narrow range where there is clustering of items some cases. Items A15 and A19 show the lowest level of addiction (they discriminate the highest levels of addiction) and items A09 and A10 the highest (they discriminate the lowest levels of addiction).

In a joint analysis of persons and items, Graph 1 shows, at the top and bottom (left-hand side), extreme values at the person feature level, with very distant values in comparison to the item distribution (right-hand side). Equally, it can be observed that the latent feature level demonstrated by the persons tends to be lower than that scored by the items; the mean person measure (M on left-hand side) is lower than the mean item measure (M on right-hand side).

3.6. Differential item functioning (DIF)

We also analysed the differential item functioning (DIF) to compare the general validity of the items in different groups. The DIF analysis was conducted on the grouping variables “gender”, “autonomous region”, “age” and “academic year”, with “gender” proving to be the variable showing differential functioning. Table 6 presents the items that function differentially compared to participant gender, with items A11, A18 and A20 having particular significance (Table 6).

A positive DIF effect size indicates that the item is more difficult for the reference subject than for the comparison subject. In contrast, a negative DIF effect size indicates that the item is easier for the reference subject compared to the other. In terms of addiction, the results indicate that items A11 and A18 appear less frequently among males than among non-binary people. In turn, item A20 appears more frequently among females than among non-binary people. In general, the differential item functioning can be classified at a moderate level.

Graph 1. Wright item-person map for addiction to social network sites.

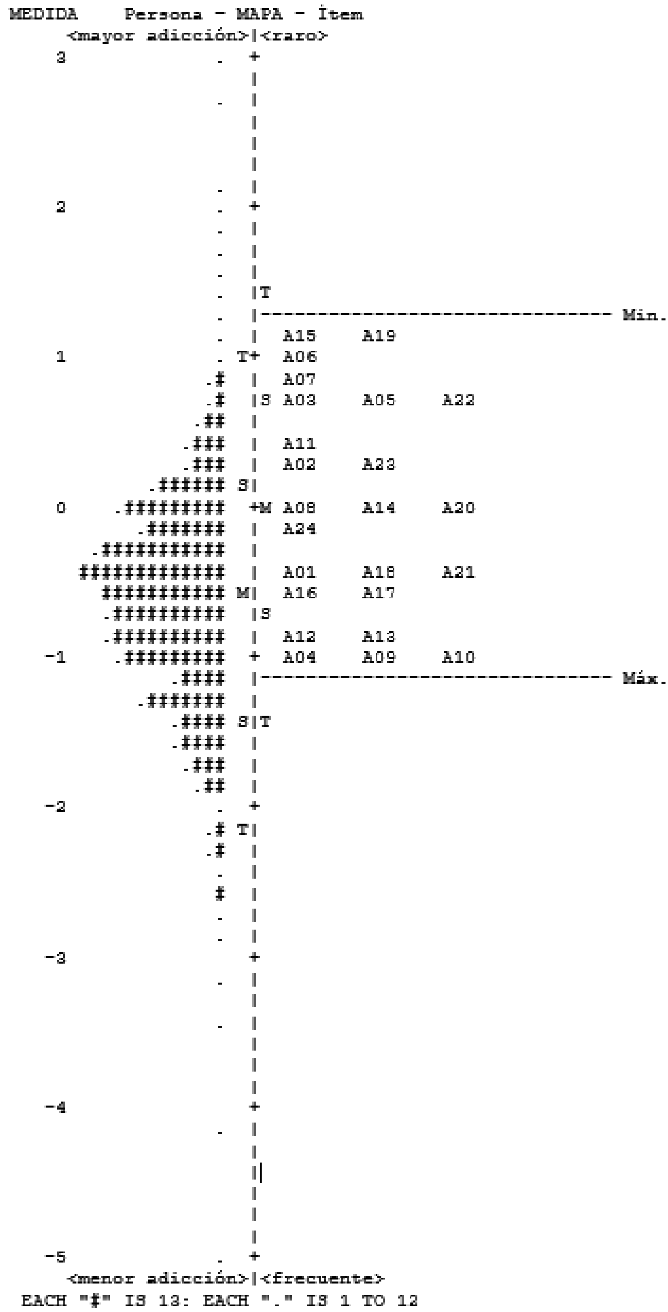

Table 6. Items with differential functioning (DIF).

Gender	Measure DIF	Gender	Measure DIF	DIF size	Prob. Rasch-Welch	DIF in favour of gender	Item
Male	.29	Non-binary	.81	-.52	.0265	Male	A11
Male	-.48	Non-binary	.05	-.52	.0131	Male	A18
Female	.00	Non-binary	-.59	.59	.0050	Non-binary	A20
Non-binary	.81	Male	.29	.52	.0265	Male	A11
Non-binary	.05	Male	-.48	.52	.0131	Male	A18
Non-binary	-.59	Female	.00	-.59	.0050	N	A20

3.7. Confirmatory factor analysis

Lastly, we conducted a confirmatory factor analysis, after eliminating item 13 as a result of the previous analysis. A three-factor CFA was performed, based on the estimation of the STDYX standardisation of the model with a significance of $p \leq .001$. Table 7 shows each of the items and factor weightings belonging to the corresponding factors.

Table 7. Factor weightings corresponding to the items according to the factor they belong to.

Item	Factor weighting
Factor 1. Obsession with social network sites	
A02	0.711
A03	0.737
A05	0.705
A06	0.769
A07	0.793
A15	0.762
A19	0.683
A22	0.676
A23	0.685
Factor 2. Lack of self-control in the use of SNS	
A04	0.645
A11	0.680
A12	0.681
A14	0.730
A20	0.738
A24	0.865

Factor 3. Excessive use of SNS.	
A01	0.740
A08	0.608
A09	0.636
A10	0.729
A16	0.817
A17	0.827
A18	0.537
A21	0.578

4. Discussion

The objective of this study was to analyse the psychometric properties of the Social Network Addiction Questionnaire (SNA; Escurra and Salas, 2014) by applying the Rasch model. This model enables us to, as indicated by Zamora-Araya et al. (2018) improve the study and the interpretation of attitude scales, as long as the estimated person and item values are on the same scale of latent units; this provides a joint measurement that can be used for interpretations referring to the criterion in terms of qualitative descriptions of the respondent. Furthermore, the interpretation of the Rasch model scores is not based on group rules, but rather it can be based on the item content and the processes in which the person has a high or low response probability, meaning that this feature of the model has great diagnostic power (Zamora-Araya et al., 2018).

In the analysis of the data categorisation structure, the distance between the thresholds of each category should establish that each step defines a different feature in the variable (Azpilicueta et al., 2019). According to Linacre (2002), the distance between thresholds diminishes as the number of response categories rises, so he therefore recommends that polytomous items should advance at least 1 logit for a five-category scale but no more than 5 logits to avoid wide gaps in the variable. The results of this analysis show that the distance between the thresholds in each category did not exceed 1 logit, which suggests that the test could be extended to a seven-category Likert scale with the purpose of increasing the level of measurement.

Likewise, optimal psychometric indicators of dimensionality were obtained. The results showed an eigenvalue for the unexplained gross variance in the first contrast that was slighter higher than recommended, but a statistical analysis of the data set allowed us to conclude that this was a small disturbance in the data (Linacre, 2018) lacking the sufficient strength to be considered as a second dimension.

In the validity analysis, the results confirmed, in general, that the basic psychometric requirements of the Rasch model have been met, as recommended by Linacre (2015, 2018), which proves the construct validity of the test and good functioning for each of the items. Nevertheless, as regards the fit of the data to the model, both in the MNSQ fit and the correlation analysis, a bad fit was detected in item 13. After revising item 13, a grammatical connotation was observed in the question that was different to the rest, in that the positive connotation of the item under examination differs from the negative connotations of the remaining 23 questions. This observation suggested that we should modify question 13 grammatically.

In relation to reliability, the indices for separation and reliability located on the scale are optimal.

As for the Wright Map, the analysis provided information about the person-item distribution. Firstly, a narrow distribution was observed for the items across the range of measurement. Secondly, we detected item clustering in some of the measure levels. Lastly, a lack of measurement was observed for the persons with extreme values, both at the top and bottom. Concerning the information as a whole, this leads to the suggestions that the test could benefit from the incorporation of items based on new issues concerning addiction that allow a greater level of addiction to be measured.

The results of the statistical analyses allow us to determine that the items in the factors established, with the exception of item 13, adequately cover the spectrum of the construct under evaluation. The same does not occur with the results of the joint analysis, where an abnormal distribution of the items analysed was observed.

Generally, and with the focus on the parameters demonstrated in the Rasch model, the psychometric indicators obtained prove the validity of the construct and suggest, apart from the recommendations, that the instrument can be confidently used to measure behaviours of addiction to SNS among undergraduates. Likewise, the confirmatory factor analysis identifies three factors, as did the original instrument (Escurra and Salas, 2014). Although, in this case, by eliminating item 13, in which a discordant element was identified. This instrument intends to fill a significant gap in the evaluation of problematic undergraduate behaviours that may be favouring SNS addiction (Liu and Ma, 2020). Having an instrument that is sensitive to these behaviours is of vital importance, as most instruments require greater validation (Andreassen, 2015). For this reason, the corrections made to the SNA using the values obtained by the Rasch model will enable effective identification of patterns of obsessive or excessive undergraduate behaviour relating to lack of self-control in the use of SNS, which will be of assistance in subsequent psycho-pedagogical interventions involving these students.

5. Conclusions

1. The test could be expanded to a seven-category Likert scale.

2. The Social Network Addiction Questionnaire (in its version in Spanish) should correct item 13.

3. The Social Network Addiction questionnaire should incorporate items based on new addictive behaviours to enable a greater level of addiction to be measured.

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Construction and validation of an instrument for evaluating the quality of university service-learning projects using the Delphi method

Construcción y validación de un instrumento para la evaluación de la calidad de proyectos de aprendizaje-servicio universitario a través del método Delphi

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Abstract:

Service-learning has spread significantly in higher education in recent decades. Its effects in the academic field (students and teachers) and in the community (disadvantaged groups at risk of social exclusion and socio-educational partners) are backed by research. However, few works have considered the evaluation of these projects, and there are few instruments available for guiding their development and for assessing their quality. The aim of this study is to develop criteria to evaluate university service-learning projects. To do so, we used the Delphi method with three rounds of expert consultation. The result is a university service-learning, indicator matrix with 9 dimensions and 43 indicators. We conclude that, as well as evaluating the quality of service-learning projects, this instrument could also be valid for validating social innovation from the educational sphere. The principal limitations to overcome are the still-ex-

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isting welfare perspective and difficulties with involving the recipients of the service.

Keywords: service-learning, Delphi method, evaluation, instrument, quality of programs, higher education.

Resumen:

El aprendizaje-servicio ha tenido un importante impulso en las últimas décadas en la docencia universitaria. Sus efectos, tanto en el ámbito académico (alumnado y profesorado) como en el comunitario (colectivos desfavorecidos en riesgo de exclusión social y entidades socioeducativas), han sido avalados por la investigación. Sin embargo, son escasas las referencias a la evaluación de estos proyectos, y son limitados los instrumentos disponibles tanto para orientar su desarrollo como para valorar su calidad. El objetivo de este estudio ha sido la construcción de unos criterios para evaluar los proyectos de aprendizaje-servicio universitario. Para ello, se ha empleado el método Delphi, realizándose tres rondas de consulta a personas expertas. El resultado se concreta en la elaboración de una matriz de indicadores denominada aprendizaje-servicio universitario, formada por 9 dimensiones y 43 indicadores. Se concluye que este instrumento, además de evaluar la calidad de los proyectos de aprendizaje-servicio, también podría ser válida para verificar la innovación social desde el ámbito educativo. Las limitaciones principales han sido superar la perspectiva asistencialista todavía existente y la dificultad para implicar a las personas receptoras del servicio.

