

# Defining Quality in Primary and Secondary Education

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## Abstract

The purpose of this paper is to explore the conceptual content of the term 'quality' in primary and secondary education through the content analysis of 32 scientific publications. The analysis of the qualitative data is based on the methodology of grounded theory, revealing 21 major dimensions of quality with a high frequency of occurrence that are divided into five broader categories. The first category, 'learning environment,' includes psychosocial elements, physical elements, respect for diversity and collaboration, sharing, and team spirit. The second category, 'learning content,' includes student-centred pedagogy, well-structured knowledge base, continuous curriculum improvement, interest in all students, and life skills. The third category, 'processes,' includes teaching, learning, assessment, support, and supervision. The fourth category, 'students,' includes involvement/participation, feedback, challenging learning activities, and improved learning outcomes. Finally, the fifth category, 'teachers,' includes knowledge of educational context, content, curriculum, and pedagogy, pedagogical skills, emotional/management/reflection skills, and teacher professional development. According to the main findings, from the category 'learning environment,' the dimension concerning the psychosocial elements prevails in the literature; from the category 'learning content,' the dimension of student-centred pedagogy prevails; and from the category 'processes,' three dimensions prevail: the first is related to support and supervision and the other two are related to teaching and assessment. From the wider category 'students,' the dimension relating to improved learning outcomes prevails. Finally, in the category 'teachers,' two dimensions prevail: the first concerns skills (emotional, management, reflection), and the second dimension concerns knowledge of the educational context, content, curriculum, and pedagogy.

**Keywords:** educational quality, primary education, quality dimensions, quality education, school education, secondary education

## 1. Introduction

Quality in education has been recognized as an issue that can guide the effort to improve the teaching and learning process (Nicolau, Nicolaidou, & Constantinou, 2005). Analytically, quality in education is associated with the improvement of the learning process. This improvement results from the implementation of appropriate teaching practices and methods, from the design of a curriculum that meets students' needs to the improvement of services provided by schools (Dritsa, 2016). According to Kaluge and Tjahjono (2004), the quality of education is not only related to the curriculum and educational technology but also to the content of the education and teaching itself. However, the quality of education is difficult to evaluate, as it is influenced by various factors, such as social and historical circumstances, policy choices, and the quality requirements of the parties involved (Hatzidimitriadou, 2011). The existence of many definitions of the quality of education shows the complexity and multifaceted nature of the concept; moreover, the terms 'efficiency', 'equality', and 'quality' are often used interchangeably (United Nations International Children's Emergency Fund [UNICEF], 2000).

Nevertheless, many attempts have been made to conceptually approach quality education. Quality education has thus far been defined as education that contributes to moral development, character development, integration of personality, and the spiritual upliftment of individuals. However, this definition is considered incomplete because it does not include the evaluation of the educational work itself. For this reason, another definition is proposed based on the satisfaction of the needs and expectations of the recipients of education (Pourgianou, 2012).

In addition, according to UNICEF (2000), there is significant agreement on key dimensions of quality education. Specifically, quality education involves: a) students who are healthy, well-nourished, and ready to participate and

learn, and who are supported in learning by their families and communities; b) adequate resources and facilities provide healthy, safe, protective, and sensitive environments in terms of gender; (c) the content of the curriculum and materials allows for the acquisition of basic skills, in particular literacy, numeracy, and life skills, as well as knowledge in various fields; d) trainee teachers use child-centred teaching approaches in well-managed classrooms and schools and use assessment that facilitates learning and reduces inequalities; and, finally, e) outcomes include knowledge, skills, and attitudes linked to national goals for education and positive participation in society. It is also noted that definitions of the quality of education should be open to change and evolution based on new information, changing contexts, and new perceptions of the nature of educational challenges (UNICEF, 2000).

Furthermore, the quality in education as a certain result of pedagogical activity undergoes many different measurements. The results greatly affect the revision of the activities of teachers and heads of educational institutions that work in the area of shaping and organizing the teaching methods, forms and the education content. Notwithstanding the importance attached to the evaluations and measurements of the quality in education, this concept is quite controversial (Ryzhov, Ziskin, Razumovskaya, Umyarov, & Peshcherov, 2021). Moreover, according to Garira (2020) quality in education needs accurate descriptions of all its elements to judge its realization and plan for its improvement. This can help education stakeholders to understand their roles, as it delineates responsibilities so that each knows the roles to play in the realization of quality in school education. Still, education systems need help to design and develop monitoring and evaluation systems that are effective to evaluate quality. Furthermore, a conceptual framework for quality in primary and secondary education that this work proposes can provide a deeper understanding of the term 'quality' in school education and encourage research on the development of conceptual frameworks for quality in school education which is limited.

Analytically, the purpose of this paper is to analyse the conceptual content of the term 'quality' in primary and secondary education through the study of material from scientific texts, such as books, scientific reports, papers in journals, and proceedings, in order to determine the characteristics or elements that constitute 'quality education' and propose a conceptual framework for quality in primary and secondary education. The methodology used is grounded theory. Moreover, a conceptual map for the term was designed at the start of this analysis; at its conclusion, a table of 21 dimensions of quality education was produced. These dimensions were divided into the broader categories of learning environment, learning content, processes, students, and teachers.

## **2. Methodology**

### *2.1 Purpose and Research Questions*

The main purpose of this paper is to analyse the conceptual content of the term 'quality' in primary and secondary education. In particular, the paper aims to answer the following research questions:

- 1) What are the basic dimensions of the term 'quality' in primary and secondary education?
- 2) What are the broader categories in which the basic dimensions of the term 'quality' in primary and secondary education are included?

### *2.2 Design and Methodology*

The research is qualitative, and the method of data analysis is based on the methodology of grounded theory. Grounded theory refers both to the method, which gives guidelines on how to identify the categories, and to the interpretive framework within which the phenomenon under study is understood. The aim is to highlight a central category that will include the essential meaning of the object under consideration, which will contribute to the understanding of this object (Iosifidis, 2003).

For the analysis of the data in this study, the process described in the constructivist approach of Charmaz's grounded theory was used, which includes three stages of coding: a) the initial coding, b) the focused coding, and c) the theoretical coding. The same process was followed by Hockett (2010) in her doctoral dissertation investigating the effect of lesson study on the way teachers design, apply, and understand differentiated instruction. These steps are described in detail below.

#### *2.2.1 First Stage: Initial Coding*

In grounded theory, initial coding is the first step in data analysis and involves the initial examination of data. The coding was done line by line, with the same definitions of quality in primary and secondary education, and generally in the body of the text (paragraphs) in places where the characteristics or dimensions of the quality in primary and secondary education were given. Therefore, sentences and/or paragraphs were selected as the unit of analysis. With this technique, an effort was made to not deviate from the words and sentences of the data and to

avoid premature generalizations. As data collection progressed, comparisons were made with the original codes, and all codes were treated as temporary and flexible.

### 2.2.2 Second Stage: Focused Coding

Focused coding is the second step in the data analysis. In focused coding, data were examined to identify the most important and/or common codes. The codes were compared within and between the sources in order to find which codes are more appropriate and relevant to the data set as a whole and what additional data were needed to deepen or further update a code. The coding allowed the data to be reduced, focusing on the most important and key points that would lead to the theory.

