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El impacto de la Inteligencia Emocional en los modelos de enfoques de enseñanza

Abílio Afonso Lourenço⁽¹⁾, Sabina Nunes Valente⁽²⁾, Sergio Dominguez-Lara⁽³⁾, Celso Simão Fulano⁽⁴⁾

¹Universidad do Minho, Portugal, ²CARE - Centro de Investigación en Ciencias de la Salud y Sociales, Instituto Politécnico de Portalegre, Portugal, ³Universidad de San Martín de Porres, Lima, Perú, ⁴Universidad Pedagógica de Maputo, Mozambique.

Resumen

La inteligencia emocional es un concepto significativo en los programas de estudio de Psicología y Educación y fundamental para comprender los diferentes procesos de pensamiento y comportamiento de los docentes, a fin de transformar las emociones en impulsores de la actividad diaria. La literatura es unánime al considerar que los enfoques de enseñanza adoptados por los profesores, en la praxis educativa, influyen en las elecciones de enfoques de enseñanza utilizados en el aprendizaje de los estudiantes. Este hecho justifica la importancia de asociar las habilidades de IE con el tipo de enfoque que el profesor utiliza en el aula. A través de una muestra de 628 maestros de escuelas primarias y secundarias, utilizando modelos de ecuaciones estructurales, se demostró que la IE es una variable predictor de los tipos de enfoques de enseñanza utilizados por los profesores y que aquellos con una IE más alta optan por un enfoque más comprensivo y menos transmisivo, con resultados estadísticamente significativos. También se observa que las variables género, formación académica y tiempo de servicio tienen una preponderancia significativa en la IE de los profesores en la muestra. Se concluye que la IE es esencial en los enfoques de enseñanza utilizados por el profesor.

Palabras clave:

Inteligencia emocional; enfoques de enseñanza; enfoque transmisivo; enfoque comprensivo.

Contacto:

Abílio Afonso Lourenço, <u>privadoxy@gmail.com</u>, Universidade do Minho, Campus de Gualtar, Braga, Portugal

The impact of Emotional Intelligence on models of teaching approaches

Abstract

Emotional intelligence is a significant concept in Psychology and Education study programs and fundamental for understanding the different processes of thinking and behavior of teachers, in order to transform emotions into promoters of daily activity. The literature is unanimous in considering that the teaching approaches adopted by teachers, in educational praxis, influence the choices of teaching approaches used in student learning. This fact justifies the importance of associating EI skills with the type of approach that the teacher uses in the classroom. Through a sample of 628 elementary and secondary school teachers, using structural equation models, it was shown that EI is a predictor variable of the types of teaching approaches used by teachers and those with higher EI opt for a more comprehensive approach and less transmissive, with the results being statistically significant. It is also observed that variables gender, academic training, and service time have a significant preponderance in the EI of the teachers in the sample. The main contribution of the article is to emphasize that the teacher's emotional intelligence is essential in choosing the type of teaching approach used in the classroom.

Key words:

Emotional intelligence; teaching approaches; transmissive approach; comprehensive approach.

Introduction

The importance of the study of Emotional Intelligence (EI) in an educational context is evidenced through the vast investigation carried out in the last decades and this construct has been fundamental for the understanding of different processes of thought and behavior of teachers, with the objective of transforming emotions into motivators of daily activity (Valente et al., 2020b).

El is defined by Mayer and Salovey (2016) as a set of emotional capabilities, namely: the ability to perceive, evaluate and express emotions accurately; the ability to produce feelings and facilitate thinking; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth. That is, emotionally intelligent individuals use reason to understand emotions (their own and others) and use emotions to interpret the environment and make more rational decisions (Salovey & Mayer, 1990). In this way, the teacher's El skills are imperative, as they encompass verbal and non-verbal skills that enable the teacher to articulate, identify, understand and evaluate emotions (Valente et al., 2020a).

The challenges of the 21st century require new ways of thinking, making it essential that teachers understand that the association between affective and cognitive dimensions in human beings is undeniable (Pessoa, 2008; Valente & Lourenço, 2022b), as well as emotions directly influence individual decisions (Hopkins & Yonker, 2015). Thus, Valente et al. (2019) refer that the importance of developing EI in teachers is increasingly noticeable, with the aim of developing skills that provide a rewarding and effective workforce in their work. According to Seoane-Pardo (2014), teaching has always been considered a hybrid of skill or talent that

results from experience and certain emotional capacities, and it is important for the teacher to have technical skills in the technological environment in which they work, to have academic skills related to your area of specialization, but above all, you must have EI skills as a key factor for the excellence of your performance. On the other hand, Kovalchuk, et al. (2022), based on the analysis of scientific works on EI, mention that it is evident that the current school needs teachers with a set of emotional and social skills that can be adjusted, depending on the demands associated with the work to be carried out in any context. Thus, a teacher with higher levels of EI is identified as having, essentially, high empathy, focus on activities, positive thinking, self-knowledge, constant motivation, and ability to deal with changes (Valente & Lourenço, 2020b).

Emotional intelligence in teachers

The literature review reveals a range of studies that relate teachers' EI to several variables that influence their praxis in the classroom. Some of these studies focused on teachers are associated with levels of anxiety and depression (Poon et al., 2019; Silva et al, 2024), stress (Araújo et al. 2024; Mérida-López et al. 2022); self-efficacy in classroom management (Catalano, et al., 2022), burnout (Lucas-Mangas, et al., 2022; Veiga et al., 2024), job satisfaction (Mérida-López, & Extremera, 2017; Serafim et al., 2024), higher performance at work (Huang et al., 2022), conflict management in pedagogical interaction (Valente & Lourenço, 2022a), self-efficacy in practice teacher (Veiga et al., 2024; Wu, et al., 2019) and age (Fernández-Berrocal et al., 2012), among other aspects, such as gender, academic training, and service time, which will be described below.