Descriptores: aprendizaje-servicio, método Delphi, evaluación, instrumento, calidad de programas, educación superior.

1. Introduction

University service-learning (USL) is an educational focus that combines social commitment with learners' development of competences. It involves experiential learning, in which learners apply the knowledge they acquire through their education (Álvarez-Castillo et al., 2017; Galván et al., 2018), and at the same time it aims to respond to the needs of a disadvantaged group in a position of need or to a social challenge that affects the community (Batlle, 2020). The reflection processes that feature in these educational initiatives enrich the link between learning, and social and ethical commitment, making sense of the experience per se (Dolgon et al., 2017; Santos-Pastor et al., 2021b).

This type of educational initiative has spread rapidly in recent years at all educational levels, inspiring considerable interest among professionals from different disciplines (García-Romero & Lalueza, 2019; Lucas, 2021). These experiences connect very directly with the idea of social innovation promoted by the European Union (2013), which defines it as:

> the development and implementation of new ideas (products, services and models) to meet social needs and create new

> social relationships or collaborations. It represents new responses to pressing social demands, which affect the process of social interactions. It is aimed at improving human well-being. Social innovations are innovations that are social in both their ends and their means. They are innovations that are not only good for society but also enhance individuals' capacity to act. (p. 7)

The two parts of this educational focus — learning and service — must be integrated into a process constructed with the deliberate aim of creating mutual benefit for all participating agents (Chiva-Bartoll & Fernández-Río, 2021). This provides students with a real learning situation and leaves a mark in the community that receives their service and in the bodies or agencies with which they participate (Mtawa & Wilson-Strydom, 2018). This innovative pedagogical focus brings into play a range of academic and community-based resources, enabling participating agents to help solve problems and become partners from a horizontal outlook (Furco & Norvell, 2019).

In this vision of collaborative work by a variety of socio-educational agents, the university, as an institution, must respond to the various community challenges (Menon & Suresh, 2020). Accordingly, authors such as Choo et al. (2019) consider that the mission of the university is constantly changing and the sensitivity required by growing social needs is important at present. Martínez-Usarralde et al. (2019) indicate that the social responsibility mission of universities seeks to give back part of what it receives from society, taking the concept of citizenship into account. Therefore, the focus with which universities "contribute" coexists with a perspective of "repaying a debt". This perspective is key to understanding that the service is built on social and civic ethics. It does not have elements of altruism or charity, but rather "the free response that we give to recognising another person's dignity, which leads us to take on an attitude of service, care and responsibility" (García-Gutiérrez & Ruiz-Corbella, 2022, p. 169). USL contributes to this mission, as it involves an educational initiative that combines various institutions and agents in a shared effort to create a beneficial change in the community. So, the *Guide to social innovation* (European Union, 2013) suggested going a step further and calling for projects to be designed with the community rather than a service to the community that would mask a welfare focus.

This reciprocal relationship lays the necessary foundations for participating in a quality project that can address the needs of the recipients or the community and, in parallel, promoting meaningful learning in learners, making connections with their prior knowledge, positioning itself in real practical settings, and favouring voluntary participation and a predisposition towards competence development (Lorenzo et al., 2019). With regards to the competences they acquire in their learning process, the literature principally lists ethical, social, and citizenship ones (Bringle & Clayton, 2021;

Chambers & Lavery, 2022; Puig-Rovira, 2022; Salam et al., 2019). These are transversal and help establish systems of social values in university students, seeking "peaceful coexistence in a globalised and multicultural system" (Maravé-Vivas et al., 2022, p. 2), one of the current challenges in higher education (McIlrath et al., 2019). These competences also coexist with the acquisition of many other specific affective, professional or academic ones (Chambers & Lavery, 2022), as USL is developed through the subjects in the syllabuses of the different university programmes, seeking to create and evaluate specific knowledge, while at the same time pursuing integral development of the students involved in these projects (MacPhail & Sohun, 2019).

From the perspective of the horizontality and reciprocity of the agents participating in USL, we should note the benefits for the communities and individuals that receive the service (Tryon & Stoecker, 2008). According to the literature we reviewed, these vary greatly depending on the types of groups or needs that the projects seek to resolve or improve.

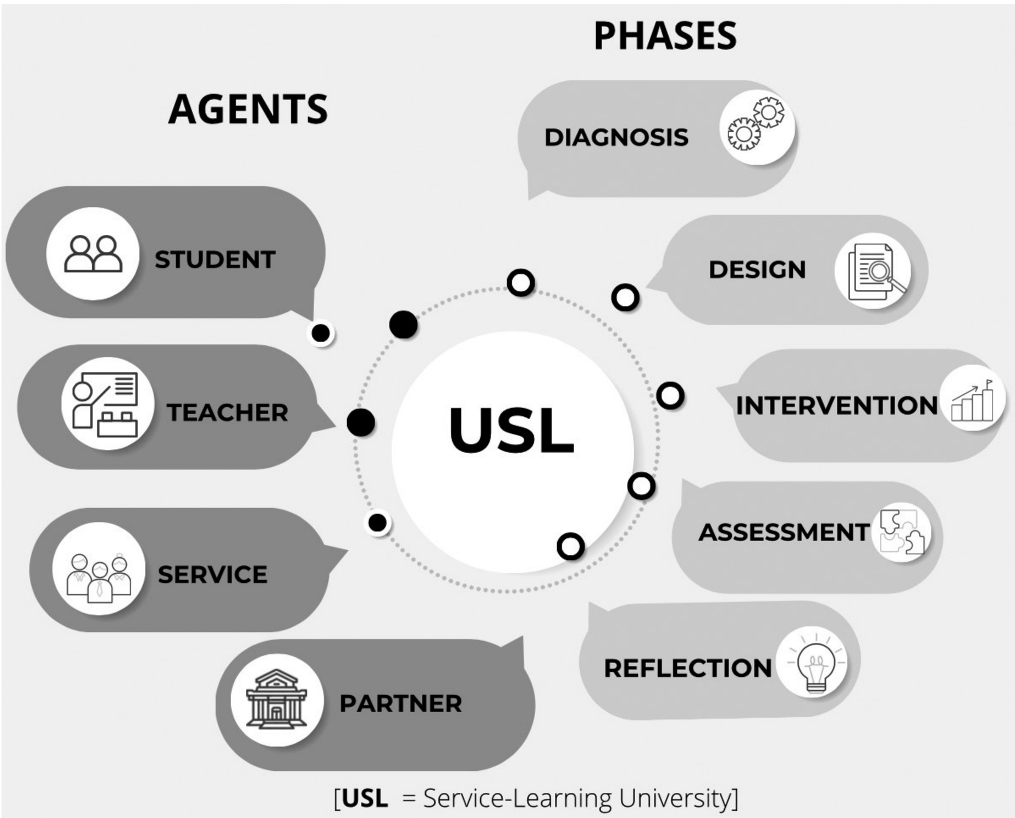
This type of educational initiative requires very specific phases and actions for its development, such as preparation, planning, execution, and assessment-recognition (Billig & Waterman, 2014). Agents with specific roles and functions can be identified in each of these phases (Santos-Pastor et al., 2021a). A USL project should also consider specific quality indicators (starting with the social need or problem, determining learning and service objectives, tailoring the action plan, producing reflection processes, evaluating results, recognising, and celebrating etc.). Furthermore, it must integrate assessment of the learning, the service, and the experience in the process, as well as considering outreach and dissemination of results. For her part, Patrascu (2022) notes that, despite the upturn in social innovations and the implementation of USL projects, it is necessary to design and develop systems to evaluate the effects and impact of these projects. We have found research from recent years that tackles this question (Darby & Willingham, 2022; GREM, 2015; Redondo-Corcobado & Fuentes, 2020) and attempts to respond to some of the questions concerning the assessment of USL projects and to elucidate a series of criteria that help to develop quality projects to be established. However, there are few instruments for directing and guiding the processes of preparing and developing USL projects.

In this sense, the present work sets out to pinpoint the quality criteria that provide the foundations for the elaboration, follow-through, and assessment of USL projects. To do so, we constructed a matrix of indicators called *IM_USL*.

2. Material and methods

To fulfil the aim of this study, we consulted experts using the Delphi method, in accordance with the model proposed by López-Gómez (2018). This technique allows us to pinpoint the key elements (dimensions and indicators) that would comprise the *IM_USL* with which to define, specify, and direct the quality of USL projects. The initial *IM_USL* design comprised nine dimensions with 58 indicators. The first five dimensions referred to the phases of a USL project (diagnosis, design, intervention, assessment, and reflection), while the final four focussed on the agents involved (recipient group or social challenge, students, teachers, and partners) (see Graph 1).

Graph 1. Dimensions of the *IM_USL*.



In the Delphi consultation method, a group of experts is formed to review the instrument in successive rounds (two-three) and evaluate the adequacy of all of the indicators and dimensions. The number of consultation rounds is decided by when a consensus is achieved. This particular process included three rounds of consultation.

We established the following inclusion criteria to select experts to participate in the validation of the instrument:

1. A background in and experience of USL. We defined the following more precise considerations:

- The range of geographical locations where the USL projects are implemented.

- Having led, coordinated, and tutored USL projects.

- Gender parity.

- We also took into account:

  Prior experience: having taken part in USL projects, for at least two academic years.

  Research: having disseminated/published on USL.

2. Availability to participate in the review process. We also considered whether the participants were willing and available to be involved in the validation.

Based on these criteria, we drew up a list of experts from which we considered those who could have a prominent role in USL projects (teachers and people in charge of the entities). First, we checked their availability and interest in participating in the validation process. To do this, we sent them a form asking whether (or not) they would be willing to join the panel of experts. This form also asked them to decide whether they met the following requirements: willingness and interest in participating in the study, availability, level of experience relating to the subject matter, and knowledge of the subject matter. Once they had agreed to participate in the study and we had checked that they fulfilled the criteria, we sent out a letter setting out in detail the aim and objectives of the consultation, the estimated phases and their timings, as well as the conditions of the consultation and the participation agreements (characteristics of the consultation, reports on responses, anonymity of participants, informed consent, etc.). Along with the letter, each expert was sent the consent form to take part in this research. We asked them to sign and return it. We also provided a withdrawal document in case anyone decided to stop participating in the research at any stage in the process.