### 2.2.3 Third Stage: Theoretical Coding

The final stage of the analysis is theoretical coding. At this stage, possible relationships between important codes were tested, assuming how they could be theoretically related. In a sense, theoretical codification can be interpreted as an attempt to make an essential theory objective or generalized. The theoretical framework emerged from the process of continuously comparing data sources and detailed memos or notes. Memo writing is the way for the grounded theory researcher to understand the codes, classify them according to their importance, connect them, and compare them in order to construct a theoretical framework to arrive at the essentially grounded theory (Charmaz, 2006; Hockett, 2010).

## 2.3 Documentation of Research Design Based on Grounded Theory

This research used grounded theory data collection and analysis techniques to construct a grounded theory concerning the conceptual content of quality in primary and secondary education. Qualitative research was the most appropriate for this study to understand the detailed and complex concept of quality of education in the specific context in which it is examined – namely, primary and secondary education. Various original definitions of quality in primary and secondary education, as well as various elements or characteristics of quality in education, were collected in order to understand how various researchers, authors, and the relevant literature construct and reconstruct the meaning of quality education. Furthermore, the fact that there is significant agreement between various researchers on some key dimensions of quality in education (UNICEF, 2000) contributed to the construction of the theory. The emphasis on the study of a process is an approach of grounded theory for data collection and analysis.

Charmaz's (2006) social constructivist approach to grounded theory provides a flexible but rigorous approach that is philosophically consistent with the question of quality in education that involves various processes (e.g., teaching, learning), as well as an epistemological hypothesis that the views of researchers should be recorded and examined to understand the elements and dimensions that constitute education quality (Charmaz, 2006; Creswell, 2007).

Finally, according to Charmaz (2006), in the study of a process, constructivist theorists aim to show complex interactions between views, while the reflectivity of researchers is necessary to the study.

## 2.4 Reliability and Validity of Research

The intrareliability of the present research was ensured, as the same person at different times came to the same conclusions regarding the analysed text. The interreliability of the research was also ensured, as two different researchers came to the same conclusion regarding the text at the same time (Sepstrup, 1981; Kotzaivazoglou & Igoumenakis, 2006).

Regarding validity, studies related to the analysis of qualitative data, such as the grounded theory adopted by the present work, usually contain no validity problems when the variables are identified consistently and carefully, which the researchers sought to achieve. In addition, when there is a relevant agreement regarding the identification of variables, validity is not difficult to achieve (Berelson, 1952; Kotzaivazoglou & Igoumenakis, 2006). Indeed, in the present study, the variables were tested by the two researchers who agreed on their definition.

## 2.5 Search of the Literature

The search for relevant literature was conducted in scientific journals, conference proceedings, books, and scientific reports that provided an original definition of quality in school education or gave some characteristics or elements of the term 'quality education' in the specific levels of education. No time limit was set, as the snowball method was used to collect definitions.

### 2.5.1 Selection Criteria

Table 1 presents the selection criteria for including studies.

Table 1. Selection criteria

Category	Selection criteria
Publication type	Book chapters, books, scientific reports, papers in scientific journals or proceedings
Publication year	No time limit
Content	Conceptual definition of the concept of quality in school education
Educational context	Primary or/and secondary education
Writing language	Greek, English

### 2.5.2 Searching, Checking, and Selecting the Literature

The literature search was conducted in the Educational Resources Information Center (ERIC) and ScienceDirect databases using the terms [quality of education OR quality education OR quality teaching OR quality learning] AND [primary education OR secondary education OR school education]. In addition, material was found in print and electronic books. It is important to underline that if a paper repeats a definition, it does not offer anything new in determining the quality of education, therefore researchers didn't include it. Figure 1 describes the process of finding, checking, and selecting the literature.

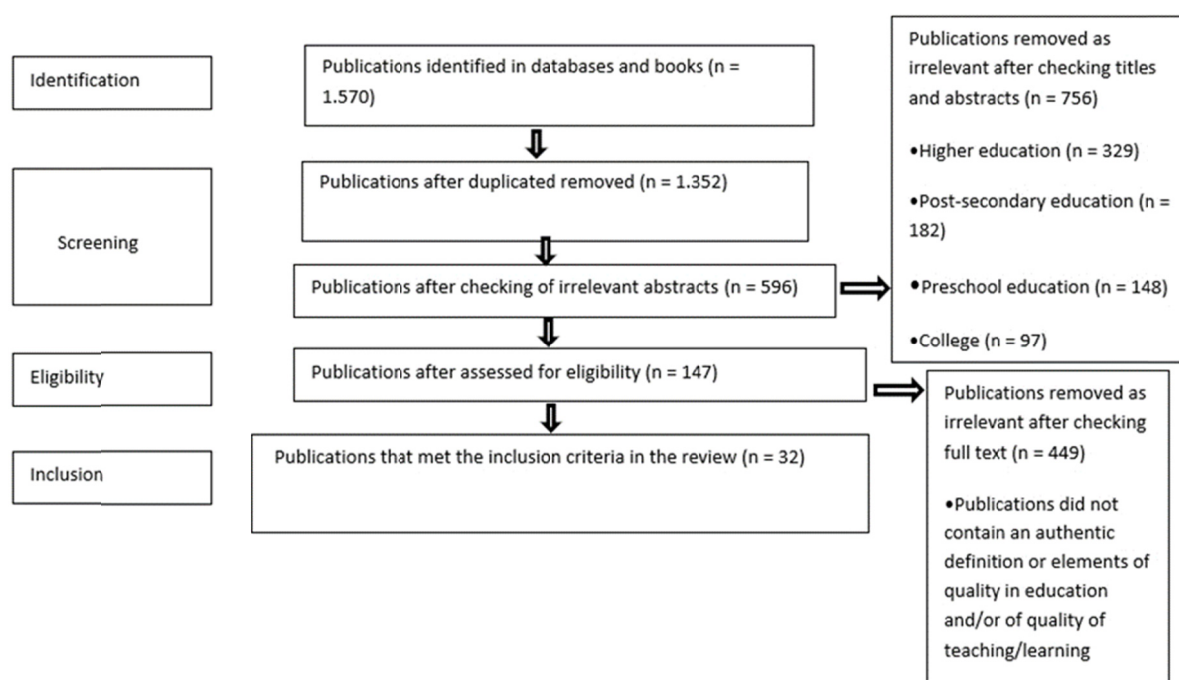


Figure 1. Process of finding, checking, and selecting the literature

### 2.5.3 Organization of the Literature

The literature was organized as follows. Initially, the publications that would be included in the analysis were selected. The original definitions or the body of the text that contained dimensions or characteristics of quality education from each publication were selected and entered into tables that were divided into columns with categories.

The first column contained the names of the researchers/authors, the writing language, the year, and the type of publication. The second column contained the level of education, the third column contained the text of the publication with the definition and/or the dimensions, and the last column contained the coding. Next to the column with the coding, the memos or notes kept by the researchers in the form of comments were included.

### 2.5.4 Export Data

For the publications that were included in the analysis, Microsoft Word was used to create tables and add notes on the definitions of quality education or parts of the text of each publication that contained characteristics or elements of quality education. The table that concerns the initial pilot determination of the quality dimensions of school education was created in Microsoft Word and is presented in the results section of this paper.

In addition, Microsoft Excel was used to present the data in graphs regarding the type of publication, the year of publication, the educational context (primary and/or secondary education), and the writing language. Finally, the combination of the two programs was used to create a table showing the percentages of dimensions in the definitions. This table appears in the results section of this study.