Regarding the association between EI and sex, different studies on the emotional dimension of human beings have been associated to a greater extent with females, who experience positive and negative emotions more intensely compared to males, corroborating that females it is more emotional (Andrade, 2013; Castro-Schilo & Kee, 2010; Hall & Mast, 2008; Joseph & Newman, 2010; Valente et al, 2019; Van Rooy et al, 2006). An investigation conducted by Andrade (2013) indicates considerable differences between females and males with regard to the level of EI, with female teachers showing higher levels of attention to emotions and emotional expressiveness. In turn, male teachers showed a higher rate of repression of emotions. Studies by Gill and Sankulkar (2017) and Sangeetha (2017), applied to teachers, reveal high global scores on EI for females, compared to males. Research by Sousa (2011) also proves that female teachers are those who are able to express their emotions more, whether positive or negative, showing greater attention to the emotions they experience, compared to males.

Thus, properly managing student interventions, behavior, and responses, it would allow for a better approach to classroom teaching. With regard to academic training, some studies mention that teachers with more academic training (e.g., Ph.D.) are those who show increased care in the face of emotions and higher levels of EI (Fernandes, 2015; Sousa, 2011). Corroborating this trend, Gregório (2008) states that those who have more academic qualifications are also those who have a greater ability to manage emotions in groups, followed by those who have a degree and, finally, those who have a bachelor's degree. These results are evidence that the academic training of teachers is of great importance for the self-efficacy of the praxis and performance of teaching work (Huang et al., 2022; Wu, et al., 2019)

since greater academic training would be linked to more strategies to address classroom dynamics (Vargas-Murillo, 2020).

As for the influence of the service time on teachers' EI, Sousa (2011) states that teachers who have been teaching for less than six years have greater emotional perception and are able to interrupt and regulate their negative emotional states and prolong the positive ones, unlike other colleagues. with more than six years of service. Some studies carried out with secondary school teachers also report that they have been teaching for a longer time and have lower levels of EI (Valente & Lourenço, 2020a, b; Valente et al. 2019). These personal and professional variables are equally important in helping to characterize the emotional profile of teachers and form an integral part of this study.

Teachers' teaching approaches

In the context of Educational Psychology, the concern to inquire about the teaching approaches used in the pedagogical practice of teachers in the classroom has always been visible, as can be inferred from the studies by Prosser et al. (1994) and Prosser and Trigwell (2006), where the logic of the metaphor of the student-centered approach to learning in teaching practice was recognized. The authors' main purpose was to investigate the relationship between teachers' approaches to teaching and students' approaches to learning, using methods of a quantitative nature. Specifically, they wanted to examine the extent to which an approach to teaching centered on the transmission of information would be related to a superficial approach to learning, and an approach to teaching centered on conceptual change on the part of the student would be linked to a deep approach to learning.

This investigation thus suggested the existence of four types of intentions (transmission of information, acquisition of concepts, conceptual development, conceptual change) and three strategies (focused on the teacher, focused on teacher/student interaction, focused on the student) that, associated, give rise to five qualitatively distinct approaches to teaching. The five approaches to teaching identified by Prosser and Trigwell (2006) were then separated into two different sets: approaches centered on the teacher or on the interaction between the teacher and the student, portraying a teaching whose intention is reduced to the transmission of knowledge; and student-centered approaches, characterizing a teaching whose intention is to facilitate students to develop their own knowledge.

In this sequence, Prosser and Trigwell (2006) recognized the existence of two approaches to teaching, namely: the transmissive approach, which focused on the teacher and very focused with the intention of transmitting knowledge that will promote, in their classrooms, superficial approaches to learning; and the comprehensive, student-focused approach intended to lead to conceptual changes that will guide students toward desirable deep approaches to learning. That is, teachers, place student learning at the heart of their activities, focus more on what the student does or learns than on their own performance as teachers, stimulate self-regulated learning, allocate class time to interact and dialogue about problems, consider assessment as a way to detect conceptual changes in students and stimulate debate and, in this assumption, they are more likely to opt for a deep approach (Entwistle, 2022; Paiva & Lourenço, 2017; Rosário et al, 2013).

In each of the approaches, the existence of two dimensions was also considered, namely: intention, which concerns the intention that underlies the adopted approach; and strategy,

which is related to the practice exercised by the teacher. The importance of knowing these two approaches to teaching is related to the fact that they characterize teaching whose main intention is to promote in students the development of their own knowledge and consequent school mastery.

The literature considers that the teaching approaches adopted by teachers in the classroom linearly influence the selection of learning approaches used by students (Paiva & Lourenço, 2017; Gresele, et al., 2022). However, no research was found that specifically relates EI to the type of teaching approaches used by teachers in their teaching practice, and the study by Martínez-Borreguero, et al. (2022) which is closest to an association between these two constructs, whose objective was to compare the influence of two teaching methodologies on the self-efficacy of learning and teaching of teachers undergoing training in the area of Physics.

Thus, the finding of the gap in studies with these constructs justifies the importance of associating the EI capabilities with the type of approach to teaching that the teacher uses in the classroom, as this will stimulate student learning at the required level (García-Sáiz, 2011). Thus, Lourenço and Valente (2021) refer that it is possible to infer that, when we focus on classroom interactions, the affective and emotional dimensions go beyond the limits of epidermal relationships and face-to-face contact. According to the authors, research clearly indicates that all decisions planned and developed by teachers have a strong impact on students.