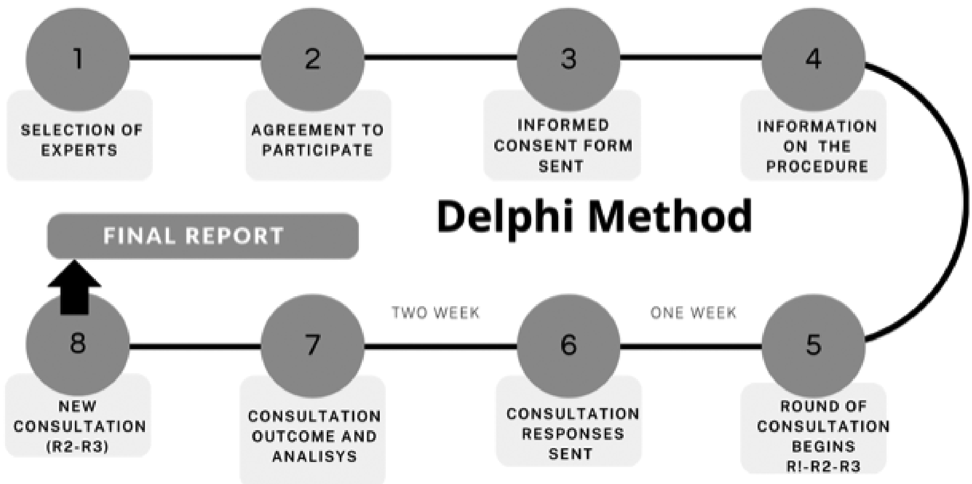
Table 1. List of participating experts.

Experts	First Round (women/men)	Second Round (women/men)	Third Round (women/men)º
Physical activity and sports teachers (Total = 9)	3/6	3/5	3/5
Teachers from other areas (Total = 3)	3/0	3/0	2/0
Partners (Total = 2)	1/1	1/1	1/1
Total	14	13	12

In accordance with the initially proposed criteria, we invited a total of 42 people, of whom 14 agreed to participate (seven female and seven male). However, after the first consultation, one expert (male) withdrew from the process, and so the group of experts in the second consultation round comprised 13 participants (Table 1).

In relation to the number of consultations to perform, we used what the literature establishes as the criterion (López-Gómez, 2018), prioritising the search for consensus in the construction of the *IM_USL*. Each consultation round had a response time of one week. We allowed a period of three weeks between the consultations so that the research team could draw up a final report, summarising the analysis of the answers given by the experts. The following consultation round was then designed based on this report. Each round, apart from the first one, drew on the results from the preceding consultation (Graph 2).

Graph 2. Consultation process using the Delphi method.



During the process, we sent the *IM_USL* to the group of experts as an Excel file, listing the dimensions and indicators with descriptions of them. We provided a template with a Likert scale (1, not at all relevant/clear - 4, very relevant/clear) to evaluate each of the indicators and dimensions that made up the *IM_USL*. There were also open questions so that the experts could explain their answers, stating why they believed that a dimension and/or indicator was not appropriate or pertinent, and also add any other observations they considered necessary. This gave a quantitative assessment and another qualitative assessment from the different participating experts.

The analysis of the information collected in each of the consultations took into account the responses regarding the relevance of each dimension and/or indicator

(1 to 4), as well as the observations-contributions made regarding their relevance and clarity. We used the SPSS statistics software package for the quantitative analysis, calculating the descriptive results (mean, standard deviation, percentiles). We also analysed the content of the qualitative data by reviewing the comments made by the experts in the observations section. These data were set out in a separate document, which helped to organise and contrast the qualitative information deriving from the contributions of the experts.

3. Results

This section shows the quantitative and qualitative results obtained during the various rounds of expert consultation. The quantitative results are structured according to the rounds that were carried out to validate the instrument. A total of three rounds were carried out, with the content of each consultation gradually being reduced and what is considered relevant clarified.

The qualitative results have been structured according to the dimensions and indicators of the *IM_USL*, so that the results obtained from the three rounds are grouped and summarised.

3.1. Quantitative results

3.1.1. Results from the first round

To validate the instrument, we asked the group of experts about the relevance and clarity of its dimensions and indicators, presenting nine dimensions and 58 indicators to them.

A descriptive analysis was performed based on the answers that the experts gave. The acceptance criteria established were linked to the means and the percentiles. Following George and Trujillo (2018), the dimensions and indicators were taken to be valid if the mean was 3.5 or higher. We established different criteria based on the percentiles. The first criterion matches the one used by López-de-Arana et al. (2021), as all of the dimensions and indicators that were rated as "very relevant and clear" by at least 75% of the experts were kept. Furthermore, the qualitative information provided by the group of experts was revised when 50%-75% of them rated the dimensions or indicators as "very relevant and clear". Finally, we eliminated indicators and dimensions where fewer than 50% of the experts described them as "very relevant and clear".

Table 2 shows the results. As it shows, no dimensions were eliminated, with all nine being maintained. Nonetheless, according to the experts' answers, the definitions of two dimensions had to be reformulated (diagnosis and reflection). Of the 58 indicators defined in the initial instrument, it was apparent that it was necessary to eliminate two indicators, reformulate 19, and accept 37.

All of the dimensions include indicators that were validated and ones that were reformulated, apart from the *teacher* dimension, where all of the indicators were validated apart from the one that was eliminated.

TABLE 2. Results obtained through the first consultation round performed.

Dimension	Indicators	Mean	Standard deviation	Percentile	Decision
DIAGNOSIS mean: 3.64; standard deviation: 0.63; percentile: 71.4; decision: Reformulate	Systematic	3.54	0.66	61.50	Reformulate
	Participatory	3.38	0.87	61.50	Reformulate
	Realistic	3.62	0.65	69.20	Reformulate
	Reflexive	2.85	1.21	46.20	Eliminated
DESIGN mean: 3.86; standard deviation: 0.36; percentile: 85.7; decision: Validated	Objective (Aligned)	3.71	0.61	78.60	Validated
	Negotiated	3.50	0.76	64.30	Reformulate
	Programmed	4.00	0.00	100.00	Validated
	Sustainable	3.93	0.44	92.90	Validated
	Link with curriculum	3.64	0.27	64.30	Reformulate
INTERVENTION mean: 3.86; standard deviation: 0.36; percentile: 85.7; decision: Validated	Defined	3.29	1.07	64.30	Reformulate
	Coherent	3.64	0.84	78.60	Validated
	Reciprocal	3.64	0.93	85.70	Validated
	Transference	3.5	0.76	64.30	Reformulate
	Planned	3.64	0.84	78.60	Validated
	Committed	3.54	0.66	61.50	Reformulate
	Flexible	3.77	0.44	85.70	Validated
ASSESSMENT mean: 3.86; standard deviation: 0.36; percentile: 85.7; decision: Validated	Planned	3.75	0.62	83.30	Validated
	Aligned	4.00	0.00	100.00	Validated
	Sustainable	3.83	0.39	83.30	Validated
	Integrated	3.25	1.05	58.30	Reformulate
	Participatory	3.54	0.77	69.20	Reformulate
	Competence	3.62	0.77	76.90	Validated
	Inclusive	3.79	0.58	85.70	Validated
	Diagnosis	3.21	1.12	57.10	Reformulate
	Formative	3.92	0.29	91.70	Validated
	Summative	3.50	0.80	66.70	Reformulate

REFLECTION mean: 3.71; standard deviation: 0.47; percentile: 71.4; decision: Reformulate	Systematic	3.93	0.27	92.90	Validated
	Committed and critical	3.86	0.36	85.70	Validated
	NEEDS oriented	4.00	0.00	100.00	Validated
	LEARNING oriented	4.00	0.00	100.00	Validated
	Connected (needs–learning)	3.46	0.97	69.20	Reformulate
	Shared	3.93	0,27	92.90	Validated
STUDENTS mean: 3.93; standard deviation: 0.27; percentile: 92.9; decision: Validated MODIFY TO LEARNERS	Predisposition	3.64	0.74	78.60	Validated
	Cooperation	3.85	0.37	84.60	Validated
	Social empathy	3.79	0.58	85.70	Validated
	Critical Thinking	3.46	0.97	69.20	Reformulate
	Proactive–problem-solving behaviour	3.86	0.53	92.90	Validated
	Commitment	4.00	0.00	100	Validated
TEACHER mean: 3.86; standard deviation: 0.36; percentile: 85.7; decision: Validated	Reflection	3.08	0.95	46.20	Eliminated
	Initiative–autonomy	3.77	0.44	76.90	Validated
	Accompaniment	3.77	0.44	76.90	Validated
	Institutional coordination	3.85	0.37	84.60	Validated
	Civic–prosocial	3.77	0.60	84.60	Validated
	Curriculum connection	4.00	0.00	100.00	Validated
	Groupwork	3.75	0.62	83.30	Validated
SERVICE mean: 3.69; standard deviation: 0.75; percentile: 84.6; decision: Validated MODIFY TO Receptor Group/ Social Challenge	Need	3.62	0.87	76.90	Validated
	Planned	3.62	0.87	76.90	Validated
	Altruistic	3.62	0.65	69.20	Reformulate
	Recognition	3.69	0.63	76.90	Validated
	Reciprocal	3.38	0.87	53.80	Reformulate
	Mobilisation	3.38	0.87	61.50	Reformulate
	Relevant	3.83	0.39	83.30	Validated
PARTNERS mean: 3.86; standard deviation: 0.36; percentile: 85.7; decision: Validated	Partnerships	4.00	0.00	100.00	Validated
	Responsibility	3.43	0.75	57.10	Reformulate
	Collaboration	4.00	0.00	100.00	Validated
	Commitment	3.71	0.61	78.60	Validated
	Value	3.79	0.43	78.60	Validated
	Interdependence	3.50	0.94	71.40	Reformulate

3.1.2. Results from the second round

As in the previous round, to validate the instrument we had created, we asked the group of experts about the relevance and clarity of the reformulated dimensions and indicators, two dimensions and 19 indicators in total. It should be noted that, following the qualitative comments from the previous round, one indicator was added to the learners dimension (competence). Consequently, a total of 20 indicators were reviewed in this second round.

We performed a descriptive analysis using the same acceptance criteria as in the previous round. The indicators were taken to be valid if the mean was 3.6 or higher. The percentile criterion was the same as the one used in the previous round, maintaining the dimensions and indicators that achieved a valuation of "very relevant and clear" from 75% or more of the experts. Ones that obtained a valuation of "very relevant and clear" from 65%-75% were reformulated in accordance with the qualitative information and, finally, dimensions or indicators that had a valuation of "very relevant" from under 65% were eliminated.

Table 3 shows the results. As can be seen, when the *diagnosis* and *reflection* dimensions were redefined, the level of consensus on them being "very relevant and clear" increased, and so both were kept with the nine dimensions proposed from the start being accepted. Of the 20 indicators defined, it was apparent after the second round that seven had to be eliminated, two reformulated, and 11 accepted. Among the indicators eliminated and the ones that were validated, most of the dimensions were validated in this second round (*design, intervention, assessment, reflection, learners, receptor group-social challenge*). However, two dimensions (*diagnosis and partners*) included indicators that required a final consultation, as they did not meet the percentile criterion for acceptance, although they did meet the mean criterion.

3.1.3. Results from the third round

To complete the validation of the instrument, in this third and final round we asked the group of experts if they believed that the two indicators that had not reached the minimum agreement percentage required in the previous round should be included or excluded because, although they had not been considered sufficiently relevant, no comments calling for them to be modified one way or another, or clear arguments for their removal had been made.

