



Design and Validation of a Scale of Key Competences in Secondary Education

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ABSTRACT

The main objective of this research was to design and validate an instrument for assessing key competences in Compulsory Secondary Education (ESO). The Delphi method was used with a coordinating group ($N = 3$) and a panel of experts ($N = 7$). A total of 388 ESO students participated ($\text{Mage} = 13.82$; $\text{SD} = 1.21$), 195 males and 193 females. After content validation by experts, the psychometric properties of a 21-item scale with seven dimensions corresponding to key competences were analyzed, including an analysis of gender invariance. In addition, the satisfaction of basic psychological needs (BPN) and the type of assessment used were measured. A linear regression analysis was performed to determine the influence of BPN and the type of assessment on key competences. The results showed that key competences were positively predicted by the satisfaction of BPN and formative assessment, and negatively by non-participatory assessment, all with significance ($p < 0.05$). Thus, the Key Competence Assessment Scale (KCAS) is validated as a reliable and adequate instrument for assessing key competences in secondary education, with no gender variations.

Keywords: basic skills, secondary education, measurement instrument, factor analysis.

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1. Introduction

Current challenges—such as globalization, sustainability, and democratic coexistence—have driven an international educational overhaul (OECD, 2019, 2022; UN, 2015; EU, 2010, 2018). This transformation promotes a supranational strategy (Valle and Manso, 2013) that overcomes the traditional fragmentation of school knowledge, which lacks social significance (Bolívar, 2010). In this context, a paradigm centered on lifelong learning (Eurydice, 2012) has emerged, structured around key competences (OECD, 2019).

The competency-based approach (OECD, 2019) promotes meaningful and applicable learning by mobilizing personal and social resources (Bolívar, 2010; OECD, 2022). In compulsory education, a competency is understood as a skill acquired through participation in practices with high transfer value (Order ECD/65/2015). This approach is linked to Self-Determination Theory (Ryan and Deci, 2017), as it is based on principles such as involvement, self-regulation and autonomy. Several studies confirm that a teaching style that supports autonomy improves the classroom climate, student engagement and enjoyment of learning (Fin et al., 2019; Jang et al., 2016; Moreno-Murcia and Sánchez-Latorre, 2016).

Although the competency-based approach has been integrated into the Spanish education system (LOE, 2006; LOMCE, 2013; LOMLOE, 2020), its implementation remains limited and little known in practice (Barrachina Peris and Blasco Mira, 2012; Zapatero-Ayuso et al., 2017). Usually, the assessment of competency development is based on teacher perception (Hortigüela Alcalá et al., 2014, 2016; Méndez Alonso et al., 2015), without specific instruments applied to students (Meroño et al., 2018; Moreno-Murcia et al., 2015). Furthermore, there are few studies that relate skill acquisition to variables such as motivation or teaching style (Barrachina Peris, 2017; Moreno-Murcia et al., 2020).

Given that key competences are essential for active citizenship (LOMLOE, 2020), it is necessary to further develop them and their relationship with formative assessment (Order ECD/65/2015; Royal Decree 217/2022). Recent studies have already begun to operationalize competences such as “Learning to Learn” (Gairín Sallán and Olmos Rueda, 2024), opening new avenues for their measurement and pedagogical integration.

1.1. Key competences, motivational teaching style and assessment

According to the OECD (2019, 2022), a competency manifests itself when action results from reflection and the integrated mobilization of skills, knowledge, motivation, values and attitudes. For Perrenoud (2003), it involves adapting resources to the context. This competency-based approach (Order ECD/65/2015; Valle and Manso, 2013) represents a shift away from fragmented models, favoring active learning, transfer and autonomy (Bolívar, 2010).

The education system (Royal Decree 157/2022; Royal Decree 217/2022) defines key and specific competences as essential performances. In this process, teachers act as facilitators of learning through active and contextualized methodologies that promote motivation and participation (Order ECD/65/2015). Teachers’ socio-emotional and moral competences are also key to creating inclusive and equitable environments (Núñez-Flores and Llorent, 2022).