Purpose of the present study

As mentioned earlier, there is a lack of studies relating the teachers' EI and the teaching approaches used in the classroom, taking into account aspects relevant to teaching such as gender, academic training, and service time. To fill this knowledge gap, this study aimed to investigate how the teacher's EI can influence the selection and use of a type of approach to teaching in the classroom. Likewise, it is essential to find out how the personal (gender) and professional (academic training, service time) variables of teachers are related to EI. Based on the literature, the following hypotheses were formulated in this study: H1) a positive and statistically significant correlation is expected between the female gender and EI; H2) a positive and statistically significant correlation is expected between those with more academic training and EI; H3) a negative and statistically significant correlation is estimated between those who have worked for the longest time and EI; H4) a negative and statistically significant correlation is expected between EI and the transmissive approach to teaching; H5) a positive and statistically significant correlation is predicted between EI and the comprehensive approach to teaching; H6) it is estimated to find a negative and statistically significant correlation between the transmissive and comprehensive approach to teaching.

Methodology Sample

The sampling process was non-probabilistic, for convenience, and teachers were recruited non-randomly from Portuguese public schools. Of the total of 700 questionnaires distributed, 89.7% of valid questionnaires were obtained for analysis. Thus, the final sample consisted of

628 teachers (7th to 12th grade), 62.6% of which were female. As for the service time, 8.4% had less than 10 years, 25.5% between 11-20 years, 44.3% between 21-30 years, and 21.8% over 30 years. As for academic training, 5.8% had a bachelor's degree, 76% had a degree, 17.2% had a master's degree, and 1% had a doctorate.

Instruments

Two questionnaires and a personal and professional data sheet (gender, academic training, and service time) were used. EI skills were assessed using the Teacher's Emotional Intelligence Questionnaire (QIEP; Valente & Lourenço, 2020a), consisting of 45 items, distributed across three dimensions: perceiving and understanding emotions with 15 items (α =.88; e.g., "When I see how a student feels, I know what happened to him"); express and classify emotions with 14 items (α =.83; e.g., "I can express my feelings and emotions in words"); and managing and regulating emotions with 16 items (α =.81; e.g., "I manage to keep myself in a good mood, even when something unpleasant happens during class"), presenting an α =.88 for the total scale. Responses were obtained using a Likert scale, from 1 (never) to 6 (always).

To assess the way teachers approach their teaching, in terms of strategies adopted and inherent intentions, the Inventory of Approaches to Teaching – Secondary (IAT-S; Paiva, 2008) was used, consisting of 12 items, distributed through 3 items by each of the four dimensions: transmission of information/strategy focused on the teacher (α =.78; e.g., "I explicitly present the knowledge/information that students need to know in order to successfully carry out formal assessments"; conceptual change/ student-focused strategy (α =.83; e.g., "In classes, I use challenging examples to spark debate with students and, from there, promote the learning of new content"); transmission of information/intention focused on the teacher (α =.75; e.g., "Concepts, and their relationships, must be conveyed explicitly by the teacher and not acquired by students as a result of discovery or investigation"); and conceptual change/strategy intent each in the student (α =.82; e.g., "It is more useful and formative for students to write their notes than to just transcribe those of the teacher"), showing an α =.78 for the total scale. Responses were obtained using a Likert-type scale, from 1 (strongly disagree) to 5 (strongly agree).

Procedures

Data were collected following the standards of the Declaration of Helsinki (2013) and the procedures were performed with authorization from the General Directorate of Education (Ministry of Education), Ethics Committees of the authors' institutions, Principals of participating schools, and teachers. The researchers explained the purpose of the study and applied the questionnaires, in groups of 10-20 teachers, during a 30-minute session held at the school, in 2023. Conventional ethics and deontological procedures were defined, and the teachers were informed about the confidentiality and anonymity of the data collected before giving their consent to voluntarily participate in the study. All data collected were considered valid because there were no missing values, as all the teachers surveyed completed the questionnaires in full.

Data analysis

Preliminarily, data verification was carried out with both descriptive analysis of asymmetry (< 2) and kurtosis (< 7; Finney & DiStefano, 2013), correlations (> .20; Ferguson, 2009), as well as internal consistency (Cronbach's alpha). The research hypotheses were evaluated and evaluated using the Structural Equation Modelling technique (SEM; Lowe, et al., 2007), using SPSS/AMOS 25 (Arbuckle, 2016).

The application of SEM is important as it is considered a multivariate data modelling technique and provides a comprehensive framework for fitting theoretical models. Moderate outliers were also maintained, as the descriptive statistics of the sample were adequate.

The global adjustment of the factor model was performed according to the indices and reference values described by Marôco (2018), namely: SRMR (<.08; Bentler, 1995); NFI (>.90; Bentler & Bonett, 1980); GFI (>.90; Jöreskog & Sörbom, 1983); AGFI (>.90; Hu & Bentler, 1995), CFI (>.90; Marsh et al., 2004); TLI (>.90; Arbuckle, 2016); RMSEA (<.05; West et al., 2012); and CN - a value > 200 is indicative that the model adequately represents the sample data (Hoelter, 1983).

More specifically, the influence of the predictor variables was evaluated under an effect magnitude approach: less than .20 is insignificant; between .20 and .50, small; between .50 and .80, moderate; and greater than .80, large (Ferguson, 2009). Likewise, the explained variance of the IE and the approaches were evaluated using the same approach: less than 0.04 is insignificant; between 0.04 and 0.25, small; between 0.25 and 0.64, moderate and greater than 0.64, large (Ferguson, 2009).