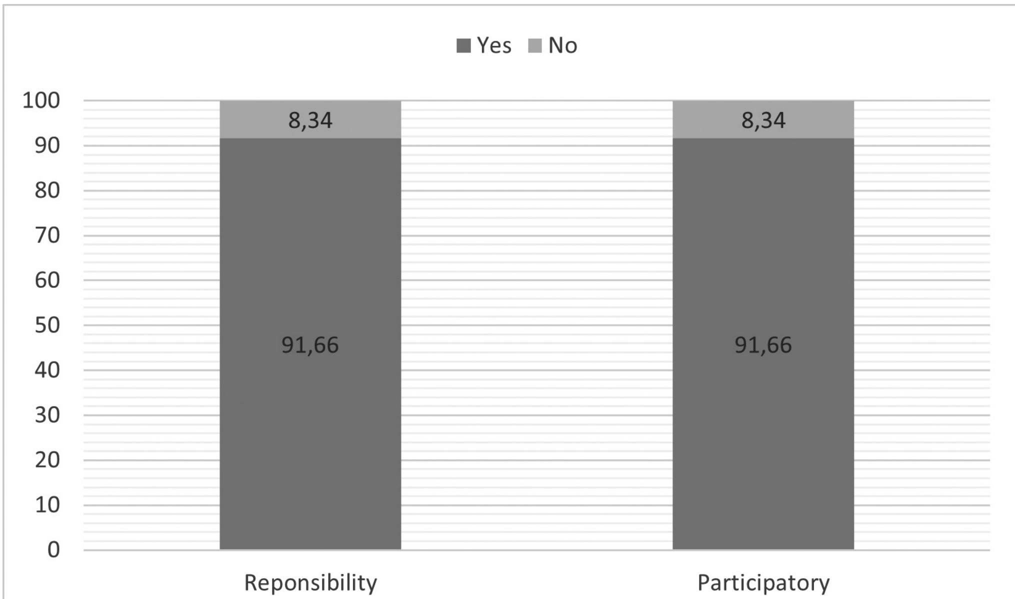
For this final analysis, we set the criterion that 90% of the experts had to be in favour of (or against) including these indicators in order to keep (or eliminate) them (Graph 3).

After the validation process, the instrument finally comprised nine dimensions and 43 indicators (Graph 4). The complete structure of the validated USL matrix of indicators can be accessed at the following link ([IM_USL] https://view.genial.ly/645e0beea5818f0017a7c8b0/interactive-content-copia-ingles-metodo-delphi-indicadores-aps).

Table 3. Results obtained through the second validation round performed.

Dimension	Indicators	Mean	Standard deviation	Percentile	Decision
DIAGNOSIS mean: 3.93; standard deviation: 0.26; percentile: 92.9; decision: Validated	Systematic	3.79	0.423	78.6	Validated
	Participatory	3.64	0.63	71.4	Reformulate
	Realistic	3.71	0.72	85.7	Validated
DESIGN	Negotiated	3.50	0.65	57.1	Eliminated
	Link with curriculum	3.93	0.27	92.9	Validated
INTERVENTION	Defined	3.71	0.72	85.7	Validated
	Transference	3.64	0.84	78.6	Validated
	Committed	3.43	0.94	64.3	Eliminated
ASSESSMENT	Integrated	3.71	0.72	85.7	Validated
	Participatory	3.43	0.85	64.3	Eliminated
	Diagnosis	3.57	0.64	64.3	Eliminated
	Summative	3.57	0.64	64.3	Eliminated
REFLECTION mean: 3.79; standard deviation: 0.42; percentile: 78.6; decision: Validated	Connected (needs-learning)	3.79	0.42	78.6	Validated
STUDENTS	Critical Thinking	3.86	0.36	85,7	Validated
	COMPETENCE (NEW indicator)	3.93	0.27	92,9	Validated
RECEPTOR GROUP/ SOCIAL CHALLENGE	Altruistic	2.79	1.31	42.9	Eliminated
	Reciprocal	3.57	0.64	57.1	Eliminated
	TRANSFORMATIVE (previously mobilisation)	3.86	0.36	85.7	Validated
PARTNERS	Responsibility	3.71	0.47	71.4	Reformulate
	Interdependence	3.43	0.94	64.3	Eliminated

Graph 3. Results obtained through the third consultation round.



Graph 4. Final Structure of the *IM_USL*.

DIMENSIONS	INDICATORS					
AGENTS						
TARGET GROUP/SOCIAL CHALLENGE	NEED	PLANNED	TRANSFORMATION	RELEVANT		
PARTNERS	PARTNERSHIPS	RESPONSABILITY	COLLABORATION	VALUE		
TEACHERS	INITIATIVE/AUTONOMY	ACCOMPANIMENT	INSTITUTIONAL COORDINATION	CIVIC-PROSOCIAL	CURRICULUM CONNECTION	GROUPWORK
STUDENTS	PREDISPOSITION	COOPERATION	SOCIAL EMPATHY	CRITICAL THINKING	RESOLUTE/PROACTIVE BEHAVIOUR	COMMITMENT
PHASES PROJECT						
DIAGNOSIS	SYSTEMATIC	PARTICIPATORY	REALISTIC			
DESIGN	PROGRAMMED	SUSTAINABLE	LINK WITH CURRICULUM			
INTERVENTION	DEFINED	COHERENT	RECIPROCAL	TRANSFERENCE	PLANNED	FLEXIBLE
ASSESSMENT	PLANNED	ALIGNED	SUSTAINABLE	INTEGRATED	FORMATIVE	
REFLECTION	SYSTEMATIC	COMMITMENT AND CRITICAL	NEED oriented	LEARNINGS oriented	CONNECTED (NEEDS-LEARNINGS)	SHARED

3.2. Qualitative Results

Based on the quantitative results obtained, we analysed the qualitative data that the experts provided during the three rounds in order to better understand the coherence of the *IM_USL*. The debate surrounding the specification of the different dimensions and their indicators is set out below.

3.2.1. Dimensions and indicators relating to agents

a) Receptor group/social challenge

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The *service* dimension was renamed as *receptor group/social challenge* after the first round in light of the expert contributions. This dimension is defined as the starting point that motivates the community service activity, whether it be people who receive the service (receivers) or the cause/need/problem that inspires the project. In the first round, four of the seven indicators that comprised this dimension were validated (need, planned, recognition, and relevant) and three were reformulated (altruistic, reciprocal, and mobilisation) based on the experts' contributions, before moving on to the next round. The descriptions of these three indicators were changed and the "mobilisation" indicator was renamed "transformative". In this case, two experts noted in their contributions that this new name involves the transformation of consciences, discourses, actions, contexts, people, and relationships, a term that matches that proposed by other authors (Carrington et al., 2015; Deeley, 2016). In the second round, two of the indicators — "altruistic and reciprocal" — were eliminated, and the "transformative" indicator was validated. The final version of this dimension comprised the following indicators: need; planned; transformative; and relevant.

b) Learners

After the first round, the *students* dimension was renamed to *learners* following the suggestion of one of the experts. We decided to accept this change, as it did not affect the definition of the dimension, but instead enabled it to have an inclusive focus. This dimension considers learners to be figures who stand out for their active role in learning, their autonomous character when searching for information and creating new knowledge, their capacity for reflection, for applying appropriate strategies to solve any problems and challenges that occur, their cooperative disposition, and their sense of responsibility, which accompanies them in all aspects of learning (Galván et al., 2018). The first consultation round validated six of these indicators, leaving just one (critical thinking), which underwent minor changes to its wording and was redefined as follows: "analyses and evaluates reality, in different moments-actions and with different agents, reasons clearly, precisely, and with justifications, and takes appropriate decisions". In addition, with regards to the experts' qualitative comments, six of them suggested adding a new "competence" indicator, which was defined as "learners acquire specific and transversal competences (knowledge, skills, and attitudes)", competences that are underlined by the specialist literature (Bringle & Clayton, 2021; Chambers & Lavery, 2022). These two indicators went into the second round for review, where both of them were validated. The final version of this dimension comprised the following indicators: predisposition; cooperation; social empathy; critical thinking; proactive–problem-solving behaviour; and commitment.

c) Teacher

The *teacher* dimension relates to the person who guides and directs the project that the learners carry out, assisting and accompanying the process. The expert consultation validated all of the indicators in the first round, apart from "reflection", which was eliminated, as it already appeared as a dimension and it was also felt that it should be present throughout the process (MacPhail & Sohun, 2019) and so was regarded as transversal. This dimension, in view of these questions, was closed and deemed to be definitive after the first round, without having to continue in the following rounds. This final version of this dimension comprised the following indicators: initiative-autonomy; accompaniment; institutional coordination; civic-prosocial; connection to the curriculum; and groupwork.

d) Partners

The *partners* dimension relates to the social organisation that is geographically situated in a particular context (from an administrative institution to an ordinary classroom), that benefits from the service received. However, we should clarify that there is not always an entity, especially when the groups or social challenges are not part of an organisation/entity.

In this *partners* dimension, some indicators were accepted from the start, such as partnerships, collaboration, commitment, and valuation, questions that were already suggested in the study by Alonso-Sáez et al. (2013). Others, in contrast, raised doubts, such as responsibility and interdependence. The former was not accepted but also did not reach a sufficient percentage to be rejected and the experts did not make reflections that helped clarify this indicator. As a result, we asked about this indicator again, obliging the experts to take a position, and they finally chose to accept it. While it is true that the concept of responsibility does not appear explicitly in the literature, some authors describe the role that partners should or could adopt when participating in the formative and transformative process (Liesa-Orus et al., 2019). The second indicator (interdependence) was rejected. This dimension eventually comprised the indicators: partnerships; responsibility; collaboration; commitment; and valuation.

3.2.2. Dimensions and indicators regarding phases

a) Diagnosis

The *diagnosis* dimension includes a systematic process of exploration and analysis of reality to understand it and act cohesively, in accordance with the needs/problems detected. This dimension was one of the most disputed ones. Although the experts maintained that this phase is indispensable in USL processes (Conner & Erickson, 2017), none of the indicators was validated from the start. Indeed, the definition of the dimension had to be reviewed. Taking into account the comments of the experts, the second round validated two indicators: realistic and systematic (Pino et al., 2016). The "participatory" indicator was not considered sufficiently relevant, but the experts made no suggestions for modifying it. In the final consultation, the experts' views seemed to align with the literature, stating that it is important to make the recipients and the learners participants in this process of detection of needs (GREM, 2015). This dimension eventually comprised the following indicators: systematic; participatory; and realistic.

b) Design

The *design* dimension refers to the preparation of a plan of action in accordance with the needs/problems detected in the diagnosis of the situation. Two of the initially proposed indicators — objective and negotiated — were eliminated after the consultation of experts as the social challenge proposed or the needs of the group must be considered earlier in the diagnosis. Furthermore, these needs must be shared and agreed upon between the agents (Case et al., 2020). The need to refer to the design as planning of the process was also explicitly mentioned, including the phases that make up a USL project (objectives, content, actions, timing, assessment, etc.). Moreover, it was deemed desirable to link the design to the competences of the educational programme in which it is framed and not restrict it exclusively to the field of the subject (Miller, 2012). This dimension finally comprised the following indicators: programmed; sustainable; and Link with curriculum.

c) Intervention

The *intervention* dimension was initially called implementation. This was changed at the suggestion of the experts as they felt that the original name was more general in character. Consequently, this dimension refers to the implementation of the plan of action designed with the aim of responding to the proposed objectives. Only the "committed" indicator was eliminated from the initial proposal, as this was held to be implicit in other indicators and dimensions. Nonetheless, the importance of making a commitment was made explicit, while at the same time the difficulty of evaluating it was noted, even though civic commitment is an explicit goal of USL (De Castro et al., 2017). Likewise, the group of experts underlined the importance of reflection processes during the course of the intervention, discussing the need to include this as an indicator (Sanders et al., 2015). Furthermore, including it as something specific or particular to the intervention was not considered, insofar as it would be contemplated in a specific dimension for reflection. In addition, the importance of considering the experimentation in this phase to propose solutions to problems and respond to the unpredictable character of any educational action was noted. This is more marked in contexts with disadvantaged groups, which vary greatly, and so flexibility in the intervention is fundamental (Conner & Erickson, 2017). This dimension eventually comprised the following indicators: defined; coherent; reciprocal; transference; planned; and flexible.