Reeve (2006, 2016) demonstrated that supporting autonomy promotes participatory learning environments. This style encourages student decision-making and involvement in assessment, promoting self-assessment and co-assessment (Hamodi Galán et al., 2018; Moreno-Murcia et al., 2020). Formative assessment (Barrachina Peris, 2021) is considered essential in regulating the teaching-learning process in secondary education (Royal Decree 217/2022), as it incorporates student participation and the use of various tools (Order ECD/65/2015).

1.2. Key competencies, basic psychological needs and assessment

Competency-based teaching gives teachers the role of mediators and facilitators of learning. According to Self-Determination Theory (SDT; Ryan and Deci, 2017), an optimal classroom climate is achieved when basic psychological needs (BPN) are met: autonomy, competence and relatedness. Autonomy is linked to the ability to make decisions; competence to the perception of efficacy in the activity; and relatedness to social acceptance (Tessier et al., 2010).

A teaching style based on supporting autonomy promotes BPN satisfaction and self-determined motivation, while a controlling style generates pressure and demotivation (Reeve, 2006, 2010). Studies have confirmed the positive relationship between autonomy support and BPN satisfaction (Haerens et al., 2015; Pérez-González et al., 2019; Vasconcellos et al., 2020; Yew and Wang, 2016), as well as its relationship with the acquisition of skills (Barrachina Peris, 2017; Moreno-Murcia et al., 2015, 2020). Participatory assessment has also been positively related to learning (Li et al., 2020; López-Pastor et al., 2017, 2020; Panadero and Romero, 2014).

1.3. Key competence assessment tools

Although the competency-based approach has been incorporated into official curriculum frameworks (LOMLOE, 2020; Royal Decree 217/2022), there is a notable lack of validated instruments that directly assess students’ perceptions of their competency development. Most research has focused on analyzing teaching practices from the perspective of teachers (Hortigüela Alcalá et al., 2016; Zapatero-Ayuso et al., 2017) or on indirect indicators such as academic results (OECD, 2019).

The few existing instruments do not cover all the key competences defined by European and national regulations, nor have they undergone comprehensive psychometric validation processes (Barrachina Peris, 2017; Moreno-Murcia et al., 2020). Furthermore, they tend to exclude relevant psychological variables such as the satisfaction of basic needs or the evaluative style of teachers, which are fundamental according to Self-Determination Theory (Ryan and Deci, 2017).

This limitation justifies the need to develop an instrument that, from a psycho-pedagogical perspective, allows for the evaluation of how secondary school students perceive their competency development, considering motivational and contextual factors linked to autonomous and meaningful learning.

The aim of this study is to design and validate a questionnaire to assess key competences in secondary education, as well as to analyze its relationship with formative assessment and the satisfaction of basic psychological needs (BPN). The starting point is the hypothesis that participatory assessment promotes competence development, while non-participatory assessment may limit it (Hamodi Galán et al., 2018).

2. Method

This study followed an instrumental design (Ato et al., 2013) with the aim of developing and validating a questionnaire that assesses key competences in secondary education, as well as their relationship with predictor variables such as the type of formative assessment perceived and the satisfaction of BPN. The validation was carried out in three phases: content validation using the Delphi method, Confirmatory Factor Analysis (CFA) to check the structure of the questionnaire, and linear regression analysis as evidence of external validity.

2.1. Sample

The main sample consisted of 388 Spanish secondary school students (195 males and 193 females), aged between 12 and 17 ($M = 13.82$; $SD = 1.21$), used for CFA, internal reliability, and gender invariance. In addition, two subsamples were used:

- A pilot sample of 32 students who belonged to a different educational center and were not part of the final sample used for psychometric analyses.
- A random subsample of 132 students, extracted from the total sample, used specifically to perform external validity analyses using linear regression.

Data collection was carried out in Andalusian educational centers, during school hours, under teacher supervision, anonymously and voluntarily.