Results

Table 1 presents the descriptive data corresponding to the variables included in the SEM, verifying that the asymmetry and kurtosis values are within the established standards, as well as the presence of significant correlations (\approx .20), and the estimation of the model's adjustment is performed. Table 1 indicates that in the QIEP scale, the MRE dimension has the highest average (M = 73.70), followed by PUE (M = 67.70) and ECE (M = 62.47). Regarding the dimensions of the IAE-S scale, the comprehensive approach has a higher average (M = 24.35) when compared to the transmissive approach (M = 22.37).

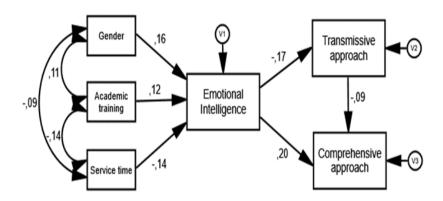
Table 1Descriptive statistics and correlations of model variables

	М	SD	g1	g2	1	2	3	4	5	6
1. Gender					1					
2. Academic Training			,694	1,934	.105	1				
3. Service Time			-,342	-,558	095	137	1			
4. El	84,01	27,351	-,910	-,116	.190	.154	169	1		
5. CA	24,35	4,397	-1,195	1,927	.083	.082	079	.213	1	
6. TA	22,37	4,250	-,777	1,441	083	117	.081	175	125	1

Note: M = Mean; DP = Standard Deviation; g1 = Asymmetry; g2 = Kurtosis; EI = Emotional Intelligence; TA = Transmissive Approach; CA = Comprehensive Approach.

From the observation of Figure 1 and Table 2, it can be seen that the global goodness indices of the proposed SEM are very robust: χ 2=10.340; p=.111; χ 2/d.f.=1.723; SRMR=.079; NFI=.923 GFI=.995; AGFI=.981; CFI=.964; TLI=.909; RMSEA=.034 (IC; .000 - .068) and the values of the Hoelter index are also presented adjusted CN = 764/0.05 and 1020/0.01, confirming the hypothesis that the proposed model represents the relationships between variables existing in our empirical matrix.

Figure 1.Model under study (n = 628)



From the analysis of Table 2, the hypotheses were confirmed and proved to be statistically significant. Considering the relationships between the dimensions of the constructs, it appears that teachers with higher EI use more comprehensive (β = 0.20; p < 0.001) and less transmissive (β = -0.17; p < 0.001) approaches in their teaching methodologies. It can also be seen that teachers who use more transmissive approaches to teaching are those who use comprehensive approaches less (β = -.0.09; p < 0.05). Regarding personal and professional variables, females have higher EI values (β = 0.16; p < 0.001) compared to males, those who have more academic training show more EI (β = 0.12; p < 0.01), however, teachers with more extended service time exhibit lower EI (β = -0.14; p < 0.001). As for covariance's, it appears that females have more academic training (β = 0.11; p < 0.01), less service time (β = -0.09; p < 0.05), as well as those who have more academic training have less service time (β = -0.14; p < 0.001).

Regarding the multiple square correlations, the results also indicate that the EI directly explains the comprehensive approach in 5% (η^2 = 0.053) and the transmissive approach in 3% (η^2 = 0.030), approximately. It is also possible to observe that the EI is explained in about 7% (η^2 = 0.072) by the independent (exogenous) variables gender, academic training, and service time.

Table 2Results of the covariance structure

	EVnS	SEV	EE	р
AT> EI	6,401	0,118	2,125	0,003
G> EI	9,283	0,164	2,192	***
ST> EI	- 4,275	-0,137	1,215	***
EI> TA	- 0,027	- 0,175	0,006	***
EI> CA	0,032	0,197	0,006	***
TA> CA	- 0,094	- 0,091	0,041	0,022
G <> ST	- 0,040	- 0,095	0,017	0,018
FA <> ST	- 0,060	- 0,137	0,018	***
FA <> G	0,026	0,105	0,010	0,009

Note. El = Emotional Intelligence; CA = Comprehensive Approach; TA = Transmissive Approach; G = Gender; AT = Academic Training; ST = Service Time; EVnS = Estimated Values-not Standardized; SEV = Standardized Estimated Values; EE = Estimated Errors; ***p < .001.

Discussion

The aim of this study was to analyze how the EI skills of teachers varied according to their gender, academic training, and service time, with a greater focus on how these EI skills influenced the type of teaching approaches adopted by them during the course. of your classes.

In this sense, the results indicate that female teachers tend to have more EI skills when compared to the opposite sex, confirming the H1 hypothesis. This result is in line with other investigations that supported this research hypothesis (Andrade, 2013; Candela et al., 2001; Castro-Schilo & Kee, 2010; Hall & Mast, 2008; Joseph & Newman, 2010; Valente & Lourenço, 2020b; Valente et al., 2019, 2020a; Van Rooy, Dilchert & Ones, 2006). These conclusions are supported by literature regarding the differences existing in the relationship between female/male and emotional aspects, showing, for example, that women are better able to decode non-verbal emotional information and present greater emotional understanding (Brody & Hall, 2000), are more sensitive to the emotions of others and are more capable of dealing with emotions (Hall & Mast, 2008), being more attentive to them (Martín et al., 2006), and are more familiar with the emotional world than others. men (Candela et al., 2001) and who may be biologically more prepared to perceive emotions (Castro-Schilo & Kee, 2010). A study by Baron-Cohen (2002) suggests that these differences, between men and women, may be due to the extreme brain theory of autism, according to which men tend to systematize, while women tend to be more empathetic and use emotions. more often and more appropriately than men. All of these explanations help explain why women score higher than men on El measures.