d) Assessment

The *assessment* dimension includes the process of collecting and analysing information with the aim of describing reality, making value judgements, and facilitating decision-making (Ruiz-Corbella & García-Gutiérrez, 2019). Although assessment must be a process that integrates all of the elements of the project (process, results, and agents), this dimension refers to the assessment of the learning from the projects linked to USL (Ward & Wolf-Wendel, 2000). From this perspective, the experts regarded assessment as an important element that must continuously be integrated into all of the phases and as a process for obtaining constant feedback, which helps to make changes and produce meaningful learning (challenges and obstacles). The importance of contemplating the assessment of all actions and involving all of the agents in this assessment (competence and participatory) is underlined. Similarly, the reflection on assessment was again viewed as a primary question (Ash et al., 2005). The participatory, competence, inclusive, diagnosis and summative indicators were rejected. This dimension finally comprised the following indicators: planned; aligned; sustainable; integrated; and formative.

e) Reflection

The *reflection* dimension is understood to be the mechanism for optimising learning, making it possible to reconsider or be aware of lived experience in order to give it meaning (Ruíz-Corbella & García-Gutiérrez, 2019). The experts suggested including a new indicator (competence), but following discussion, it was decided not to as this was considered to be intrinsic to the process. Similarly, they noted the importance of considering and emphasising its pedagogical and formative character and the interest of converting it into a systematic process, specifying what, how, when and on what to reflect. Equally, they insisted on the advisability of this being a reflection that is potentially formative and permanent over time, seeking written or narrated records of the experiences (Escofet & Rubio, 2017). The need for the reflection to be able to contribute a supportive sense and a critical outlook (social injustices) was also noted, as was the value/meaning that service contributes to learning and learning contributes to service, linking it to the curriculum and the development of competences (Furco & Norvell, 2019). This dimension ultimately comprised the following indicators: systematic; committed and critical; focussed on needs and learning; connected (needs and learning); and shared.

4. Conclusions

It is confirmed that the Delphi method is appropriate for validating the instruments (Sánchez-Taraza & Ferrández-Berrueco, 2022). Furthermore, in light of the results, we can say that the instrument developed in the form of a matrix of USL indicators is quantitatively and qualitatively validated, with the decisions agreeing with the existing literature.

Based on the dimensions and indicators developed, we can state that the *IM_USL* could be valid for verifying whether the projects respond to what is understood by social innovation in higher education (European Union, 2013), as it makes it possible to evaluate each project's capacity to respond to social needs through collaboration with other partners (Ward & Wolf-Wendel, 2000). Accordingly, it reacts to the lack of instruments for evaluating social innovations that are implemented in the field of education (Patrascu, 2022). In relation to the discussion deriving from the qualitative data, the debate appears to be underpinned by tensions regarding the different orientations or perspectives that a USL project can have. Two types of contribution have been identified: (1) those that are close to a traditional welfare focus; and (2) those that were close to a critical focus, geared towards transformation and empowerment.

We should note that there have been significant difficulties with involving the people who receive the service. This limitation could perhaps be overcome by modifying the selection criteria for experts, thus ensuring horizontality and reciprocity among the participating agents (Clark-Taylor, 2017) and constructing or making changes with the community (European Union, 2013).

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Escuela y primera infancia. Aportaciones desde la Teoría de la Educación
[School and early childhood: Contributions from the theory of education]
(Ana Caseiro Vázquez)

Ahedo, J., Caro, C., & Arteaga-Martínez, C. (Coords.) (2022).
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(Paula Álvarez Urda)

Book reviews

Curren, R. (2022).
Handbook of philosophy of education
Routledge. 464 pp.

The 2022 Routledge *Handbook of philosophy of education* (hereafter 'the *Handbook'*), edited by Randall Curren, presents an impressive array of philosophical works on education, and represents the evolution of the field in the past few decades. The present review will provide an overview of 1) what the book accomplishes, and accordingly, what kind of audience would benefit from accessing the book; 2) what the *Handbook* does not cover (although such a gap may be more of a reflection of the state of philosophy of education as a field, not an indication of the coverage of the *Handbook*); and 3) a few divergent views among philosophers of education that future inquiries may address.

First, the *Handbook* offers insightful analysis on timely topics in education that will likely interest not only those deeply immersed in philosophy of education but also the general public and novices of the field. For instance, Danielle Allen and David Kidd's chapter on civic education for the 21st century discusses how student identity, the development of an appreciable civic role, and educational practices consistent with what Mehta and Fine (2019) have called "Deeper Learning" should come together in service of civic education. The resulting framework could help guide decisions by school leaders and inform the contours of educational policy. Danielle Zwarthoed's civic education in the age of mass global migration offers an insightful analysis of civic education in the context of mass migration. It provides a helpful reminder that not all children settle in the country of their origin. Anthony Simon Laden's work on understanding claims of political indoctrination challenges the oft-dismissive tone of those unsympathetic to conservative worries about the liberalizing effects of higher education by taking seriously the disruptions to trust networks that college education can affect. Laden's chapter, like many in the *Handbook*, sits in conversation with other pieces, such as Ben-Porath and Websters' discussion of free-speech issues on college campuses and Johannes Drerup's guidance on teaching controversial issues. These and other chapters each capture the contemporary anxiety over civic education under conditions of political polarization and address their motivating questions with insight, precision, and clarity. The result is a collection of work that is both broadly accessible and liable to generate refreshing new thoughts for scholars and practitioners alike.

Jennifer Morton and Christopher Martin both address pressing ethical issues surrounding higher education, which has garnered increased public attention at least in the United States, Canada, and the United Kingdom partly due to the rising college tuitions and subsequent ethical and financial costs of obtaining undergraduate education. Finally, the *Handbook* also offers the perspectives of educational leaders and practitioners on frequently debated topics in education. Such examples include Yael Yuli Tamir's accounts on the global and pernicious effects of the Program for International Student Assessment (PISA) test.

In addition to providing accessible and insightful coverage of issues with social significance, the *Handbook* provides several excellent summaries of the major branches of research in philosophy of education and other related fields such as sociology and history of education. Quentin Wheeler-Bell, for instance, explicates on the history of research in race and education and traces and critiques the different solutions offered to resolve the issue of racial domination in the education system. Winston Thompson also contributes a standout chapter that organizes overlapping positions about whether and how to teach issues related to race, racism, and anti-racism into an array of possible normative positions, clarifying a discussion that often suffers from conflations or confusions of these distinct propositions. Gina Schouten similarly offers several competing accounts on the substantive meaning of the elusive concept "equal educational opportunity" proposed by herself and other prominent political philosophers in the past. Paul Watts and Kristján Kristjánsson excellently summarize the past and current research on character education, a topic that has a long and rich history in philosophy of education.

The majority of the chapters in the *Handbook* represents the fruits of the contemporary educational philosophers' effort to push the boundaries of theorizing about education. If one wishes to delve deeper into a topic each chapter presents, we recommend exploring the works cited in the chapter of their interests. Furthermore, many of the chapters in the *Handbook* are a short summary of the philosophers' book projects, which makes the *Handbook* a valuable accessway to deeper reading: the chapters by Martin, Morton, Lauren Bialystok, and Doris Santoro all correspond to their respective book publications (i.e., Martin, 2022; Morton, 2019; Bialystok & Andersen, 2022; Santoro, 2021).

Third, and perhaps most importantly, the *Handbook* represents methodologically and philosophically innovative works that should and would be further developed in the future. One such methodological evolution that the *Handbook* captures is the works that incorporate empirical evidence into normative theorizing. Meira Levinson's chapter on educational justice, for example, articulates the need for philosophers to theorize from the 'bottom-up', starting with close attention to the experiences of educators in service of building a non-ideal theory of educational justice that reflects the realities and concerns of practicing educators. The shift to embed normative theorizing in empirical evidence is also present in Doris Santoro's work on teacher burn-out and Morton's chapter, both of which notably feature qualitative research methods, specifically interviewing.

Other chapters take empirical data as their subject: Brighouse and Swift, for example, offer a framework for incorporating values and evidence into educational decision-making. Joyce and Cartwright, meanwhile, look specifically at the kind of evidence that ought to be considered appropriate for developing sound arguments in support of given policies, notably disputing both the sufficiency and necessity of Randomized Control Trials (RCTs) for many policy decisions.

In addition to capturing recent methodological shifts in philosophy of education, the *Handbook* also includes powerful and oft-underrepresented challenges to the long-held assumptions of the existing dominant voices. Nico Brando's chapter on child labor, Zwarthoed's explication on civic education in the age of mass migration, and Julian Culp's work on global democratic educational justice all take into consideration the educational issues and perspectives unique to the developing, non-Western countries and meaningfully challenge the existing biases or assumptions held by philosophers of education based in the West.

Zwarthoed, for instance, introduces the idea of "sedentary bias"— the idea that students will became citizens in the countries of their birth — and compellingly argues that such bias renders the existing accounts of civic education somewhat obsolete: given that globalization and mass migration will likely accelerate, philosophical accounts of civic education ought not to take for granted that children become adults in their countries of origin and instead ought to adopt their thinking in light of the reality of mass migration. Similarly, Brando's research on the ethical dilemmas surrounding child labor and educational access calls into question the Western philosophers' implicit presumption that *all* children would be guaranteed compulsory formal education, thereby pushing the bounds of considerations that ought to be included when theorizing about *educational* justice.

The educational issues covered in the *Handbook*, however, are not exhaustive. None of the chapters, for instance, discusses early childhood education, which has been garnering increased attention among policymakers and scholars of educational studies. The paucity of works on adult education is also notable, with Martin's chapter being the only exception. Importantly, nearly all chapters are about *formal* education and schooling, which creates a lacuna of inquiry on informal education. While a number of chapters — such as Bryan Warnick's chapter on the role of discipline in the schools' educational mission — treat the institution of schools as an object of scrutiny, most works situate their concerns squarely within schools without looking beyond their boundaries. Rather than implicating the coverage of the *Handbook* itself, these lacunae are probably best understood as gaps in concerted attention to these matters in the field of philosophy of education itself. Future philosophical inquiries regarding informal education and adult education would certainly enrich the existing landscape of philosophy of education.

Future research can also address the disagreements among contemporary philosophers of education that the *Handbook* makes apparent. One such potential divergence was the epistemic aim or goods of education. While epistemologist Catherine Elgin proposes autonomy as the epistemic goal of education and understanding as *the* epistemic good to impart to students through education, Ben Kotzee presents expertise as *an* important epistemic good to inculcate in students. Furthermore, Harvey Siegel, a well-known proponent of critical thinking, proposes the development of critical thinking as an educational ideal (e.g., Siegel, 1980). How are concepts such as understanding, expertise, and critical thinking related? What are their relationships to the epistemic goal(s) of education? More broadly, what is the difference between educational ideals, aims, and goods? The *Handbook* represents diverse and potentially conflicting views among epistemologists of education, which may yield fruitful direction for future research.