2.2. Instruments

Perception of key competences. The *Key Competence Assessment Scale* (KCAS) was developed for this assessment. The items were constructed based on the operational descriptors of key competences established by current Spanish educational regulations (Order ECD/65/2015; Royal Decree 217/2022), as well as scientific literature on the competence-based approach (Bolívar, 2010; Valle and Manso, 2013). Based on these references, an initial bank of items was developed, which was subsequently validated using the Delphi method (see section 2.3). The scale consisted of 21 items measuring students' perceptions in seven dimensions, with three items for each: 1. Linguistic and multilingual communication; 2. Mathematical competence and competence in science, technology and engineering; 3. Digital competence; 4. Personal, social and learning to learn competence; 5. Civic competence; 6. Entrepreneurial competence; and 7. Cultural awareness and expression competence. All items are preceded by the statement: "The tasks my teachers set in class enable me to...". Responses were rated on a Likert scale from 1 (*Never*) to 4 (*Always*). A Cronbach's alpha of 0.93 was obtained for the KCAS. Confirmatory factor analysis (CFA) yielded the following fit indices for the 7-dimensional model: $\chi^2(168, N = 104) = 255.44$, $p < 0.001$; $\chi^2/df = 1.52$; CFI = 0.96; TLI = 0.94; IFI = 0.96; SRMR = 0.053.

Basic psychological needs. The Spanish version of the *Échelle de Satisfaction des Besoins Psychologiques* in the educational context (León et al., 2011) by Gillet et al. (2008) was used. The scale was preceded by the statement "In my class..." and consisted of 15 items referring to competence (e.g., "I feel that I am doing things well"), autonomy (e.g., "I generally feel free to express my opinions"), and relationships with others (e.g., "I feel good about the people I interact with"). Responses were rated on a Likert scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Internal consistency was 0.89, 0.89, and 0.93, respectively, and 0.94 overall. The CFA yielded the following fit indices for the three-dimensional model: $\chi^2(87, N = 104) = 178.62$, $p < 0.001$; $\chi^2/df = 2.05$; CFI = 0.90; TLI = 0.88; IFI = 0.91; SRMR = 0.067.

Assessment. The *Assessment Instruments and Procedures Measurement Scale* (AIPMS) designed by Hamodi Galán et al. (2018) was used, consisting of 12 items distributed across two dimensions that assess students' perceptions of the assessment methods used by teachers to collect evidence of learning. These are classified into two types: means that require feedback or participatory assessment, consisting of seven items (e.g., 'portfolios' or 'tutored learning projects') and means that do not require feedback or non-participatory assessment, consisting of five items (e.g., 'oral exams' or 'open-ended exams'). They were preceded by the statement: "How often have your teachers used the following assessment instruments and procedures in the subjects you have taken?" It was measured

using a Likert scale with options ranging from 0 (*Not at all*) to 4 (*Very often*). The alpha value obtained was 0.94 for participatory assessment and 0.94 for non-participatory assessment. An CFA was performed to verify the correct functioning of the 2-dimensional, 12-item factorial structure. The results showed adequate fit indices: χ^2 (53, N= 104) = 69.54, $p < 0.01$; χ^2/gl = 1.31; CFI = 0.98; TLI = 0.97; IFI = 0.98; SRMR = 0.043.

2.3. Procedure

The questionnaire was validated in three successive phases (Figure 1):

Phase 1: Initial: Content validation using the Delphi method.

The Delphi method was applied as a structured consensus technique to assess the content validity of the instrument. Three researchers (coordinating group) and a panel of seven teachers with expertise in key competences in secondary education participated. In three successive rounds, the experts assessed the items in terms of their clarity, consistency, relevance and adequacy, using a 4-point Likert scale. Qualitative suggestions were also collected. Items with averages below 2.5 were eliminated; those close to 3 were reformulated; and those above 3.5 were retained. The process guaranteed the anonymity of the participants, and the responses were analyzed statistically (frequencies, means and dispersion), following the methodological criteria of Grime and Wright (2016), López-Gómez (2018) and Reguant-Álvarez and Torrado-Fonseca (2016).

Phase 2: Exploratory: Pilot study.

The agreed version was administered to 32 secondary school students to verify the comprehension and suitability of the language and format.

Phase 3: Final: Definitive administration.