### 2.5.5 Synthesis of the Data

This section presents the publications in terms of type, year of publication, educational context, and writing language, while the analysis and synthesis of the data resulting from the publications and the answers to the research questions are presented in the results section.

The data regarding the type of publication are presented in Table 2.

Table 2. Type of publication

Type of publication	Number	Percentage %
Journal paper	14	44
Conference paper	5	16
Book ((books used original definitions with dimensions that help determine the quality of primary and secondary education)	4	12
Various scientific papers (e.g., reports)	9	28
Total	32	100

The data regarding the year of publication are presented in Figure 2.

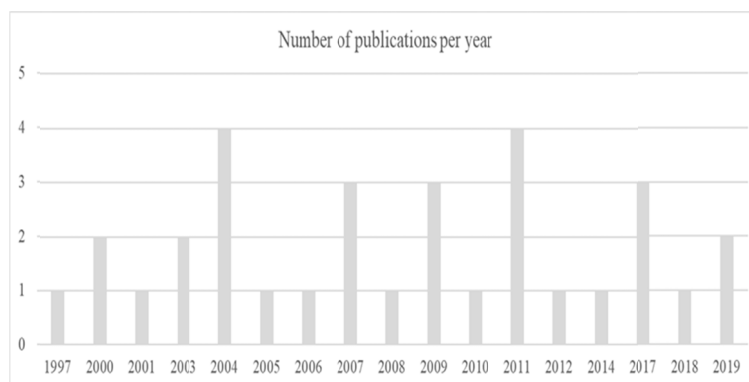


Figure 2. Number of publications per year

The data regarding the educational context are presented in Figure 3.

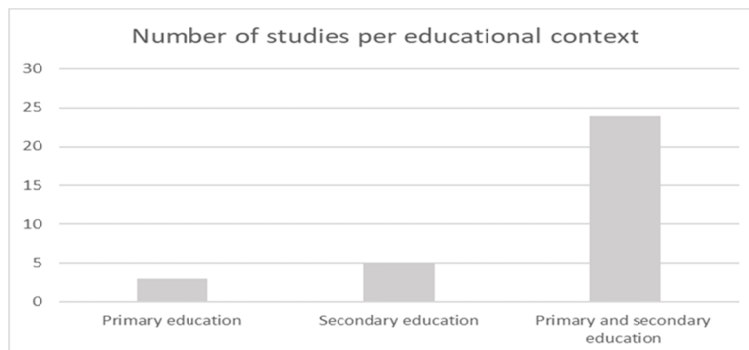


Figure 3. Number of studies per educational context

The data regarding the writing language are presented in Figure 4.

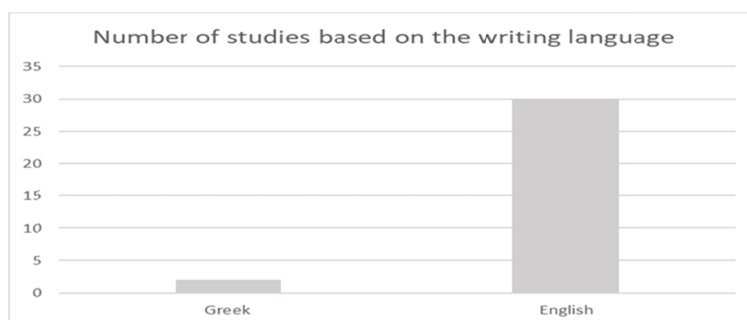


Figure 4. Number of studies based on the writing language

### 2.6 Identifying Dimensions of Quality in Primary and Secondary Education

Below in table 3 there are some examples of how researchers identified some of these dimensions in the original texts of the publications that were collected and examined.

Table 3. Identification of dimensions of quality in primary and secondary education

Researchers (year)	Original texts	Dimension
Lovat & Toomey (2009)	The notion of quality teaching...also emphasizes the importance of a supportive classroom climate and the significance of positive values in creating an environment where student learning can flourish.	Psychosocial elements
Zavlanos (2017)	The adoption, of course, of the principles of quality in the classroom requires teachers to pay special attention to the following points...the use of information and communication technology.	Physical elements
Alton-Lee (2003)	Evidence shows teaching that is responsive to student diversity can have very positive impacts on low and high achievers at the same time.	Respect for diversity
Lovat (2010)	... the potency of quality teaching is not restricted to pedagogical techniques solely...but that its efficacy also lies in attending to the affective dimension of teaching and learning, and to all the attachments to this concerned with the coherence, ambience and relationships that characterize the learning environment.	Collaboration, sharing, and team spirit
Rowe (2004)	... the quality of teaching and learning provision are by far the most salient influences on students' cognitive, affective, social and behavioral outcomes of schooling – regardless of their gender or backgrounds and the schools in which they are enrolled.	Student-centred pedagogy
Hollins (2011)	The essential knowledge, skills, and understanding for quality teaching include... how to connect disciplinary knowledge and practices to the everyday experiences of learners from diverse cultural, linguistic, and experiential backgrounds.	Well-structured knowledge base
Zavlanos (2017)	The adoption, of course, of the principles of quality in the classroom requires teachers to pay special attention to the following points... the improvement of the Curriculum according to the requirements of the labor market and the philosophy of the educational system ...	Continuous curriculum improvement
Praetorius, Klieme, Herbert, & Pinger (2018)	... student support ... are generic aspects of classroom teaching, forming Three Basic Dimensions of teaching quality... The second dimension represented student support and covered, amongst others, the sub-dimensions teacher sensitivity for individual needs ...	Interest in all students
Edge, Reynolds, & O'Toole (2010)	Such pedagogy focuses on producing deep understanding of important, substantive concepts, skills and ideas, treats knowledge as something that requires active construction, requires students to engage in higher order thinking and to communicate substantially about their learning.	Life skills
Ololube (2005)	The respondents interviewed defined quality teaching...teaching that brings about low dropout rate among students.	Teaching

van der Scheer, Bijlsma, & Glas (2019)	...several important dimensions of teaching quality were discussed...teaching learning strategies...	Learning
Hollins (2011)	The essential knowledge, skills, and understanding for quality teaching include...an understanding of how to identify and develop appropriate classroom assessment approaches for evaluating learners' progress in relationship to discipline-specific knowledge and practice...	Assessment
Allen & Palaich (2000)	This document identifies five strategies that policymakers can use to promote the kind of innovation needed for teaching and learning to be successful. (1) establish a diverse and high-quality approach to teacher preparation...support for new teachers (2) ensure that teacher recruitment and retention policies target the areas of greatest need...	Support and supervision
Hattie (2003)	Expert teachers engage students in learning...	Involvement/participation
Hattie (2003)	Expert teachers...provide much more relevant, useful feedback.	Feedback
Hattie (2003)	Expert teachers... provide appropriate challenging tasks and goals for students.	Challenging learning activities
MacGregor (2007)	The Essential Practices and ATTRIBUTES of High Quality Teaching and Learning...The teacher designs effective, standards-based instruction... The teacher delivers high-quality, student-centered instruction. Instruction and facilitation of learning is clear, well-paced, and utilizes research-based strategies... There is clear evidence that students are learning. Evidence of student learning is explicit and observable.	Improved learning outcomes
Hollins (2011)	The essential knowledge, skills, and understanding for quality teaching include (a) knowledge of human growth and development... Perhaps the most important aspect of teaching and learning is how well the teacher knows the learner. Teachers need to know learners as individuals; as members of social and cultural groups; as learners with particular characteristics... deep knowledge of the learning process...deep understanding of the organizing ideas for a discipline...an understanding of pedagogy...an understanding of how to manage the demands of standards-based curriculum...	Knowledge of educational context, content, curriculum, and pedagogy
Lovat & Toomey (2009)	The notion of quality teaching not only reflects the way the teacher is able to orchestrate the many different aspects of teaching into a coherent whole in order to encourage, guide and facilitate student learning. It also emphasizes the importance of a supportive classroom climate and the significance of positive values in creating an environment where student learning can flourish.	Pedagogical skills
Barrett, Hovde, Hahn, & Rosqueta (2011)	Teaching high-need secondary students requires a host of skills...Classroom management techniques Communications and interpersonal skills...	Emotional/management/reflection skills
Coe, Aloisi, Higgins, & Major (2014)	...components of great teaching... Professional behaviours ...Behaviours exhibited by teachers such as reflecting on and developing professional practice, participation in professional development, supporting colleagues, and liaising and communicating with parents.	Teacher professional development