Gender, as an explanatory factor of behavior, always acts simultaneously with other factors, both demographic and sociocultural, and although sex determines significant differences in EI, age intervenes in this relationship, so that these differences can substantially decrease or disappear. completely (Fernández-Berrocal et al., 2012).

As for the academic training of teachers, the results revealed that teachers who have more academic training indicate greater EI skills, confirming the H2 hypothesis with significant values and in agreement with other studies (Fernandes, 2015; Gregório, 2008; Sousa, 2011). These results can be explained by the fact that teachers with more academic training are individuals who have more communication skills; manage goals and objectives; are motivated by the goals they define and are self-motivated; they maintain a balance between work, home and the training they develop; have more abilities to relate to others and create changes in their lives, that is, because they have greater self-awareness, self-management, and social awareness, implying that they have higher EI, compared to teachers who have less academic training (Extremera et al., 2016).

Regarding the service time, the data found showed that teachers who account for more time of teaching service exhibit less EI skills, significantly confirming the H3 hypothesis, which is in line with other studies (Sangeetha, 2017; Shipley, Jackson & Segrest, 2010; Souza, 2011). These results may be related, probably, to the manifest increase in work stress (Mérida-López, et al. 2022; Araújo, 2024), burnout (Lucas-Mangas, et al., 2022; Veiga, 2024), more conflicts in the classroom (Catalano, et al., 2022) and less satisfaction with the profession (Mérida-López, & Extremera, 2017), which contributes to the decrease in EI. In this sequence, teachers with less teaching experience reveal higher levels of EI, as verified in the research de Sousa (2011) and Valente and Lourenço (2020b), with Portuguese teachers.

Regarding teaching approaches, the results reveal that teachers who show more EI use less transmissive approaches and more comprehensive approaches in their teaching practice, confirming hypotheses H4 and H5, respectively. Although the values found are similar, there was a higher value in the relationship between the EI and the comprehensive approach. This finding can be explained by the fact that a teacher who opts for this type of approach in the classroom feels the need to develop more comprehensive teaching contexts that, according to Paiva and Lourenço (2017), provide more stimulating learning environments than students. experience as drivers of deeper and more meaningful approaches to learning. The authors refer that from the perspective of SAL research (Student Approaches to Learning; Prosser & Trigwell, 2006) the approach to teachers' teaching (transmissive and comprehensive) influences the approach to student learning (Paiva & Lourenço, 2017).

As expected, it was also found that teachers who use transmissive approaches as a teaching methodology are those who use less comprehensive approaches in the classroom, confirming hypothesis H6. In fact, this relationship can be explained by the fact that the transmissive approach, centered on the teacher or on the teacher-student interaction, portrays a teaching whose intention is fundamentally focused on the transmission of knowledge, contrasting with a comprehensive approach, centered on the learning of the student and characterizing a teaching whose main intention is to promote in students the development of their own knowledge. However, we cannot see this dichotomy of approaches as simply reductive, since the type of teaching of teachers as transmissive or understanding is the answer they give both to their perceived competence and life goals, and

to the work environment, as well as the certain previous teaching and learning experiences (Prosser & Trigwell, 2006). The teacher needs to act with the intention of really preparing students to be conscious and responsible in their way of feeling, thinking, and acting. To this end, it is important that the faculty be prepared to understand everything that involves emotional intelligence (Valente & Lourenço, 2022b).

In this way, social changes place teachers in situations that surpass them and for which they were not prepared during their academic training (Extremera et al., 2016), and it is predictable that teachers with more EI skills have greater competence in identifying their emotions and adjust them accordingly, as opposed to teachers who have less EI. In this sense, Kovalchuk, et al. (2022) refer that, based on the analysis of scientific works on EI, it is evident that the current school needs teachers with a set of technical and social skills that can be adjusted depending on the demands associated with the work to be carried out in any context. The authors also mention that, specifically in the classroom context, this teacher will have to have the ability to maintain a motivating and daring style of communication, appeal to the emotions of their students, recommend specific study techniques, encourage collaboration, as well as facilitating strategies for improvement and change. As some authors indicate, individuals with high EI are more confident, creative, flexible, and better able to deal with their own emotions, with greater problem-solving skills (Maamari & Majdalani, 2019), as only emotionally competent teachers will be able to induce emotional capacities in their students (Valente et al, 2020b).

Although the results of this study are encouraging, they must be analysed in light of some limitations. First, this study used two self-report questionnaires that measure perceptions, which can lead teachers to respond according to what they consider socially advisable. Second, the sample size limits the generalizability of the results, as it represents a small sample of the population of teachers in Portugal. Thus, the main recommendation for future studies is to complement the results through triangulation of data collection, such as interviews and classroom observation, diversifying and increasing the sample size. Another important aspect will be to examine the effect of age on the teacher's EI abilities.

A contribution of this study was to prove the importance of EI in teachers and its influence on pedagogical practice, specifically recognizing that EI capabilities play an important role in choosing the type of approach to teaching. In view of these findings, programs that involve education for emotions should be included in the initial training of teachers, in order to develop EI skills so that they can have a more effective professional activity.

Conclusion

Through the results obtained, it is observable that the EI comprises the socio-affective skills of the human being and one of the characteristics is that its referential framework is the generality and applicability of its competencies regardless of the work performed, being the combination of one over the other more relevant and required depending on the individual's profession. Therefore, it is essential that teachers identify and apply them in their pedagogical practices, using their sensitivity to opt for more comprehensive teaching approaches in order to create environments that students perceive as capable of inducing a

profound approach to their teaching. learning and that these are significant (Paiva & Lourenço, 2017).