Another potential divergence that we observed concerns the aim of higher education, specifically whether upward mobility should be an ideal to embrace in higher education. As Curren notes in the introductory chapter, Morton calls for reevaluating upward mobility as an ideal of higher education. In comparison, Martin sees access to higher education as a matter of distributive justice and economic mobility as an ideal, along with the development of autonomy. Should upward mobility be an ideal for higher education? More generally, what should be the aim of higher education? Addressing these questions by putting these competing perspectives into conversation may advance the existing philosophical inquiries into the issues surrounding higher education.

Overall, the *Handbook* reflects outstanding progress in the contemporary philosophy of education in the past few decades. It provides rich, careful, and insightful reflections on education not only for informed readers but also for non-philosophical audiences. The topics covered in the *Handbook* are timely and critical, and the *Handbook* adequately reflects the recent methodological and content developments in the field. Most importantly, the *Handbook* itself is truly a celebration of the scholarly advances made in the ever-evolving field that is philosophy of education. It will undoubtedly prove a valuable resource for scholars, practitioners, and interested parties of all kinds.

Ka Ya Lee and Eric Torres ■

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Belando Montoro, M. (2022). (Ed.).
Participación cívica en un mundo digital [Civic participation in a digital world].
Dykinson. 225 pp.

It is not often that we find a work with an outlook as original as the one in this book coordinated by María Belando Montoro. Its innovation is in the combination of two topics that are as current as they are rarely tackled: civic participation and virtual environments. Its relevance is also demonstrated by social facts that are the object of academic research and reports by public and private institutions and organisations that result in national and international normative frameworks. It is worth noting the *Actualización del Marco de Referencia de la Competencia Digital Docente [Update of the Digital Competence in Education Reference Framework]* from May 2022, which, based on its European counterpart *DigCompEdu* from 2017, develops the valuable work of educators in the current socio-technological setting, where we find the exercise of digital citizenship. Accordingly, the approach of Belando and the team of researchers who participate in this book merits close attention, not just because of its timeliness, but also for another series of aspects that it is important to underline here.

The book has 10 chapters, most of them by international groups of authors, primarily scholars from Spain and Ibero-American countries, such as Argentina, Brazil and Mexico, something that is important, as this international nature is an unavoidable consequence of technological change, as the civic sphere can no longer be understood solely through geographical proximity, but instead requires a broader context. In addition to this, as is to be expected, there is a wide variety of institutions, with participants from the Universidad Complutense, the Universidad de Buenos Aires, the Universidad de Barcelona, the Pontifícia Universidade Católica de São Paulo, the Rede Beija-flor de Pequenas Bibliotecas Vivas de Santo André, the Universidad Autónoma de Baja California, the Universidad Nacional Autónoma de México and the Universidade de São Paulo.

A variety of approaches to the object of study are used, ranging from theoretical works that analyse and review key concepts relating to the issues considered, qualitative research that considers specific situations in depth including highly demanding, emerging ones such as that caused by the Covid-19 pandemic or paradigmatic case studies that enable cross-border and intercultural dialogues, and analyses of national and international situations that draw relevant conclusions for educational policy and practice based on quantitative and comparative methodologies.

The first chapter, written by the editor of the book herself along with Aranzazu Carrasco and María Naranjo, focusses on the challenge of social inclusion through ICT. Starting with an up-to-date literature review, they identify four dimensions from which to approach this phenomenon. These take into account: school performance itself through processes of progressive acquisition of autonomy in learning; diversification of learning times and spaces, that help to adapt and personalise education throughout life; civic participation, which experiences an amplification of its potential for organisation, presence, and assertion; and university participation, which as a classical social space for youth mobilisation intuits a transformation which, nevertheless, requires vigilance of its capacity for commitment and transformation.

In the second chapter, Pedro Núñez, Rafael Blanco, Pablo Vommaro, and Melina Vázquez focus on the use of digital social networks by secondary school students in the city of Buenos Aires. They consider two moments separated by the pandemic, the impact of which far from being of little importance, has affected the very core of civic participation in digital settings and has accelerated and modulated already initiated digital processes in particular. Through the results of three mixed methods studies they consider essential aspects: place and the appropriation by young people of public, private, and technologically hybrid spaces in their participation and in their reconfiguration by the pandemic; technologically mediated intergenerational relations and their political representation; and dissidence and as element of socialisation in an urban setting.

The next chapter, by Flávio Morgado, Jéssica Garcia Da Cruz Morais, Anna Carolina Ribeiro De Campos, Cibele Maria Silva De Lima, Pâmela Carolina Garson Sacco, and Marilena Nakano, considers processes of transition to adult life. Their contribution is not without a certain air of rebelliousness as it positions literature and the library, the spaces par excellence of the book and reading, as essential spaces for dialogue, reflection, questioning, and maturation in technological society. After offering a snapshot of the situation in Brazil, they present the results of an experiment carried out in the *Escrevivências* (Writing–Experiences) reading club where a group of young people participate whose activity has motivated complex processes of self-recognition and encounter, acquisition of new democratic identities, initiatives for transforming the school and the city, examining issues in greater depth, and considering art as an end and as a means of introspection and social criticism.

Fernando de Jesús Domínguez Pozos and Jesús García Reyes take us to Mexico, more specifically the secondary and higher education of this country, to consider its current and not infrequent problems, which are strongly shaped by impoverished social settings with school leaving being one of the most persistent and pressing challenges facing Mexico's educational system. In this context, virtual spaces offer a new hope, although their early promise, filled with optimism, seems to have faded rapidly like fireworks, as they have not been accompanied by policies to consolidate the integration of technology in schools that lack means, and they have also not been accompanied by appropriate didactic focuses, medium- and long-term programmes, consideration of the specific problems of rural areas, and so on.

Ferran Crespo i Torres, Marta Beatriz Esteban Tortajada, Miquel Martínez Martín, Elena Noguera Pigem, and Ana María Novella Cámara are the authors of the fifth chapter, which considers the exercise of citizenship in childhood and adolescence, when the digital encapsulates the paradox of the formative requirement to keep up with the times, and impedes personal and social development in various ways. As they state, the existence of an *us* that is weakened by the impact of technologically mediated individualism also undermines the perception of the public, and so calls for an education in global perspective that promotes planetary citizenship. To do so, a series of transferable skills are needed that comprise critical comprehension of reality, dialogue and deliberation, innovation and entrepreneurship, responsible commitment to communal, self-organisation and teamwork, reflection on one's own participation, and the use of civic technology.

Judith Pérez-Castro, Alejandro Márquez Jiménez, and María Guadalupe Pérez Aguilar consider the wide-ranging Mexican baccalaureate and the effects of the pandemic on the schooling of young people, spotlighting its significant deficiencies and some of its most notable advances. High dropout rates, low levels of learning, limited teacher professionalisation with limited training and poor job insecurity among other aspects are difficulties that add to the new complications of the pandemic, affecting the most vulnerable populations and it is to be expected that they will leave a deep mark on the society of this country, where technology has not been sufficient to mitigate unequal access to education.

More specifically, Sara Martin Xavier, Elmir Almeida, and Felipe de Souza Tarábola continue with their outlook on secondary education and processes of participation from secondary schools. In a research project based on sociodemographic questionnaires and group interviews with young people from working-class settings, they find that motivations for participation include the rational need to highlight unjust social inequalities and the lack of educational resources, as well as a sense of protagonism fed by the experience of autonomy through action and a certain symbolic restitution in political action articulated in social recognition by peers. In this participation, the school is a space fed by the wealth of interactions, shared with other social and technological spaces that are ever more present in the exercise of citizenship by new generations in Brazil.

Alejandro Cozachcow and Mariano Chervin take a more political perspective in their work, where they study four secondary schools of different types in Buenos Aires through focus groups. Gender and sexual inequalities are the main focus of the discussions with young people, stirred by a series of events that occurred in the recent political context of Argentina and whose demands young people have taken to schools. Protests, assemblies, occupation of buildings, and solidarity initiatives are some of the principal channels of youth participation analysed, which, through it, shape a distinctive and singular us.

Chapter nine is concerned with the city of Barcelona and its initiatives relating to children's and youth participation, and it is written jointly by people from the city council and researchers from the Universidad de Barcelona, enabling a very fruitful and instructive collaboration regarding two settings that call for greater interaction. So, Isabel Moreno Gómez, Pilar Lleonart Forradellas, Marta Carranza Gil-Dolz, Marta Beatriz Esteban Tortajada, and Ana María Novella Cámara present the "BAOBAB", "Protegemos las Escuelas" (Let's Protect Schools), "Transformamos los Patios Escolares" (Transforming School Playgrounds), "Proceso participativo de la ciudadanía adolescente" (Participatory Process of Adolescent Citizenship) and "Consejo Educativo Municipal de Barcelona" (Municipal Educational Council of Barcelona) initiatives, which are guided by the recognition of children as political subjects who are capable of contributing to the communal, whose contribution not only transforms them, but also the plural context in which it occurs and which conceives the municipality as a privileged community for inclusive participation.

Finally, the book ends with an enlightening concluding chapter, which uses the metaphorical figure of the sextant to identify transversal lines that link the previous chapters, where it is possible to read beyond the particular details and obtain a global and integrated vision. In this sense, Juan Luis Fuentes identifies three pillars to consider: a) the digital divide that not only remains, but is progressively exacerbated, reproducing inequalities; b) the complementarity of the physical and digital spaces in civic participation, that gives rise to ever more hybrid and transmedia interactions, and, in turn, demands new capacities; and c) the diversity of motivations for participation, deriving directly from the macro political context and from the cultural and identity microenvironment of youth.

Tania García Bermejo ■

Ruiz-Corbella, M. (Ed.).
Escuela y primera infancia. Aportaciones desde la Teoría de la Educación [School and early childhood: Contributions from the theory of education].
Narcea. 238 pp.

The coordinator of this book with the title *Escuela y primera infancia. Aportaciones desde la Teoría de la Educación* offers an interesting journey through the most notable topics relating to childhood. This professor from the Universidad Nacional de Educación a Distancia (UNED) is accompanied on this journey by a team of 13 authors who add their own contributions to this project, resulting in a book that is a reference work in the field of education theory. It covers current and classic topics with the primary objective of situating childhood as the central pillar of our society.

As it shows from the first chapter to the last, education is something essential that makes us truly human and links us to the world, to the context and to a concrete culture. This process is infinite, just as education is infinite. The first two chapters of the book tackle essential questions about the concept of *educating*. While it is true that it is not wrong to speak of the teacher as a figure of authority, as reflected in numerous pieces of legislation, it should be noted that the educator is not synonymous with power, mastery or control, but instead is an essential element in educational accompaniment, an instructor who must gain worth through knowledge transfer and the relationship with the students. This is not a black and white issue, as the freedom of the learner vs the authority of the educator is discussed, but rather of educating with limits and knowing the students we have before us, as well as their close context.

In recent decades, many texts have reflected on children's rights, with non-discrimination, the best interests of the child, the intrinsic right to life and survival, as well as participation in society standing out as guiding principles. These principles must be related to autonomy and care for fundamental values so that children can develop fully. These questions are tackled at the end of the third chapter, where there is also a space for reflection on children's rights in cyberspace, a matter that is currently of great interest, and it fittingly ends with the words "the education that limits is that which frees", in reference to the necessary limits that must be set in the use of technology. Rights and duties are intimately linked; we should offer children rights and the capacity for decision and reflection.