In the early stages of the literature review, a conceptual map was created that noted the key elements of quality education from each publication. This helped create labels for the numerous items that were found. Common or similar elements of the definitions were entered in the same column; as the study of the material progressed and other elements emerged, the original categories were revised to include these new elements. This means that many similar elements have been combined, as the goal was to create as few categories as possible. In the end, 21 dimensions of quality education emerged. For each dimension, the popularity was determined by calculating the relative frequency to establish the significance of each element. Figure 5 presents the conceptual map showing the initial pilot identification of quality education elements.

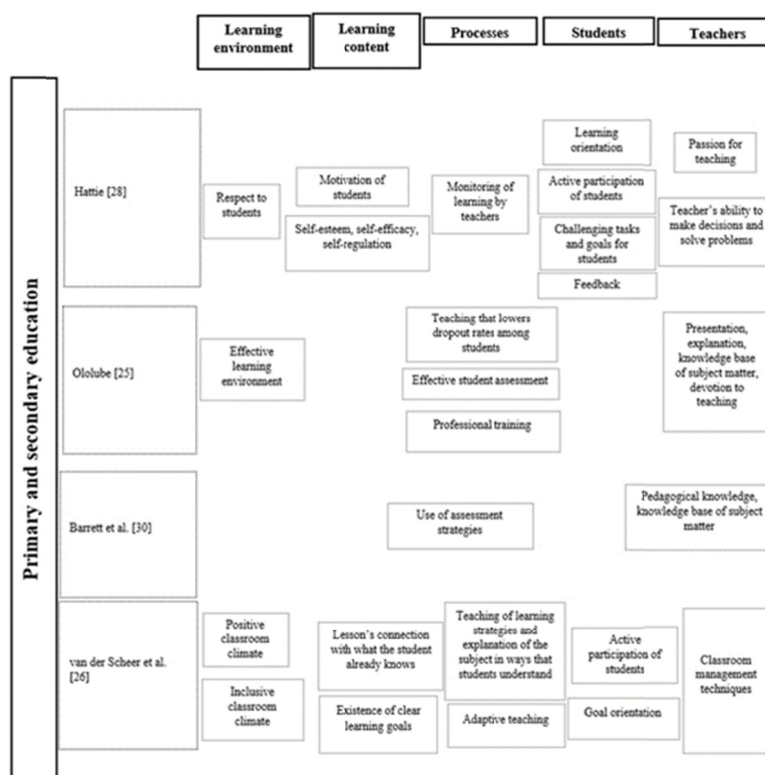


Figure 1. Initial pilot identification of quality in primary and secondary education

### 3. Results

#### 3.1 Sample

A total of 32 publications were examined; they came mainly from English-language papers in scientific journals. There is any different preference between primary and secondary schools in terms of the identified dimensions as the vast majority of them (N=24) concerned both primary and secondary levels of education and only (N=3) definitions concerned primary education and (N=5) definitions concerned secondary education. Most of the works containing an original definition of quality education or identifying some elements or dimensions of quality in the context of primary and secondary education were published in the years 2004 and 2011.

#### 3.2 Dimensions of the Term 'quality' in Primary and Secondary Education and Broader Categories in which the Dimensions are Included

Table 4 summarizes the publications that were studied in reference to quality education in the context of primary and secondary education. For any scientific text, article, or book in which a dimension of quality education was defined, the cell associated with this dimension was shaded. Furthermore, the percentages provided show the relative frequency of each dimension of quality education.



Table 4. Categories and dimensions of quality in primary and secondary education

		Learning environment				Learning content				Processes				Students				Teachers				
		Psychosocial elements	Physical elements	Respect for diversity	Collaboration, sharing, and team spirit	Student-centered pedagogy	Well-structured knowledge base	Continuous curriculum improvement	Interest in all students	Life skills	Teaching	Learning	Assessment	Support and supervision	Involvement/participation	Feedback	Challenging learning activities	Improved learning outcomes	Knowledge of educational context, content,	Pedagogical skills	Emotional/management/reflection skills	Teacher professional development
Relative frequency of each dimension		38%	3%	13%	6%	25%	16%	3%	13%	19%	25%	13%	25%	28%	16%	22%	3%	38%	41%	22%	44%	28%
1	Darling-Hammond (1997)													✓								✓
2	Allen & Palaich (2000)													✓								✓
3	Darling-Hammond (2000)													✓								✓
4	Hirsch, Koppich, & Knapp (2001)	✓												✓								✓
5	Alton-Lee (2003)				✓	✓	✓	✓			✓	✓		✓			✓		✓		✓	
6	Hattie (2003)	✓				✓				✓		✓			✓	✓	✓	✓		✓	✓	
7	Day & Sachs (2004)																		✓	✓		✓
8	Harrell, Leavell, van Tassel, & McKee (2004)	✓												✓					✓		✓	✓
9	Rowe (2004)					✓								✓								✓
10	Schacter & Thum (2004)								✓		✓	✓				✓			✓		✓	
11	Ololube (2005)	✓									✓			✓	✓				✓			
12	Samu (2006)			✓																		
13	Amosa, Ladwig, Griffiths, & Gore (2007)	✓				✓				✓								✓	✓			
14	MacGregor (2007)								✓		✓			✓		✓	✓		✓		✓	
15	Zammit et al. (2007)													✓		✓			✓	✓	✓	
16	Lovat & Clement (2008)																		✓	✓	✓	



interpretation and jointly agreed the categories based on careful examination of the relevant literature as well as existing frameworks of quality in school education. The specific proposed theoretical framework for quality in school education emerged from the process of continuously comparing data sources and detailed memos/notes, presented in Figure 6.