Reaffirming what was mentioned by Seoane-Pardo (2014) when he says that teaching results from a hybrid of experience and certain emotional capacities, there are many factors that affect the management of teaching-learning processes, such as the different methodological approaches and the depth and scope of knowledge and skills to be acquired. However, in all cases, teachers' El skills will be relevant, regardless of the actions and activities they perform, as they process emotional information.

With regard to competency-based approaches, García-Sáiz (2011) states that there is still a conceptual confusion after decades of research, a diversity of theoretical frameworks, and a wide variety of criteria and techniques used for their study, as is the case of IE, a field in which there is still a long way to go in the design of instruments to measure the impact it can have on the performance of individuals, being a field to continue to investigate in future studies.

In conclusion, the development of teachers' emotional intelligence skills is a priority, for this, an educational model is defended that gives priority to emotional skills in the initial training of teachers, as well as promoting intervention programs that develop these skills in continuous training. teachers, as a primary resource in the options for approaches to teaching.

References

- Andrade, C. A. R. (2013). Inteligência Emocional, Engagement e Burnout em professores do 2º e 3º ciclos e secundário da RAM. Tese de Mestrado em Psicologia da Educação. Universidade da Madeira, Funchal.
- Araújo, D. P., Galvão, L. C. D. M. C., Melo, M. C. R. C., de Castro, R. A., & Almeida, T. M. (2024). Resiliência e Inteligência emocional. *Revista Amor Mundi*, 5(1), 101-110.
- Arbuckle, J. L. (2016). IBM SPSS Amos 24 User's Guide. Amos Development. IBM.
- Baron-Cohen, S. (2002). The extreme male brain theory of autism. *Trends in Cognitive Science*, 6, 248-254. doi:10.1016/S1364-6613(02)01904-6
- Bentler, P. M. (1995). EQS: Structural equations program manual. Encino, CA: Multivariate Software, Inc.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588.
- Brody, L. R., & Hall, J. A. (2000). Gender, emotion, and expression. In M. Lewis & J. M. Haviland (Ed.), *Handbook of emotions* (pp. 338-349). New York: Guilford.
- Candela, C., Barberá, E., Ramos, A., & Sarrió, M. (2001). Inteligencia emocional y la variable género: Emotional intelligence and the outcome gender. Revista Electrónica de Motivación y Emoción, 4, 167-182. http://reme.uji.es/articulos/acandc2272105102/texto.html

- Castro-Schilo, L., & Kee, D. W. (2010). Gender differences in the relationship between emotional intelligence and right-hemisphere lateralization for facial processing. *Brain and Cognition*, 73, 62-67. doi:10.1016/j.bandc.2010.03.003
- Catalano, M. G., Vecchio, G. M. & Perucchini, P. (2022) The role of teachers' intelligence conceptions, teaching beliefs and self-efficacy on classroom management practices. Ricerche di Psicologia, 45, 1-19. doi:10.3280/rip20220a13394
- Declaration of Helsinki (2013). Ethical principles for medical research involving human subjects. *JAMA*, 310(20), 2191-2194. https://doi.org/10.1001/jama.2013.281053
- Entwistle N. (2022) Research into Learning and Teaching in Universities. In H. Huijser, M. Kek, F. Padró (eds). Student Support Services. University Development and Administration (pp. 13-33). Springer, Singapore. https://doi.org/10.1007/978-981-16-5852-5_37
- Extremera, N. P., Peña, L. R., & Garrido, M. P. (2016). Educadores de corazón: Inteligencia emocional como elemento clave en la labor professor. *Revista Padres y Maestros*, 368, 65-72. doi:10.14422/pym.i368.y2016.011
- Ferguson, C. J. (2009). An effect size primer: A guide for clinicians and researchers. Professional Psychology. Research and Practice, 40(5), 532–538. https://doi.org/10.1037/a001580
- Fernandes, M. A. L. (2015). As Capacidades da Inteligência Emocional em professores de Educação Física (Tese de Mestrado). Universidade de Trás-os-Montes e Alto Douro: Vila Real.
- Fernández-Berrocal, P., Cabello, R., Castillo, R., & Extremera, N. (2012). Gender differences in emotional intelligence: the mediating effect of age. *Behavioral Psychology*, 20(1), 77-89.
- Finney, S., & DiStefano, C. (2013). Non-normal and categorical data in structural equation models. In G. Hancock and R. Mueller (Eds.), A second course in structural equation modeling (439–492). Information Age.
- García-Sáiz, M. (2011). Una revisión constructiva de la gestión por competencias. Anales de Psicología, 27(2), 473-497. https://www.redalyc.org/articulo.oa?id=16720051024
- Gill, G. S., & Sankulkar, S. (2017). An Exploration of Emotional Intelligence in Teaching: Comparison between Practitioners from the United Kingdom & India. *Journal of Psychology and Clinical Psychiatry*, 7(2), 1-6. doi:10.15406/jpcpy.2017.07.00430
- Gregório, F. (2008). Competência Emocional e Satisfação Profissional nos Enfermeiros (Tese de Mestrado). Universidade do Algarve: Faro.
- Gresele, W. D., Obana, R.S., & Sant, W. B. (2022). Abordagens de estudo e percepções do ambiente de ensino e aprendizagem em uma instituição de ensino superior brasileira. *Race*, 21(1), 7-28. https://portalperiodicos.unoesc.edu.br/race
- Hall, J. A., & Mast, M. S. (2008). Are women always more interpersonally sensitive than men? Impact of goals and content domain. *Personality and Social Psychology Bulletin*, 34, 144-155. doi:10.1177/0146167207309192