The final version of the questionnaire containing the three questionnaires (KCAS, BPN and AIPMS) was administered to 388 secondary school students. All questionnaires were administered in person during school hours, in the Physical Education classroom, using an electronic link provided by the teachers. The students completed it voluntarily and anonymously, supervised by the teacher. In addition, a random subsample of 132 participants from the total sample was selected to perform external validity analyses using linear regression. The study was approved by the relevant ethics committee and complied with the ethical principles of educational research.

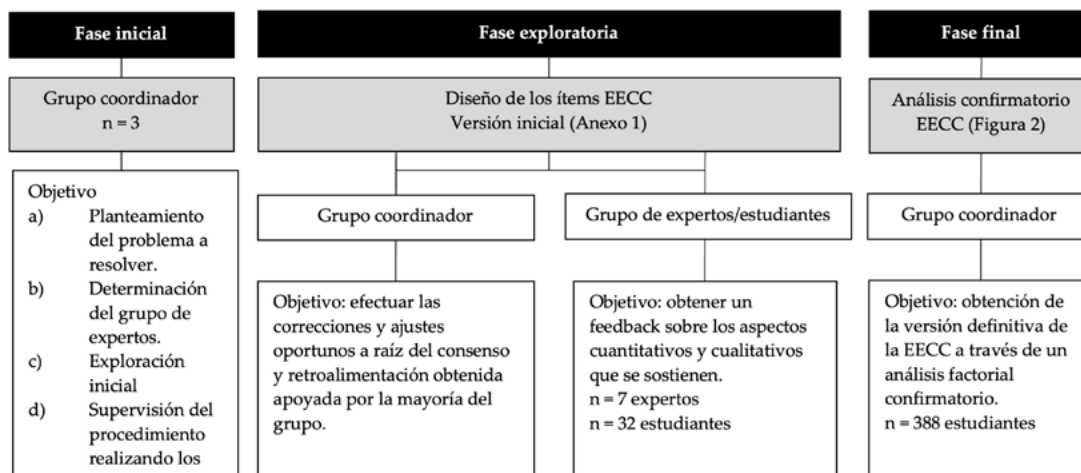


Figure 1. Phases of the study

2.4. Data analysis

Descriptive statistics, bivariate correlation analyses, and Cronbach's alpha coefficients were calculated to estimate the internal reliability of the scales. The factorial structure of each instrument was evaluated using Confirmatory Factor Analysis (CFA), using the following fit indices: χ^2/gl , CFI (Comparative Fit Index), TLI (Tucker-Lewis Index), IFI (Incremental Fit Index) and SRMR (Standardized Root Mean Square Residual). After checking the multivariate normality of the data, the maximum likelihood (ML) estimation method was applied. Models with $\chi^2/\text{df} < 5$, CFI, TLI and IFI ≥ 0.90 , and SRMR ≤ 0.08 were considered adequate, following current reference criteria (Hair et al., 2019; Kline, 2023). Factor invariance by gender was analyzed to ensure that the structure of the questionnaire was equivalent between groups, allowing valid comparisons between boys and girls. This was analyzed by comparing successive models with increasing restrictions. Invariance was assumed when the decrease in CFI was ≤ 0.010 (Chen, 2007). To provide evidence of external validity, a multiple linear regression analysis was performed considering the satisfaction of basic psychological needs and the type of perceived evaluation as predictor variables. All analyses were performed with a significance level of $p < 0.05$, using IBM SPSS and AMOS v.24 software.

3. Results

3.1. Descriptive statistics and correlations between variables

Table 1 shows the mean, standard deviation, and correlations between the different dimensions that make up the KCAS. The average value for all the dimensions analyzed was above the midpoint of the response scale (i.e., range 1 to 4). Multiple correlation analysis revealed the existence of significant and positive correlations between the seven dimensions that make up the scale ($r = 0.40$ to 0.75 , $p < 0.001$). The internal consistency of the scale showed values above 0.70 in its different dimensions ($\alpha = 0.70$ – 0.90) for Cronbach's alpha.