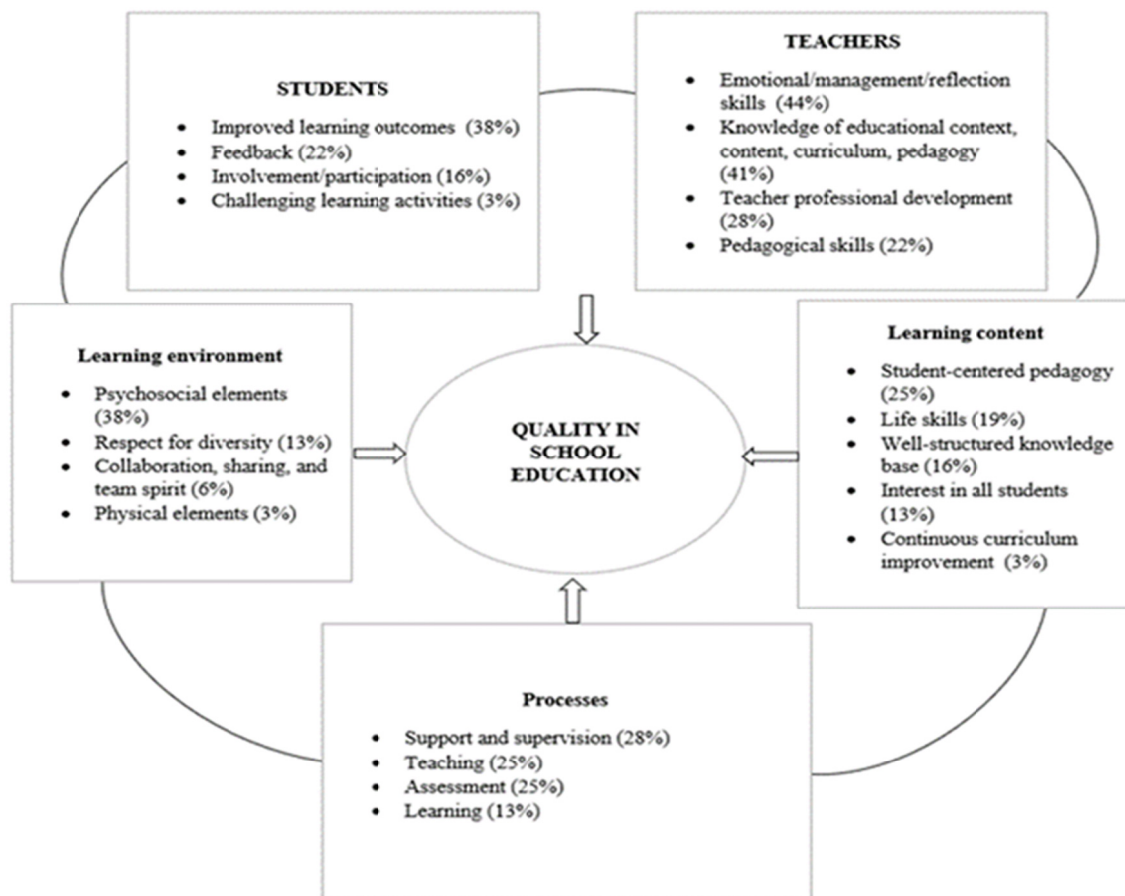


Figure 2. Proposed theoretical framework of quality in school education

Learning environment refers to the adoption of strategies by teachers that aim to enhance student learning in an environment that minimizes behavioural problems and is enjoyable, fruitful, constructive, and supportive, contributing not only to the academic but also the social and emotional development of students (Polymeropoulou & Sorkos, 2016).

Learning content includes topics, beliefs, attitudes, concepts, and events that are often grouped into each learning subject or field under the knowledge, skills, values, and attitudes provided to be acquired by students, forming the basis of teaching and learning (United Nations Educational Scientific and Cultural Organization [UNESCO], 2022).

As for processes, the literature mentions that, until recently, many discussions about the quality of education focused on the inputs of the system, such as infrastructure, student-teacher ratios, and the content of the curriculum. In recent years, however, more attention has been paid to educational processes – how teachers and administrators use inputs to frame meaningful learning experiences for students – and their work is a key factor in ensuring quality school processes (UNICEF, 2000).

In addition, students and teachers are two of the main factors on which the improvement of the educational system's quality is based. It is very important to pay attention to quality education in people. In this context, it is crucial for students to learn to demand quality and cultivate quality mentalities and behaviours (Vitantzakis, 2012). According to the data, teachers today are a critical factor in the educational process and play a very important role

in the quality of work that is provided during the educational process. Through their activity, teachers help to a significant degree in the cognitive and emotional development of the students, as well as in the upgrading of the school. Therefore, they should be able to successfully fulfil their duties and the requirements of the educational process and of their students (Vassilopoulos, 2018).

The categories are then analysed in their individual dimensions.

a) Learning environment

- Psychosocial elements
- Physical elements
- Respect for diversity
- Collaboration, sharing, and team spirit

Psychosocial data refer to quiet and safe environments where teachers behave in a way that creates security for students. They also relate to inclusive environments where all forms of discrimination are eliminated, and to well-run schools and classrooms where students, teachers, and principals comply with school and classroom rules and policies, which should be clear and understandable, while constructively enhancing positive behaviour and discipline (UNICEF, 2000).

The physical elements refer to the quality of school infrastructure. The quality of school buildings may be related to other school quality issues, such as the presence of adequate teaching materials and textbooks, working conditions for students and teachers, and the ability of teachers to apply certain teaching approaches. Factors such as class sizes, the ratio of students to teachers, and the availability of furniture have an impact on learning (UNICEF, 2000).

Diversity refers simultaneously to the diversity and uniqueness of people and to the span of every form of diversity – cultural, racial, socio-economic, developmental (which includes special needs), and diversity based on gender. Respect for diversity means that everyone is treated the same as the majority, dominant groups (MacNaughton, 2006).

Collaboration, sharing, and team spirit point to students being able to collaborate and interact by exchanging information as they participate in group activities, thus developing team spirit (Conley & Muncey, 1999).

b) Learning content

- Student-centred pedagogy
- Well-structured knowledge base
- Continuous curriculum improvement
- Interest in all students
- Life skills

Student-centred pedagogy refers to a shift from teacher-centred teaching to the needs of each individual student and his or her interests, talents, and experiences (Kyprianidou, 2012).

A well-structured knowledge base is about the knowledge that is built on what students know. In particular, it is very important that the old knowledge is connected to the new, that students build knowledge on their own experiences through the discussion of a topic, and that teaching emphasize the interconnection of topics (Biggs, 2011).

Continuous curriculum improvement concerns a curriculum that is improved so that it expresses the educational system and can meet the needs of the labour market (Zavlanos, 2017). Interest in all students is related to bonding – the degree to which students perceive that the teacher is friendly, interested in them, and available in or out of the classroom (Guolla, 1999).

Life skills are defined as the skills for adaptive and positive behaviour that allow individuals to effectively meet the demands and challenges of everyday life. Life skills are classified into three broad categories: thinking skills, social skills, and emotional skills. Thinking skills are related to analytical ability, creative and critical thinking, problem-solving skills, and decision-making ability. Social skills include interpersonal skills, communication skills, leadership skills, managerial skills, defence skills, collaboration skills, and team-building skills. Emotional skills include self-knowledge, comfort, and, in particular, self-management, including managing or coping with emotions, stress, and resistance to peer and family pressure (Prajapati, B. Sharma, & D. Sharma, 2017).

### c) Processes

- Support and supervision
- Teaching
- Learning
- Assessment

Support and supervision refer to the quality of administrative support and leadership; they are an important element of the processes for both students and teachers. At a macroeconomic level, securing financial resources for education, especially for recurring budgets, is a necessity. Teachers need governments that support education systems. Organizational support for teaching and learning takes many forms, including measures such as ensuring better conditions and professional development with respect for teacher autonomy and professionalism, as well as the development of inclusive decision-making processes. Such support has been shown to have an impact on student learning (UNICEF, 2000).