- Hoelter, J. W. (1983). The analysis of covariance structures: goodness-of-fit indices. Sociological Methods and Study, 11, 325–344. https://doi.org/10.1177/0049124183011003003
- Hopkins, M. M., & Yonker, R. D. (2015). Managing conflict with emotional intelligence: Abilities that make a difference. *Journal of Management Development*, 34(2), 226–244. https://doi.org/10.1108/JMD-04-2013-0051
- Hu, L.-T., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), Structural equation modelling: Concepts, issues, and applications (pp. 76–99). Thousand Oaks, CA: Sage.
- Huang S. Y. B., Huang C.-H., Chang T.-W. (2022). A new concept of work engagement theory in cognitive engagement, emotional engagement, and physical engagement. *Frontiers in Psychology*, 12: 663440. doi:663440. 10.3389/fpsyg.2021.663440
- Jöreskog, K. G., & Sörbom, D. (1983). LISREL 6 User's reference guide. Mooresville. Scientific Software.
- Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, 95(1), 54-78. doi:10.1037/a0017286.
- Kovalchuk, V., Prylepa, I., Chubrei, O., Marynchenko, I., Opanasenko, V. & Marynchenko, Y. (2022). Development of Emotional Intelligence of Future Teachers of Professional Training. *International Journal of Early Childhood Special Education*, 14(1), 39-51. doi:10.9756/INT-JECSE/V14I1.221006
- Lourenço, A. A. & Valente, S. (2021). A importância da gramática dos afetos na aprendizagem. CES Psicología,14(2), 209-228. doi:10.21615/cesp.5067
- Lowe, B., Winzar, H., & Ward, S. (2007). Essentials of SPSS for Windows versions 14 & 15: a business approach. South Melbourne. Thomson Learning Australia.
- Lucas-Mangas, S., Valdivieso-León, L., Espinoza-Díaz, I. M. & Tous-Pallarés, J. (2022). Emotional Intelligence, Psychological Well-Being and Burnout of Active and In-Training Teachers. *Int. J. Environ. Res. Public Health*, 19, 1-10. https://doi.org/10.3390/ijerph19063514
- Maamari, B. E., & Majdalani, J. F. (2019). The effect of highly emotionally intelligent teachers on their students' satisfaction. *International Journal of Educational Management*, 33(1), 179–193. https://doi.org/10.1108/IJEM-11-2017-0338
- Marôco, J. (2018). Análise estatística com o SPSS statistics, (7ª edição). Pêro Pinheiro: ReportNumber.
- Marsh, H. W., Hau, K.-T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesistesting approaches to setting cut off values for fit indexes and dangers in over generalizing Hu and Bentler's findings. Structural Equation Modeling: A Multidisciplinary Journal, 11(3), 320-341. https://doi.org/10.1207/s15328007sem1103_2
- Martín, R. P., Márquez, P. G. O., & Brackett, M. A. (2006). ¿Se perciben con inteligencia emocional los profesores? Posibles consecuencias sobre la calidad educativa. *Revista de Educación*, 341, 687-703.

- Martínez-Borreguero, G., Naranjo-Correa, F. L., & Mateos-Núñez, M. (2022). Development of STEM Instructional Resources for Teaching Optics to Teachers-in-Training: Influence on Learning and Teacher Self-Efficacy. *Education Sciences.* 12, 1-23. https://doi.org/10.3390/educsci12030186
- Mérida-López, S., & Extremera, N. (2017). Emotional intelligence and teacher burnout: A systematic review. International Journal of Educational Research, 85,121–130. doi:10.1016/j.ijer.2017.07.006
- Mérida-López, S., Quintana-Orts, C., Rey, L., & Extremera, N. (2022). Teachers' Subjective Happiness: Testing the Importance of Emotional Intelligence Facets Beyond Perceived Stress. *Psychology research and behavior management*, 15, 317–326. https://doi.org/10.2147/PRBM.S350191
- Mayer, J. D., Caruso, D. R., & Salovey, P. (2016). The ability model of emotional intelligence: principles and updates. *Emotion Review,* 8(4), 290–300. https://doi.org/10.1177/1754073916639667
- Paiva, M. O. A. (2008). Abordagens à aprendizagem e abordagens ao ensino: Uma aproximação à dinâmica do aprender no Secundário. (Tese de Doutoramento). Instituto de Educação e Psicologia da Universidade do Minho.
- Paiva, M. O. A. & Lourenço, A. A. (2017). Abordagens ao ensino: implicações no processo de aprendizagem dos alunos. Estudos e Pesquisas em Psicologia, 17(3), 1022-1041.
- Pessoa, L. (2008). On the relationship between emotion and cognition. *Nature Reviews Neuroscience*, 9(2), 148–158. doi:10.1038/nrn2317
- Poon, C. Y., Hui, V. K., Yuen, G. W., Kwong, V. W., & Chan, C. S. (2019). A well-slept teacher is a better teacher: a multi-respondent experience-sampling study on sleep, stress, and emotional transmission in the classroom. *Psych J.* 8(3), 280–292. doi:10.1002/pchj.282
- Prosser, M., & Trigwell, K. (2006). Confirmatory factor analysis of the approaches to teaching inventory. British Journal of Educational Psychology, 76, 405-419. https://doi.org/10.1348/000709905X43571
- Prosser, M., Trigwell, K., & Taylor, P. (1994). A phenomenographic study of academics' conceptions of science learning and teaching. *Learning and Instruction*, *4*, 217-231.
- Rosário, P., Núñez, J. P., Ferrando, P. J., Paiva, M. O. A., Lourenço, A. A., Cerezo, R. & Valle, A. (2013). The relationship between approaches to teaching and approaches to studying: A two-level structural equation model for biology achievement in high school. *Metacognition and Learning, 8*, 47-77. https://77.doi.org/10.1007/s11409-013-9095-6
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. Imagination, Cognition and Personality, 9, 185–211. doi:10.2190/DUGG-P24E-52WK-6CDG
- Sangeetha, N. (2017). A study on factors influencing emotional intelligence of teachers of management education in Coimbatore city. *International Journal of Advanced*, 5(3), 1490-1500.
- Seoane-Pardo, A. M. (2014). Formalización de un modelo de formación online basado en el factor humano y la presencia docente mediante un lenguaje de patrón (Programa de