Table 1

Descriptive Statistics, Correlation Analysis and Reliability of the Key Competence Assessment Scale. Own work

	M	DT	α	1	2	3	4	5	6	7
1. CCLP	3,17	0,66	0,90	—	0,46***	0,40***	0,43***	0,43***	0,47***	0,56***
2. STEM	2,96	0,66	0,70		—	0,54***	0,55***	0,50***	0,61***	0,53***
3. CD	2,98	0,71	0,76			—	0,51***	0,54***	0,52***	0,63***
4. CPSAA	2,96	0,84	0,81				—	0,69***	0,70**	0,64***
5. CC	3,21	0,66	0,75					—	0,53***	0,61***
6. EC	2,88	0,77	0,83						—	0,75***
7. CCEC	3,09	0,70	0,77							—

Note. CCLP = Linguistic and multilingual communication; STEM = Mathematical competence and competence in science, technology and engineering; CD = Digital competence; CPSAA = Personal, social and learning to learn competence; CC = Civic competence; CE = Entrepreneurial competence; CCEC = Cultural Awareness and Expression Competence. *** $p < 0.001$

3.2. Confirmatory Factor Analysis

Using confirmatory factor analysis (Figure 2), the proposed model for the KCAS, consisting of 21 items and 7 factors corresponding to the key competencies, was analyzed. The correlations between the study variables were analyzed using standardized regression weights.

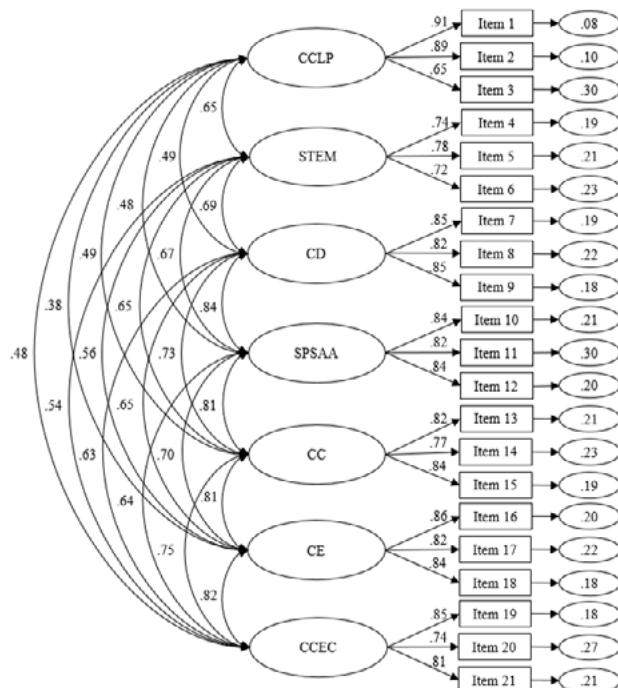


Figure 2. Confirmatory Factor Analysis of the KCAS. The ellipses represent the factors and the rectangles represent the different items. Residual variances are shown in the small ellipses. All correlations and regression weights were statistically significant ($p < 0.001$). Own elaboration

Note. CCLP = Linguistic and multilingual communication; STEM = Mathematical competence and competence in science, technology and engineering; CD = Digital competence; CPSAA = Personal, social and learning to learn competence; CC = Civic competence; CE = Entrepreneurial competence; CCEC = Competence in cultural awareness and expression.

3.3. Invariance by gender

The analysis of gender invariance did not reveal any statistically significant differences ($p < 0.05$) in the χ^2 test between model 1 and model 2, which is considered sufficient to support factorial invariance with respect to sex, since the null hypothesis of invariance cannot be rejected. In this case, the invariance of the model with respect to gender can be confirmed (Table 2).

Table 2

Multigroup Analysis of Invariance by Gender. Own elaboration

Model	χ^2	gl	χ^2/gl	$\Delta\chi^2$	Δgl	CFI	ΔCFI	IFI	RMSEA (90% CI)
1	463,42	336	1,38	—	—	0,939	—	0,936	0,052 (.040 a ,063)
2	474,50	350	1,36	11,09	14	0,940	0,001	0,937	0,050 (.038 a ,061)
3	535,05	378	1,42	71,63	42	0,923	-0,016	0,921	0,054 (.043 a ,065)
4	552,14	399	1,38	88,72	63	0,924	0,002	0,923	0,052 (.041 a ,062)

Note. Model 1 = unrestricted model; Model 2 = model with invariant measurement weights; Model 3 = model with invariant structural covariances; Model 4 = model with invariant measurement residuals.