Teaching is understood as a series of actions that include organizational actions as well as interpersonal relationships aimed at learning. Specifically, teachers develop methodical procedures in the context of interpersonal communication with their students, which contribute to the ability of students to assimilate school knowledge and develop the attitudes, skills, and values that are considered necessary to fully develop their personality (Matsagouras, 2000; Skepetari, 2019).

Learning is an internal process in which stimuli and information from the environment are processed and facilitated by pre-existing knowledge. Its effects are related to values, skills, knowledge, and attitudes that contribute to the shaping of behaviour and consequently to the shaping of individuals' personalities. In addition, the context and processes through which learning is acquired are factors that affect the quality of learning, as it depends on them (Matsagouras, 2011).

Assessment is defined as a process in which data are collected based on certain criteria to give value to something; as a function, the evaluation process is directly related to the educational process (Oiconomopoulos, Tzetzis, & Kioumoutzoglou, 2006).

### d) Students

- Involvement/participation
- Feedback
- Challenging learning activities
- Improved learning outcomes

Student involvement/participation refers to their active participation in academic, complementary, or other school-related activities, as well as their commitment to learning and their educational goals. Students are involved and invested in their learning when they think it makes sense to them. In addition, participation is a multidimensional construct and can be cognitive, behavioural, and emotional. Finally, student participation aims at learning; it is affected by various influences, requires effort and energy, and can be achieved by all students (Christenson, Reschly, & Wylie, 2012; Vassiliadou, 2020).

Feedback is information provided by a teacher, a student, a peer, oneself, or an experience about aspects of one's performance or understanding. The feedback one receives can change one's ways of action and improve one's performance (Bijlsma et al., 2019).

Challenging learning activities refer to the work provided and specifically to the fact that the teaching/learning activity itself should be appreciated by the student and should not be considered something that requires a lot of work or is insignificant (Biggs, 2011).

Improved learning outcomes can be either short-term or long-term. They arise from teaching strategies that are based on the developmental needs of the student and aim to facilitate learning and personal development by contributing to the best possible quality of life for the students, as well as to the improvement of living conditions in the wider society (Hollins, 2011).

### e) Teachers

- Knowledge of educational context, content, curriculum, and pedagogy
- Pedagogical skills

- Emotional/management/reflection skills
- Teacher professional development

Knowledge of educational context, content, curriculum and pedagogy are elements of teachers' professional knowledge of teaching. In particular, knowledge of educational contexts varies depending on class or group work, government and school district funding, and the nature of culture and society (Shulman, 1987). Content knowledge includes knowledge of the subject matter and its organizational structures (Shulman, 1986, 1987). Knowledge of the curriculum is connected with the complete programs that are designed for the teaching of each subject, the various educational materials that are available, and the description of all the characteristics that function as indications but also as contraindications for the use of the specific curriculum (Shulman, 1986). Finally, general pedagogical knowledge concerns the general principles and strategies of classroom organization and management (Shulman, 1987).

Pedagogical skills refer to the ability of the teacher to cultivate a positive psychological climate, where good relations prevail between members and there is a spirit of cooperation and unity, and communication is seamless and effective (Karolidou, 2017).

Emotional skills refer to the ability to recognize one's own feelings and the feelings of others, to take them into account and react appropriately to them, and to seek to interact socially with others (Denham et al., 2003). Management skills include the actions taken by teachers to create and maintain a learning environment that contributes to the achievement of teaching objectives (Tsardikou, 2021).

Reflection, meanwhile, is understood as the ability of teachers to think about their educational and pedagogical work and the context in which it takes place in order to recognize, reconsider, and critically consider the perceptions and practices they apply in order to change them. Reflection aims not only to improve the quality and outcome of education but also the teachers themselves (Augitidou, 2011).

Finally, teacher professional development refers to the professional progress that teachers achieve, through which they gain more experience in relation to the educational work and develop their critical thinking by reflecting on their teaching methods. In addition, teacher professional development is presented in the literature as the method and activities that are designed to promote the mood, skills, and professional knowledge of teachers so that they can create the right conditions to promote the learning of their students (Vassilopoulos, 2018).

#### 4. Discussion

The aim of this study was to identify the dimensions of quality school education and classify them in broader categories to conceptually approach the content of the quality of education. The methodology used was grounded theory, and the sample consisted of 32 publications in scientific reports, books, journals, and conference proceedings. Five broad categories emerged: a) learning environment, b) learning content, c) processes, d) students, and e) teachers. There were 21 dimensions identified.

Regarding learning environment, the dimension that prevails is the psychosocial elements, followed by respect for diversity, collaboration, sharing and team spirit, and, finally, the physical elements. In terms of learning content, student-centred pedagogy prevails, followed by life skills, interest in all students, and, finally, the continuous improvement of the curriculum. In terms of processes, support and supervision prevail, as well as teaching and assessment, and, finally, learning. Regarding students, improved learning outcomes are the dimension that prevails, followed by feedback, involvement and student participation, and challenging learning activities. Regarding teachers, the dimension that concerns the skills (emotional/management/reflection) prevails, followed by knowledge of the educational context, content, curriculum, and pedagogy, and, to a lesser extent, teacher professional development and pedagogical skills.

Then, the dimensions that appeared in each category were analysed in detail, starting from the dimension of each category with the strongest presence in the definitions of quality education or was mentioned more as a dimension of quality education in the relevant literature.

The *psychosocial elements* dimension is related to the learning environment and concerns a quality (Amosa et al., 2007; Ladwig, 2009; Edge et al., 2012; Gore et al., 2017), effective (Ololube, 2005), continuously improving learning environment (Hirsch et al., 2001), with an excellent (Hattie, 2003), supportive (Lovat & Toome, 2009), and positive classroom climate (Harrell et al., 2004; van der Scheer et al., 2019). In such a climate, punishments are avoided (Zavlanos, 2017), teachers respect students (Hattie, 2003), the atmosphere is calm (Lovat & Toome, 2009) and pleasant. The classroom is characterized by acceptance, sympathy, and understanding to support the work of the students (Zavlanos, 2017). In addition, the learning environment is a spiritual and emotional space, where there are strong positive relationships between teachers and students (Lovat & Toome, 2009) and student self-worth is

recognized (Coe et al., 2014).

The dimension *respect for diversity* in the learning environment category includes recognition of the diversity, individuality, and singularity of students (Zavlanos, 2017). According to Samu (2006), the diversities and differences between groups of students, as well as those within groups of students, should be at the very center of teaching. Therefore, it is important for teachers to respond to student diversity (Alton-Lee, 2003) and to provide an inclusive classroom climate (van der Scheer et al., 2019).

The dimension *collaboration, sharing, and team spirit*, belonging to the learning environment category, involves cohesive learning communities (Alton-Lee, 2003) and the affective dimensions of learning and teaching, including the relationships that characterize the learning environment (Lovat, 2010).

The dimension *physical elements* of the learning environment includes the use of information and communication technology (Zavlanos, 2017).