- Doctorado Formación en la Sociedad del Conocimiento). Universidad de Salamanca. http://gredos.usal.es/jspui/handle/10366/123342
- Serafim, A., Veloso, C. M., Rivera-Navarro, J., & Sousa, B. (2024). Emotional Intelligence and Internal Marketing as Determinants of Job Satisfaction and Satisfaction with Life among Portuguese Professionals. Sustainability, 16(5), 1932. https://doi.org/10.3390/su16051932
- Shipley, N. L., Jackson, M. J., & Segrest, S. (2010). The effects of emotional intelligence, age, work experience, and academic performance. *Research in Higher Education Journal*, 9, 1-18.
- Silva, L. C., Rodrigues, A. B., da Silva, F. J., de Oliveira, P. M., de Oliveira, S. K. P., de Carvalho, R. E. F. L., ... & Oliveira, R. M. (2024). Inteligência emocional de trabalhadores de saúde e clima de segurança em hospitais na pandemia COVID-19. Revista Gaúcha de Enfermagem, 45. e20230102. https://doi.org/10.1590/1983-1447.2024. 20230102.pt
- Sousa, R. L. V. (2011). Inteligência emocional dos professores e vulnerabilidade ao stress em contexto escolar (Tese de Mestrado). Universidade da Madeira.
- Valente, S., & Lourenço, A. A. (2020a). Questionário de Inteligência Emocional do Professor: adaptação e validação do "Emotional Skills and Competence Questionnaire". Revista de Estudios e Investigación en Psicología y Educación, 7(1), 12-24. https://doi.org/10.17979/reipe.2020.7.1.5480
- Valente, S., & Lourenço, A. A. (2020b). Conflict in the Classroom: How Teachers' Emotional Intelligence Influences Conflict Management. *Frontiers in Education*, 5(5), 1-10. doi:10.3389/feduc.2020.00005
- Valente, S., & Lourenço, A. A. (2022a). Inteligência emocional e gestão de conflito na interação pedagógica. Revista de Estudios e Investigación en Psicologia Y Educación, 9(0), 181-192. https://doi.org/10.17979/reipe.2022.9.0.8900
- Valente, S., & Lourenço, A. A. (2022b). Editorial: The importance of academic training in emotional intelligence for teachers. Frontiers in Education, 7:992698. doi:10.3389/feduc.2022.992698
- Valente, S., Monteiro, A. P. & Lourenço, A. A. (2019). The relationship between teachers' emotional intelligence and classroom discipline management. *Psychology in the Schools*, 56(5), 741-750. doi:10.1002/pits.22218
- Valente, S., Lourenço, A. A., Alves, P., & Dominguez-Lara (2020a). The role of the teacher's emotional intelligence for efficacy and classroom management. *CES Psicología*, 13(2), 18-31. http://dx.doi.org/10.21615/ cesp.13.2.2
- Valente, S., Veiga-Branco, A., Lourenço, A. A., Rebelo, H., & Cristóvão, A. M. (2020b). The relationship between emotional intelligence ability and teacher efficacy. *Universal Journal of Educational Research*, 8(3), 916-923. doi:10.13189/ujer.2020.080324.
- Van Rooy, D. L., Dilchert, S., Viswesvaran, C., & Ones, D. S. (2006). Multiplying intelligences: Are general, emotional, and practical intelligences equal? In K. R. Murphy (Ed.), A critique of emotional intelligence (pp. 235-262). Mahwah, NJ: Erlbaum.

- Vargas-Murillo, G. (2020). Estrategias educativas y tecnología digital en el proceso enseñanza aprendizaje. Cuadernos Hospital de Clínicas, 61(1), 114-129. http://www.scielo.org.bo/scielo.php?pid=S1652-67762020000100010&script=sci arttext
- Veiga, L. C. G., Murgo, C. S., & de Souza, A. P. (2024). Autoeficácia docente burnout: scoping review. Educação em Foco, 29(1), e29010-e29010. file:///C:/Users/Utilizador/Downloads/42071-Texto%20do%20artigo-189951-1-10-20240311%20(1).pdf
- West, S. G., Taylor, A. B., & Wu, W. (2012). Model fit and model selection in structural equation modeling. In R.H. Hoyle (ed.), *Handbook of structural equation modelling* (pp. 209-231). The Guilford Press. https://www.guilford.com/books/Handbook-of-Structural-Equation-Modeling/Rick-Hoyle/9781462516797
- Wu, Y., Lian, K., Hong, P., Liu, S., Lin, R-M., & Lian, R. (2019). Teachers' emotional intelligence and self-efficacy: Mediating role of teaching performance. *Social Behavior and Personality*, 47(3), 1-10. https://doi.org/10.2224/sbp.7869