3.4. External validity

To assess the external validity of the key competencies scale, a linear regression analysis (Table 3) was performed with the assessment constructs and BPN. The Durbin-Watson statistics yielded a value of 1.65, indicating independence of the residuals. The tolerance and VIF values obtained show the absence of collinearity. The explanatory percentage, considering the types of assessment of key competencies, was 26.8%, and including BPN increased to 30.5% of explained variance.

Table 3

Linear regression analysis predicts key competencies based on types of assessment and basic psychological needs. Own elaboration

	B	SEB	β	t	Adj. R ²	p	Tolerance	VIF
Step 1					0.268	0,000		
Participatory	0,165	0,052	.271	3,17		0,002	0,966	1,035
Non-participatory event	-0,250	0,052	-0,410	-4,78		0,000	0,966	1,035
Step 2					0.305	0,000		
Participatory Event	0,143	0,052	.235	2,77		0,007	0,939	1,065
Non-participatory event	-0,248	0,051	-0,406	-4,86		0,000	0,966	1,035
BPN	0,118	0,046	.212	2,54		0,013	0,969	1,032

Note: p is significant at the < 0.05 level

4. Discussion

The importance of developing key competences in secondary education and the need to assess their degree of development is heightened by the establishment of a common exit profile for the entire country (Royal Decree 217/2022). However, to date, there is still no instrument capable of assessing the level of achievement of these competences among students. Given this clear need, the aim of this study was to design and validate a newly created scale for measuring key competences in secondary education, including evidence of its external validity through analysis in conjunction with the BPN and the type of assessment used in class by teachers. Both variables are highly consistent with the learning situations envisaged for the development of competency-based learning (Barrachina Peris, 2017; Order ECD/65/2015; Royal Decree 217/2022).

In this study, a scale was developed that includes the key competencies established in the exit profile. The construct validity obtained with statistical analysis indicated a good fit of the indices for the seven-factor model and adequate internal consistency (Nunnally and Bernstein, 1994), indicating that each of the items on the scale measures similarly. The hypothesis proposed at the outset (the design of a competency assessment instrument will lend ecological validity to students' decision-making in class and

their participation in assessment) is confirmed after analyzing the results through Confirmatory Factor Analysis. Thanks to this, it has been possible to observe how satisfaction with BPNs and participatory assessment positively predict students' perception of key competencies, in line with previous work.

(Hamodi Galán et al., 2018; Moreno-Murcia et al., 2015, 2020). With regard to assessment, the relationship that its approach may have with the development of key competences or the promotion of competence-based learning (Royal Decree 217/2022) is highlighted, with the results obtained being in line with the limited previous research, which shows a link between more participatory assessment approaches and the acquisition of greater learning in education, although without directly taking key competences into account (Dilova, 2021; Lee et al., 2020; Li et al., 2020; Panadero and Romero, 2014).

In relation to previous research, the results obtained in this study coincide with earlier findings that highlight the role of participatory assessment in promoting meaningful learning and skills development (Hamodi Galán et al., 2018; López-Pastor et al., 2017; Panadero and Romero, 2014). Likewise, the regression analyses confirm that the perception of a motivating teaching style, which promotes student autonomy and involvement, is positively associated with the acquisition of key competences, which has been previously noted by studies with a similar approach (Barrachina Peris, 2017; Moreno-Murcia et al., 2020). These results reinforce the theoretical framework based on SDT (Ryan and Deci, 2017) and provide empirical evidence on the influence of psychological variables on students' skills development. Furthermore, recent studies such as that by Li et al. (2020) emphasize that the use of participatory assessment procedures not only improves students' intrinsic motivation but also facilitates the development of transferable learning, which is in line with the objectives of this study.