The act of educating can be based on various theories, but without practice, these fall short. A guide can offer us this practical knowledge, as the necessary answer to the *whats* and *hows*, but avoiding the significant risk of *adultification*. This concept, despite not appearing in the dictionary of the Spanish Real Academia, is cited in chapter four and is a growing trend in our society. We should let the children in our environment be free and autonomous beings with morality, essential rights for each one of them, as should the institutions.

All of the learning that occurs in the different scenarios, where children coexist, is in constant change. It is no surprise that one of the most important social and educational institutions, one that is present from the start of life, is the family, a space where children spend the majority of their time. Types of families have changed, but not their essence, which is not so much their structure but rather the child's relationship to the figures that raise it, where a safe space must be offered and built, one that is welcoming, loving, and offers care, among other aspects. And where is the school? The family-school relationship and the interaction with other educational agents is essential to provide the best accompaniment and offer support through all of the neurodevelopmental process. It is also notable, and I could not be more in agreement with the authors of the book, that screens transport us into an unreal world, especially at very young ages. As the WHO notes, children aged under two should not have access to them. Children should play, jump, fall, laugh, ultimately be children. Because childrearing and respect for childhood is this: giving them the chance to have the time to mature that they need, and offering them support throughout the process.

The other frame of reference in which children find themselves, and where they also spend a considerable part of their lives, is the school. Here we must all, as teachers and also as families, deconstruct the experiences we have had throughout all of our educational process, accompanying this with a reflection that can facilitate the emotional and educational link with the students and with our children or our nieces and nephews.

The early years stage of education, which has taken on a care-giving role since the industrial revolution (and sadly still has it), has been changed by all of Spain's education acts, in particular the Moyano Act, the first pedagogical document regarding teacher training. This shows how education has continuously depended on the concrete political system and has often been shaped in an improvable way in the eyes of families and students with or without needs, as well as teachers. One sadly very accurate reflection by Díaz (2019) notes that "professionals from the 20th century educate children from the 21st century using pedagogical frameworks that, in many aspects, belong to the 19th century" (p. 166). For this reason, research and interest in new flourishing pedagogical models that share common characteristics has developed, such as Amara Berri, forest schools, learning communities, Montessori pedagogy, Waldorf pedagogy, and Escuela Reggio Emilia among others. The book also notes that there is ever more evidence that technologies favour the development of children, but we should ask whether this occurs in the same way in all stages, as in early years education. It is true that children cannot be made to live their childhood in a bubble, but it is advisable to ensure that technological devices do not deprive them of irreplaceable experiences in this crucial moment of development, and that they have teachers who are specially trained in this area.

Pedagogical models of this type, from the most conventional to the most classical, appear ever more often in educational centres, which are seen as spaces for democracy, where foundations are laid during childhood for the shaping and functioning of this political system through the acquisition of both social and civic competences. Nonetheless, certain educational policies that are still proposed today by different governments at a European and a global level involve a constant politicisation as they still see early years education merely as preparation for primary education, going against maturational development and the interest of the child. However, this conception faces a vast human reality: How do we know when a child is ready to progress to the next stage? Can a scale of items establish whether a child is sufficiently trained to access primary education? Instead, it is necessary to consider that each child has a different maturation and a different context, and so decisions must be taken on the basis of all of the factors cited throughout the book.

The world is changing, and what we know today will be different tomorrow. The last chapter of this book sets out how change has been radical up to the 21st century and technology has played a fundamental role in all of this. Education must adapt to the new times, taking into account the fact that what is most valuable is not just to offer students merely theoretical knowledge, but also for them to learn to think, observe, know what to do with the information they receive, reason, and have sufficient skills and values to handle uncertainty. Above all, in this period in which we are overwhelmed by so much information from so many sources, we must be critical and not settle for the first idea we encounter, however good it may initially seem. For this reason, the elaboration and revision of learning models should be a constant activity for teachers. In this process of innovation and reflection, aspects such as inclusion and equity must be considered, while being realistic and considering the possibilities for applying them in the centre and the classroom, and the idea of the right of everyone to a quality education.

Ana Caseiro Vázquez ■

Ahedo, J., Caro, C., & Arteaga-Martínez, C. (Coords.) (2022).
La familia: ¿es una escuela de amistad? [The family: Is it a school for friendship?]
Dykinson. 190 pp.

Friendship is one of the fundamental pillars of any person. It is impossible to imagine what human relations would be like without a sense of reciprocity, of sharing the personal with others, of interchanging or sacrificing for the good of a friend or of listening actively to learn mutually. Friendship has been and still is one of the most important aspects of human societies, and so it is necessary to reconsider what a healthy relationship really comprises; how much it is possible to forgive, empathise, or sacrifice; why empathy or listening is crucial; what real need does a human have to establish links with others; and how the way we make new friends has changed in a society that is so fast moving and digitised. Above all, it is essential to reflect on the role that the family plays in the formation of new friendships that we make throughout our lives and analyse what actions or attitudes that it instils in us might be most appropriate and which are not so much when establishing new links. The book *La familia: ¿es una escuela de amistad?*, coordinated by Josu Ahedo, Carmen Caro, and Blanca Arteaga-Martínez, considers in great detail and very precisely all of these aspects from different perspectives.

The work is structured in four sections with a total of fourteen chapters, each written by authors from different Spanish universities. It starts with a very interesting prologue on the importance of the book's subject matter and how it is organised. The first section considers emotion in friendship, covering aspects as important as forgiveness, the development of the person, growth in values, and confidence. The second section tackles help in friendship and covers topics such as empathy, solidarity, and learning to create friendships from the everyday and family sphere. The third section comprises chapters with very interesting points that consider the friendship of values, such as wonder, generosity, transcendence, virtuosity, and imperfection. Finally, the fourth section, whose point of interest is the networks with which we establish and sustain friendships, focusses on educating at a family level, how to create lasting links, and the role that social networks play in relationships nowadays.

The first chapter revolves around the importance of forgiveness in friendship. It starts by stating that in friendships there can also be facts, situations or actions that are not correct or are displeasing to the other, that is to say, that one of the members of the relationship is damaging it. Nonetheless, it is worth thinking calmly about what has happened and analysing the intentions, motives, and attitude of the person who caused the harm, as well as asking whether it is possible to hold a conversation about the subject and arrive at an understanding, and forgiveness to heal both the injured party and the person causing the harm. Or instead, whether it is really worth maintaining this relationship if the harmful situation is continuously repeated or there is no clear repentance. Therefore, the family must be an agent that teaches about forgiveness as something healthy that a human being can do in relationships with others, both the fact of forgiving and that of being forgiven, but it is necessary to know its limits and its true value.

Chapter two tackles the close relationship between friendship and personal growth, as the former is an essential requirement for the latter to occur. This text specifically and literally analyses the saying *a friend is a treasure*, since, as the book argues, it is. This is because creating connections with other people, listening to them or sharing experiences with them helps us to know more about others, but it also produces introspection: it leads us to analyse ourselves. Therefore, a true friendship is essential for a quality life, in which we count on someone who helps us in any situation, even to grow as people.

Chapter three is closely aligned with the previous one, as it focuses on friendship as a source of growth in values. It is a bond that should not focus solely on the material, but which goes further and requires a sense of reciprocity where the people who maintain this relationship have the necessary will to share experiences that personally enrich them and help both members of the relationship to grow in values. Therefore, family and friendship are closely linked when we transmit values to each other and help us grown as people.

Chapter four considers trust and its role in friendship. The author first invites the reader to reflect by making a very interesting comparison with the prisoner's dilemma. This chapter also tackles an interesting concept: methodical mistrust, which can protect against deceptions and appears in relationships where there is a certain existential incoherence. It also insists on the friendship of superiority, which appears in parents with regards to children, as something normalised and considers trust in this type of relationship, as well as the place of hope in friendship, which is a source of optimism for human relationships.

Starting the second section, chapter five is based on empathy and the importance of putting ourselves in the place of our friends, as they are another part of us. This capacity is fundamental for establishing true relationships of friendship and, therefore, it is also important to learn to listen to others to develop even further empathy for those who surround us. The family should, therefore, be an agent that promotes the importance of listening and of putting ourselves in the place of our friends to establish healthy links and so develop empathy.

Chapter six starts with a very enlightening reflection on our identity, in which our names and surnames play a special role. Nonetheless, it questions what the links or aspects that truly make us authentic are, including the people we love. It also centres on the analysis of coexistence, both in the home and with ourselves, and it questions whether one single person is responsible when establishing or maintaining links that support this coexistence.

Chapter seven is perhaps the most practical in the book, as it sets out everyday case studies in which the family teaches us how to develop ourselves as sociable and friendly people within a community. It provides examples and useful advice in which it is very visible how the everyday trains us to establish relationships with others.

The third section starts with chapter eight, which focusses on how the emotion of wonder makes us open our minds and see beauty in others and in the everyday, and so connect with other people. To do so, it presents three stories that underline this fact, in which the protagonists are a dog, literature, and a group of religious women. In this way, it shows that wonder is fundamental for bringing us together and for wanting to know others, and, as it argues in the concluding notes, wonder is essential for contemplating beauty, opening minds to reality, travelling with full conscience or initiating new friendship relationships.

Chapter nine questions the relationship between generosity and preadolescence. These do not seem to be as incompatible as it may seem, as the chapter shows by explaining the evolutionary foundations of development. It centres on analysing what generosity really is and how it is a fundamental pillar in our relations with others, and it provides a series of very practical and interesting ideas to ensure that generosity is a *trending topic* among preadolescents.

Chapter ten covers a subject of great spiritual depth, as it relates friendship to transcendence. To do so, it considers terms such as death and plenitude, whose pedagogy is based on salvation, friendship, and virtue. Another revealing aspect that might even stir the reader's emotions is the reflection on the death of a friend and how the family should be an agent that also educates in this aspect: the transcendence of friendship.

Friendship as a virtue that enables reciprocity between people is the subject of the next chapter. It notes that it is necessary to be virtuous and have a healthy relationship for this reciprocal sensation to function. In this way, it covers friendship seen from an up-to-date perspective and provides a series of reflections and strategies to guide families in a virtuous education in friendship.

Chapter twelve concludes this section by presenting a family case study with some problems and a specific situation, accompanied by a large number of illustrative examples. This situation is the focus throughout the text, as it is a perfect example to understand the relationship between love and friendship or friendship in a couple, along with its consequences, which include the point of view of the children and how they themselves see friendship thanks to the lessons of their parents.

The two chapters from section four complete the book. On the one hand, the author focusses on providing a series of explanations that are of particular interest to families when raising their children to ensure that they can maintain lasting relationships. To do so, she sets out the importance of the role of the family, the different stages of friendship, how to have a large number of quality friendships, and the aspects within the family sphere that can be of use for having and maintaining friendships. On the other hand, the final chapter analyses social networks and how irresponsible use of them is a challenge for families in regards to the appropriate socialisation of their children. It clearly states that a *like* on a post can conceal many more aspects (not always positive ones) beyond simply saying "I like this". Therefore, families must stay up to date and be willing to browse with their children in the new digitised era to make them see what a friendship, a gesture of affection, or a real "like" truly are. To do so, it includes a guide as a survival manual for families that have this goal.