The dimension *student-centered pedagogy* of the learning content category involves learning where students see value in it (Amosa et al., 2007; Edge et al., 2012), as well as facilitating learning that leads to self-control, self-assessment, empowerment, mental development, and emotional stability (Zavlanos, 2017). In addition, this dimension relates to teaching that focuses on improving performance (Alton-Lee, 2003) and contributes to cognitive activation of students (Praetorius et al., 2018), as well as their smooth adaptation to the school environment (Zavlanos, 2017). It concerns the teaching and learning process that affects students' cognitive, social, behavioral, and affective outcomes of schooling (Rowe, 2004). This dimension also includes the existence of clear learning goals (van der Scheer et al., 2019), explicit expectations for learning (Edge et al., 2012; Zavlanos, 2017), and motivation of students by teachers (Hattie, 2003; Zavlanos, 2017).

The *life skills* dimension belongs to the learning content category and is associated with the production of ideas; the development of criticism and thinking; the ability to analyze, synthesize, and evaluate (Zavlanos, 2017); the development of social skills (Alton-Lee, 2003); the inculcation of personal and social values (Lovat, 2010); and the improvement of self-esteem, self-efficacy, and self-regulation (Hattie, 2003; Amosa et al., 2007; Edge et al., 2012), all of which can be achieved in the teaching and learning process.

The dimension *well-structured knowledge base* of the learning content category involves the connection of disciplinary knowledge and practices to the daily experiences of students from diverse linguistic, experiential, and cultural backgrounds (Hollins, 2011). Analytically, this dimension concerns the need to draw clear connections with contexts outside of the classroom and students' prior knowledge and identities, including cultural perspectives (Ladwig, 2009; Edge et al., 2012). Therefore, it refers to a clear teaching approach that connects the lesson with what the student already knows (van der Scheer et al., 2019) and creates effective links between the school and other cultural contexts in which students are socialized, in order to facilitate learning (Alton-Lee, 2003).

The dimension *interest in all students* belonging to the learning content category refers to the teacher's knowledge of his or her students (Schacter & Thum, 2004; Hollins, 2011)—namely, how well the teacher knows the students as members of social and cultural groups and as individuals with their own unique characteristics. This dimension involves teaching strategies that are based on the developmental needs of the students to facilitate learning and personal development. Such strategies allow the achievement of immediate learning outcomes, contribute to the best quality of life possible, and enable students to make a difference in improving life conditions in wider society (Hollins, 2011). Therefore, it emphasizes the importance of student-centered instruction (MacGregor, 2007) and student support (Praetorius et al., 2018).

The dimension *continuous curriculum improvement* of the learning content category is related to the improvement of the curriculum in order to align with the philosophy of the education system and the requirements of the labor market (Zavlanos, 2017).

The dimension *support and supervision* of the processes category involves support (Praetorius et al., 2018), professional training, (Allen & Palaich, 2000; Darling-Hammond, 1997; Ololube, 2005; Rowe, 2004) and appropriate teacher preparation (Allen & Palaich, 2000; Darling-Hammond, 1997; Harrell et al., 2004; Rowe, 2004). This includes support for high-quality initial preparation of new teachers (Hirsch et al., 2001), in order for them to have the necessary skills (Darling-Hammond, 2000; Rowe, 2004) and be sufficiently well-trained (Rowe, 2004). In addition, this dimension includes recruitment of teachers when necessary; development of strong and distinct leadership (Allen & Palaich, 2000); opportunities for teachers to practice and demonstrate leadership (Zammit et al., 2007); efforts to attract, reward and retain capable individuals in the teaching profession (Hirsch et al., 2001); and finally, redesign of teacher accountability systems so that all teachers have the knowledge and skills they need to improve student learning (Allen & Palaich, 2000).

The dimension *teaching* of the processes category concerns the characteristics that a teacher should have and what those characteristics include. Specifically, according to Zavlanos (2017), teaching should be beneficial, democratic, living, diagnostic, and therapeutic. On the other hand, van der Scheer et al. (2019) discuss the value of adaptive teaching. Ololube (2005) focuses on teaching that lowers dropout rates among students, while Gore et al. (2017) discuss teaching that includes concern for social justice. MacGregor (2007) notes the importance of a lesson plan that contains clear objectives, as well as teaching that is clear and utilizes research-based strategies. In addition, it is important for teaching to align with curriculum objectives, resources, homework planning, and school practices (Alton-Lee, 2003). It should include key elements such as effective questioning but also use specific practices, such as the review of previous learning, the provision of adequate time for practice to embed skills securely, and the provision of models for the kinds of responses students are required to produce (Coe et al., 2014). Also, as noted by Schacter and Thum (2004), emphasis should be placed on the presentation of the course, the use of questions, and the structure and pacing.

The importance of the dimension *assessment* of the processes category is emphasized by teachers (Barrett et al., 2011; Coe et al., 2014)—namely the use of assessment methods, strategies, and techniques (Rekalidou, 2011). The use of assessment for learning (MacGregor, 2007), or as noted by Alton-Lee (2003), the use of assessment practices that enhance learning and motivate students, is essential. Therefore, it is very important to develop appropriate assessment approaches (Hollins, 2011). Teaching should be adapted to the results of the assessment (Alton-Lee, 2003). Finally, as underlined by researchers, assessment must be continuous (Zavlanos, 2017) and effective (Ololube, 2005).

The dimension *learning* belongs to the processes category and refers to the ways in which teachers monitor learning (Hattie, 2003), teach learning strategies to students, explain subjects in ways that students understand (van der Scheer et al., 2019), and connect school learning to broader social issues (Gore et al., 2017), as well as learning objectives and activities (Schacter & Thum, 2004).

The dimension *improved learning outcomes* of the students category refers to components related to learning orientation (Allen & Palaich, 2000; Hattie, 2003; Amosa et al., 2007; Burgess & Berwick, 2009; Lovat & Toome, 2009; Hightower et al., 2011; Edge et al., 2012; de Jager et al., 2017; Zavlanos, 2017) and goal orientation (van der Scheer et al., 2019). This dimension is also related to the teacher's ability to work collaboratively with colleagues in a professional community to improve learning outcomes (Hollins, 2011). Moreover, it also concerns the need for clear, observable, explicit evidence of student learning (MacGregor, 2007). Finally, as noted by de Jager et al. (2017), the achievement of quality learning outcomes depends on the learning and teaching process as well as the teachers' practices; it is very important to provide sufficient, effective learning opportunities (Alton-Lee, 2003).

The dimension *feedback* belonging to the students' category concerns the provision of necessary information from the teachers to the students and from students to the teachers (Zavlanos, 2017). This includes feedback from students regarding the strengths and weaknesses of their lessons, in order to help teachers improve teaching quality (Bijlsma et al., 2019). Feedback has been mentioned by several researchers (Alton-Lee, 2003; Hattie, 2003; Schacter & Thum, 2004; Zammit et al., 2007), and it is noted that feedback should be offered frequently (MacGregor, 2007).

The dimension *involvement/participation* belongs to the students category and refers to the active participation of students in their learning (Hattie, 2003; Zavlanos, 2017; van der Scheer et al., 2019), which occurs when students set goals or self-assess (MacGregor, 2007), as well as when they engage in higher-order thinking and communicate substantially about their learning (Edge et al., 2012).

Finally, the dimension *challenging learning activities* in the students' category refers to the provision of tasks and goals that demand effort and focus from students (Hattie, 2003).