From a competency-based perspective, as established by legislation (Order ECD/65/2015; Royal Decree 217/2022) and suggested by specialized literature (Barrachina Peris, 2021; Bolívar, 2010; Valle and Manso, 2013), it is important to adopt an approach that takes students into account, encourages active participation in decision-making in the teaching-learning process, and designs a positive classroom environment in which students feel comfortable and in which the need to adjust tasks and objectives to the students' level of competence is highlighted as a relevant aspect to be taken into account. All of this is in line with participatory assessment in which students play a more prominent role, understanding what is expected of them, acting as evaluators and interacting with the teacher in pursuit of improvement and learning (López-Pastor et al., 2017, 2020; Sanmartí, 2021; Santos Guerra, 2014).

Among the limitations of the study are the number of participants, the convenience sample, the cross-sectional nature of the data, which prevents causal relationships from being established, and the homogeneity of the participants. Prospective research includes expanding the sample (i.e., a larger number of participants and the inclusion of a wider range of students from different educational levels) and contributing new findings in future experimental research, which would allow causal relationships to be established and thus improve understanding of the relationships between the different constructs studied in this research. Furthermore, this study highlights the need to incorporate approaches into teaching in which students play an active role that takes into account their agentic commitment, as this has been shown to be key to their involvement in class (Reeve, 2013; Reeve and Shin, 2020), as well as the implementation of participatory assessment, as it has been shown to satisfy BPNs when applied in conjunction with an interpersonal style of autonomy support (Fin et al., 2019; Pérez-González et al., 2019; Vasconcellos et al., 2020). In this sense, the work carried out opens the door to future research studies focused on key competences as a reference element and how these can be affected by a certain type of intervention or the study of the relationship with other variables. It also offers teachers the possibility of using this instrument to analyze the level of key competences acquired by their students, thus helping to better specify the degree of development of the exit profile established in legislation as a benchmark for obtaining the Secondary Education graduate qualification.

The main conclusions of this study are, firstly, the design and validation of a newly created scale to measure the level of key competences among students. And secondly, how BPN and participatory and formative assessment positively predict competences, while non-participatory assessment negatively predicts competences. Therefore, the study also highlights the importance of training teachers and providing them with teaching tools on the use of interpersonal teaching styles that support autonomy, as these encourage student engagement, together with the use of participatory assessment with their students, given the positive relationships found in this study.

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APPENDIX 1. Key Competence Assessment Scale (KCAS; Final Version)

Items

Linguistic communication competence and plurilingual competence

1. Express myself correctly orally and in writing in different languages and situations.
2. Understand the meaning of oral and written messages in different languages and situations.
3. Expressing opinions without belittling my classmates, respecting the order of speaking.

Mathematical competence and competence in science, technology and engineering

4. Apply basic mathematical operations in a reasoned manner to solve problems in various situations.
5. Organize and present information graphically in different situations.
6. Understand the results of an action on the body and reflect to make decisions in different situations.

Digital competence

7. Access different sources of information (websites, blogs, apps, forums, etc.), checking the accuracy and security of the sources consulted.
8. Organize and edit information in various formats (audio, video, text, presentations, etc.) and share it in different environments (e-mail, virtual storage platforms, social networks, etc.).
9. Use digital media responsibly, demonstrating a critical attitude in different situations.

Competence in cultural awareness and expression

10. Learn about cultural diversity (art, photography, literature, music, games and sports, etc.) and appreciate its influence on current activities.
11. Participate in diverse artistic and expressive activities using basic techniques.
12. Be creative in different situations and develop an aesthetic sense in the activities I do.

Civic competence

13. Understand the rules of coexistence in different situations and participate in decision-making while respecting different points of view.
14. Resolve conflicts through dialogue and reach agreements in different situations without prejudice or discrimination towards my peers.
15. Identify healthy habits (diet, posture, physical activity, etc.) in different situations and apply them in my activities.

Entrepreneurial competence

16. Recognize my strengths to consolidate them and identify my weaknesses to participate more effectively (successfully) in different situations.
17. Develop an action plan to achieve objectives, agreeing on deadlines and roles while respecting my commitments.
18. Modify/alter the action plan on my own initiative based on a critical analysis of the results obtained.

Personal, social and learning to learn skills

19. Have confidence in my abilities because I identify the key points of a task and relate them to my initial knowledge.
20. Feel like a protagonist, encouraging me to get involved in development and persevere (try, show interest, etc.).
21. Motivating me to continue learning as I identify my progress compared to my initial level.