This book undoubtedly covers a wide range of subjects and perspectives connected to friendship and the family as a formative agent. In addition, its wealth of advice, stories, examples, philosophical quotes, and case studies allow the reader to delve into each of its chapters about human relations. Given the subject it covers, this is unquestionably an especially useful book for families with children of all ages and also for educators, teachers, or social educators, as it provides an up-to-date and enlightening view of how to educate in friendship.

Paula Álvarez Urda ■

Call for papers for a monographic issue: "New focuses in research in music education"

Guest editor: Roberto Cremades Andreu (Universidad Complutense de Madrid).

The role of music at different stages in the educational system is currently on a long and difficult journey with researchers from Spain and other countries having exponentially increased the quantity and quality of academic works published, to show the different functions of the approach to musical art beyond those relating to pleasure and aesthetic enjoyment of the sound. Research on music education is an area of study that started its journey in the early twentieth century in the USA, through the National Association for Music Education. The first meetings of music education teachers and researchers were organised around annual conferences at which the initial focus was on essentially musical content, such as new ways of teaching and learning rhythmic elements. These early stages were also marked by the need for in-depth consideration of training of music teachers in primary and secondary education, conservatories and music schools, thus opening a path to study areas of learning that could be of benefit to musical appreciation and sensitivity and, based on this, to participate actively in the development of psychomotor process (acquiring skills), cognitive process (acquiring knowledge), and, in particular, affective process (receiving, internalising, and sharing what is learnt).

Building on these initial studies, the last decade has seen significant growth in research on musical education thanks to the interchange of collaborative experiences between different areas and disciplines that have worked jointly on music research, through works and studies of proven methodological quality in line with other areas based on the clearest academic tradition. As a result, emerging lines of research can be seen that link musical education to educational sciences, pedagogy, technology, psychology, emotional education, neuroscience, and sociology among other fields.

In this context, this monographic issue aims to show where the new perspectives are heading that make visible the academic corpus of this area of knowledge and so deliver and enrich the views of the academic community with regards to music education.

The areas to develop in this monographic issue are:

– Training and professional development for music teachers.

– Innovative didactic methodologies applied to music education.

– Educational projects through music and dance.

– New uses of technology applied to music.

– Cultural and musical identity in adolescence: educational implications.

– Studies on music's contributions to emotional education.

– New perspectives on musical creativity.

Original submissions, which must follow the author instructions published on the journal's website, must be emailed to direccion.rep@unir.net **before the 10th of September 2023.**

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. In fact, it has been the first journal of pedagogical research in Spanish that has been included 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. Three issues a year are published.

B. Languages used in the journal

The original language of the journal is Spanish, the language used by hundreds of millions of people worldwide. However, meeting the demands of a globalized world requires the use of not only Spanish but also English to make the articles we publish available to the international academic community, just as we have traditionally done by publishing some articles in English. Therefore, the policy of the journal is for it to be printed wholly in Spanish and for articles to be published in Spanish and English on its website (revistadepedagogia.org). Articles are received in Spanish, if this is the first author's mother tongue. Otherwise, articles are received in 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. Texts cited in the article that were originally published in Spanish, although they were later edited in an English translation, or those that are only published in Spanish, have a special treatment. 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. This ensures that, when translating the article for the Spanish version of the journal, the translator does not retranslate into Spanish some Spanish quotations translated into English. On the other hand, an article from a Spanish journal or a paragraph from a book in Spanish, never published in English, is quoted with the text in its original language and the translation is left to the translator, without prejudice to the fact that, in certain circumstances, the author may consider it appropriate to offer his or her own 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), from which we include 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. They must be written double spaced, on numbered pages, and using the Times New Roman typeface.

2) The first page must include: the title of the article (in lower case, except the first letter) in English (not in italics, 24 point, bold) and Spanish (in italics, 18 point, bold); the name of the author or authors (bold, name in lower case and surna-

me in capital letters), 11 point and also bold, followed by the abbreviation Ph.D. if you are a doctor, and followed by your professional category and place of work (Full Professor, University of Valencia, not in italics) as well as your email (in italics); an Abstract (10 point bold) followed by the body of the abstract of between 200 and 300 words (10 point, without bold, first line indented) in English,in accordance, where possible, with the IMRAD format (introduction, objective, method, results, discussion and conclusions). Then, the Keywords (10 point bold) are listed, between 5 and 8 (10 point, lowercase and not in bold). Authors are adviced to check international thesauri such as UNESCO or ERIC. Following the abstract and keywords, the article should include the translation of both into Spanish (*Resumen* and *Descriptores*) or English, depending on the original language of the article.

It is important to remember the value of reflecting carefully on the choice of title and the wording of the abstract of the articles. The text of the article then follows in 12 point.

3) The start of each paragraph will be intended in 0.5 cm. The text will not be justified. Headings should be in lowercase 14 point bold and in line, not intended. Subheadings will be in lowercase 12 point bold and in line, not intended. Finally, lower-level subheadings will be in lowercase 12 point normal text, and in-line, not indented.

4) 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. If the number of authors of a publication exceeds twenty, the first nineteen authors should be listed in the reference, followed by ellipses and the last author.

It is not necessary to indicate the geographical location of the publisher. The original title of foreign publications should be included next to their English translation in square brackets. The date of retrieval of an online publication should only be indicated if the content is designed to change over time and the page is not archived.

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:**

  Faraone, V. S., Banaschewski, T., Coghill, D., Zheng, Y., Biederman, J., Bellgrove, M. A., Newcorn, J. H., Gignac, M., Al Saud, N. M., Manor, I., Rohde, L. A., Yang, L., Cortese, S., Almagor, D., Stein, M. A., Albatti, T. H., Aljoudi, H. F., Alqahtani, M. M. J., Asherson, P., … Wang, Y. (2021). The World Federation of ADHD international consensus statement: 208 evidence-based conclusions about the disorder. Neuroscience & Biobehavioral Reviews, 128, 789-818. https://doi.org/10.1016/j.neubiorev.2021.01.022

- **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 populatíon dock. U.S. Department of Commerce*. Retrieved July 3, 2019, from https://www.census.gov/popclock/

5) 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.

Other authors' texts will be quoted following the criterion of consulting the originals that are written in those languages and using their official translation when such text has also been edited in the other language. If this official translation is not available, the quoted text will be offered to the readers translated by the author of the article (noting that the translation belongs to the author of the article), or by the sworn translator hired by the journal.

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.

6) To highlight a word, italics will be used. Underlining or bold should not be used.

7) The number of lists, diagrams, tables and graphs in the text should be limited. These will be called Tables or Graphs. In any case, they must be where they should be in the article and always in black and white. 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, not in italics or bold, 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.

Graphs and tables, in addition to appearing where they should in the article, have to be sent in their original editable format whenever possible. The images sent must be of high quality (300 dpi).

Equations will be centered, separated from the main text by two lines. They should be referenced in the text, stating the number of the equation; therefore, they will be accompanied by Arabic numerals, aligned to the right and in parentheses in the same line.

The article will conclude with a list of the bibliographical references of all the works cited, except for the works cited whose authors include one of the authors of the article. In these cases, these works will be listed in the version with names of the authors, while in the anonymous ones they will not be included in the references, although they will appear in the text, where they will appear as follows: (Author, 2022, p. 39). Citation of publications belonging to journals or publishers considered "predatory", i.e. those that lack a rigorous and quality scientific evaluation system (e.g. double-blind peer review) and whose main purpose is not to disseminate knowledge but to obtain an economic profit by charging publication fees to authors. Lists of predatory publishers and journals can be consulted at: https://beallslist.net/

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 contact telephone number of the Editor, 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 and must be submitted along with a copy of the book reviewed. They will be headed by the book›s details as follows:

Villardón-Gallego, L. (Coord.) (2015). *Competencias genéricas en educación superior*. Narcea. 190 pp.

Commentaries will be of moderate length. The analysis of published articles will be sent, from the journal, to the author of the analysed article, so that he/she can prepare a response.

D. Correspondence with authors and evaluation of originals

Papers must be sent to: director.rep@unir.net. Authors must send two Word files: the first one will not disclose the identity of the author or any self-references that reveal his or her name; the second file must include this information. Along with these files, authors must send a document containing a declaration of authorship, transfer of copyright, etc., which can be downloaded from the journal's website.

Due to the high number of papers sent to the journal, papers may only be submitted within the 4 following time frames:

- 10th to 30th January
- 1st to 30th April
- 10th June to 10th July
- 1st to 30th October

Special deadlines may be set for public calls for papers for monographic issues. Articles will not be accepted outside of these time frames and anyone who does send one will not receive a reply. Reviews, news, etc. may be submitted all year round.

The assessment process is objective and impartial. To this end, the "double-blind" principle is applied, ensuring that reviewers are unaware of the identity of authors whose articles they are reviewing, and authors, likewise, are unaware of who is reviewing their papers. External reviewers will work in the assessment process to guarantee expert opinions.

Authors will receive confirmation of receipt of their article within 15 days of emailing their work to director.rep@unir.net. Approximately three weeks after this notification, they will be sent the results of the initial evaluation. The time frame established for completing the review process is four months from the date the article was confirmed as received. After this deadline, the author will ordinarily be informed of the final outcome of the assessment. If the outcome is positive, it is important to bear in mind that the journal will not normally publish papers by the same author within a period of two years following the publication of his or her paper, nor will topics that have been addressed in special issues be accepted within the same period. If the outcome is negative, please be reminded that the experts do not review authors, whose identities are unknown, but rather the specific papers. This allows authors whose papers have not been accepted to submit other papers at a later date. Any papers received will not be returned.

When a paper is accepted, the author will be required to send a printed copy of the final text, attaching an explanation of how he or she has incorporated the observations reached, as the case may be. The author will send an editable Word document with the final text to the aforementioned email: director.rep@unir.net.

The publication of articles does not entitle authors to any form of remuneration. Authorisation from the journal is required for any type of reproduction/copy. Authors of articles and book reviews will receive one copy of the issue. They will also receive a PDF version of their article in both English and Spanish. A one-year embargo will be applied to this PDF file, following the publication of the issue; however, it may be sent privately to the authors cited in the paper, colleagues, etc. All authors are required to use the most effective methods to spread their articles, obtain citations and further pedagogical knowledge, in accordance with the different possibilities while their articles are under embargo, or when one year has already passed since they are published including them in repositories, etc.

E. Dissemination of published papers

Once the papers have been published in the **Revista Española de Pedagogía**, authors can contribute to dissemination tasks, both by supporting the ones that the journal itself carries out and by their own initiative. Specifically:

1) The **Revista Española de Pedagogía** has profiles on the main social networks (Facebook, Twitter and LinkedIn), where it disseminates the papers it publishes, consequently we recommend that authors follow the journal on these networks and share their publications.

   - https://www.facebook.com/revistadepedagogia
   - https://twitter.com/REPedagogia
   - https://www.linkedin.com/company/revista-espanola-de-pedagogia

2) In addition, our journal is part of the Aula Magna 2.0 academic blog (http://cuedespyd.hypotheses.org/), where entries on topics of interest for educational research, as well as reviews of articles are regularly published, which contribute to their diffusion.

3) It is also advisable to use academic social networks (ResearchGate, Academia, university repositories, etc.), uploading the articles when the embargo period (one year) has elapsed.

4) Articles have a one-year embargo period before becoming freely available on the web. These articles could be offered freely immediately, after an economic agreement with the journal.

(Version, May 2023)