The *emotional/management/reflection skills* dimension is a key element of quality education; it belongs to the teachers' category in this analysis. Researchers note the importance of a particular set of skills in effective teaching. First are emotional skills, which include interpersonal and intrapersonal skills. Lovat and Clement (2008) and Barrett et al. (2011) refer to interpersonal skills. These include a teacher's overall communicative ability (Lovat & Clement, 2008; Lovat & Toome, 2009) and, in particular, his or her ability to achieve the essential (Gore et al., 2017) high degree of communication (Zammit et al., 2007). Additionally, interpersonal skills are required for teachers to communicate with parents (Coe et al., 2014) and collaborate with colleagues (Zammit et al., 2007), particularly in the assessment and refinement of teaching (Gore et al., 2017) and peer support (Coe et al., 2014). Intrapersonal skills include self-knowledge and self-management, as well as the ability to understand others (Lovat & Toome, 2009). Second are management skills, which relate to the teacher's individual classroom management skills (Harrell et al., 2004; Praetorius et al., 2018), the quality of classroom management (van der Scheer et al.,



2019), and classroom management techniques (Barrett et al., 2011). These techniques include grouping students (Schacter & Thum, 2004) and using practices that motivate them (Alton-Lee, 2003), including rewards (Zavlanos, 2017). In addition, management skills include a teacher's ability to make efficient use of lesson time, to manage student behavior with clear rules that are consistently enforced, and to coordinate classroom resources and space. These are all ways in which teachers can enhance student learning (Coe et al., 2014). Furthermore, management skills involve a teacher's ability to make decisions and solve problems (Hattie, 2003), as well as his or her ability to use a positive behavior management strategy, in which expectations for student behavior are clear and behavior is monitored in a positive, preventive, and subtle manner (MacGregor, 2007). Additionally, researchers emphasize the importance of reflection skills (Lovat & Clement, 2008; Lovat & Toome, 2009), which concern a teacher's ability to think about and analyze his or her professional practice (Coe et al., 2014).

The *knowledge of educational context, content, curriculum, and pedagogy* dimension of the teachers category emphasizes the requirement for knowledgeable teachers (Day & Sachs, 2004; Lovat & Clement, 2008) with essential pedagogical knowledge (Harrell et al., 2004; Amosa et al., 2007; Zammit et al., 2007; Lovat & Clement, 2008; Ladwig, 2009; Barrett et al., 2011; Hollins, 2011; Edge et al., 2012; Gore et al., 2017), pedagogical content knowledge (Lovat & Clement 2008; Coe et al., 2014), and teacher content knowledge (Schacter & Thum, 2004)—namely knowledge base of subject matter (Ololube, 2005; Barrett et al., 2011). Knowledge also includes deep knowledge of the learning process, understanding of the important concepts in a particular discipline, and knowledge related to managing curriculum requirements (Hollins, 2011). Also, this dimension includes teaching skills such as presentation and explanation, as well as devotion to teaching (Ololube, 2005) and the development of inquiry habits (Gore et al., 2017).

The dimension *teacher professional development* that belongs to the teachers category is associated with continued professional learning (Hirsch et al., 2001) and a teacher's ability to maintain a strong professional identity and engage in self-directed professional development (Hollins, 2011). Therefore, this dimension concerns professional development, (Darling-Hammond, 2000; Coe et al., 2014; Harrell et al., 2004; Rowe, 2004) teacher development (Darling-Hammond, 1997; Allen & Palaich, 2000; Hirsch et al., 2001; Day & Sachs, 2004), and specifically assurance of high-quality professional development (Darling-Hammond, 1997).

The dimension *pedagogical skills* concerns teachers who are highly motivated (Day & Sachs, 2004), work collaboratively with colleagues (Hollins, 2011), and show enthusiasm and commitment (Zammit et al., 2007). High-quality teachers possess a passion for teaching and learning (Hattie, 2003; Zammit et al., 2007) and develop positive (Ladwig, 2009; Lovat & Toome, 2009) and strong relationships with students (Lovat & Clement, 2008).

## 5. Conclusion

This study focused on the conceptual analysis of quality in primary and secondary education by collecting and studying elements of quality education in books, scientific reports, and papers in journals and conference proceedings. There were 21 dimensions that emerged through this analysis, which were organized into broader categories. The learning environment category includes *psychosocial elements, physical elements, respect for diversity, and collaboration, sharing, and team spirit*. The learning content category includes *student-centred pedagogy, well-structured knowledge base, continuous curriculum improvement, interest in all students, and life skills*. The processes category includes *teaching, learning, assessment, and support and supervision*. The students category includes *involvement/participation, feedback, challenging learning activities, and improved learning outcomes*. Finally, the teachers' category includes *knowledge of educational context, content, curriculum, pedagogy, pedagogical skills, emotional/management/reflection skills, and teacher professional development*.

In the learning environment category, the dimension regarding the *psychosocial elements* prevails; in the learning content category, the dimension *student-centred pedagogy* prevails; in the processes category, three dimensions prevail – the first is *support and supervision*, and the other two are *teaching* and *assessment*. From the students category, the dimension *improved learning outcomes* prevails. Finally, from the teachers' category, two dimensions prevail: *emotional/management/reflection skills* and *knowledge of the educational context, content, curriculum, and pedagogy*.

Analytically, the ideal learning environment seems to be mainly characterized by *psychosocial elements*. It is a pleasant, high-quality, effective, and continuously improving learning environment where punishment has no place and teachers respect students and recognize their self-worth. It is a calm classroom climate characterized by strong positive relationships between teachers and students, where quality student work is supported. The dimension concerning *respect for diversity*, which includes elements such as inclusion and the recognition of diversity, seems to characterize the ideal learning environment to a lesser extent. The dimensions *cooperation, sharing, and team spirit* and *physical elements* appear even less frequently in the literature.

Quality learning content is primarily characterized by *student-centred pedagogy*, which includes learning where students see value and establishing clear goals and expectations. The effect of the teaching and learning process on students (e.g., student empowerment, self-assessment, mental development, self-control, emotional stability) is also emphasized. The concepts of life skills (e.g., self-esteem, self-regulation, self-efficacy), *well-structured knowledge base*, *interest in all students*, and *continuous curriculum improvement* appear to a lesser extent in the literature.

In the processes category, the *support and supervision* dimension appears most frequently. This emphasizes the importance of appropriate teacher preparation, support for teachers, recruitment of teachers when necessary, and development of strong leadership. Additionally, it is necessary for the teaching profession to attract, reward, and retain skilled professionals. The texts also focus heavily on the need for *teaching* that is adaptive, therapeutic, living, diagnostic, beneficial, and democratic. Ideal teaching aligns with curriculum objectives, resources, homework planning, and school practices. In addition, teachers should include key elements (e.g., effective questioning) and focus on the presentation, structure, and pacing of their courses. The process of *assessment* is as important as the *teaching dimension* to researchers. This refers to the effective and continuous assessment of learning and the adaptation of teaching to assessment results. The topics encompassed in the dimension learning appeared to a lesser extent.

In relation to students, *improved learning outcomes* was the prevalent dimension in the literature. Researchers strongly emphasized goal orientation and learning orientation, as well as the need for clear evidence of student learning. The other student-focused dimensions (*feedback*, *involvement/participation*, and *challenging learning activities*) were discussed with less frequency than the dimension mentioned above.

Finally, from the category relating to teachers, the dimensions of *emotional*, *management*, and *reflection skills* and *knowledge of educational context*, *content*, *curriculum*, and *pedagogy* have the largest presence in the literature. The subjects of *teacher professional development* and *pedagogical skills* appear less frequently.

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