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# Pedagogical Supervision at Cape Verdean Legislation - The Development of a Scale to its First Psychometric Evidence

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**Abstract:** ***In this article, we focus on pedagogical supervision, which is one of the competencies of SPs in Cape Verde, having as anchors Decree-Law n.º 8/2019 and Decree-Law n.º 9/2019 - both published on February 22 – for the design and description of an explanatory model with four factors. We understand that after 4 years of publication of these diplomas, it was already justified to analyse whether the guidelines contained in these diplomas have contributed to improving the practice of pedagogical supervision, at a time when schools' biggest challenge is to promote inclusion. The article describes the process of developing a performance assessment instrument and the results of a pilot study with 66 teachers working in a school group, some of whom are also subject coordinators and/or class directors. The design is mixed, although the quantitative approach stands out more, since the instrument developed and applied is a questionnaire survey, which includes only closed questions, including those referring to professional variables and the 32 items that make up the construct. Among the findings, we highlight: (i) except for some limitations to be overcome in future studies, involving more expressive samples, the validity and reliability of the instrument were confirmed; (ii) teachers who are part of the pedagogical supervision team do not have training in any of the areas required by legislation and never participate in training on inclusive education and/or the use of digital technologies; (iii) the two diplomas brought extraordinary gains to the exercise of the pedagogical supervision.***

**Keywords:** Cape Verde; School grouping; Legislation; Deputy head teachers

## 1. Introduction

It's no longer news to say that the Digital Age is marked by a scenario that requires rethinking what knowledge to offer younger generations of "learners" and how to approach this knowledge, what methodologies to use, what skills to promote and assess. Taking care of these issues is now a sine qua non for the successful performance of teachers and those who have the task of monitoring their work, such as deputy head teachers. As the world becomes more technological, the challenges tend to be different and more complex.

Lévy's (2001) reflection points in this direction when he emphasizes that we need to look at the world with the eyes of tomorrow's world, not with those of yesterday's world. Tomorrow's eyes are planetary eyes. Borders are the ruins, still standing, of a world in revolution (p. 33). It is this distanced gaze, guided by a critical and reflective sense, that is required in the activity that aims to identify good practices to be socialised with other schools, as well as to identify practices that need to be corrected. This study falls within the area of pedagogical supervision which, according to Vieira (1993), is an action of systematic monitoring of pedagogical practice, above all through procedures of reflection and experimentation.

We assume that rigour in pedagogical supervision has a positive impact on teachers' awareness of how to carry out lessons that involve active methodologies and promote autonomous work. To this end, investment in legislation, while important for the development required of countries, is insufficient to put an end to counterproductive practices. This initiative needs to be accompanied by investment in training professionals. It is no coincidence that Article 6 of the Cape Verdean Civil Code states that "ignorance or misinterpretation of the law does not justify failure to comply with it, nor does it exempt people from the sanctions established therein". Several authors focus on this civically governed perspective. Olliver (n.d.) points out that "many want to, some try to, but few succeed." Indeed, many of us want to be connected to education, some of us try to stay connected to it, but few of us recognise that there is no teaching without compliance with standards, continuous growth, and research. Vieira (1993) reinforces the relevance of legislation being directed at those who appoint SPs, emphasising that

> [the] supervisor plays too important a role to possess only those personal characteristics and some teaching experience. Without denying the importance of these elements, and even admitting the need for a certain 'vocation for supervision', the imperative of specialised training is affirmed. It is still all too common to find supervisors without any qualifications, probably because the mechanisms for selecting them do not include criteria for professional specialisation. (p. 29)

Sim-Sim (2005) urges us to recognise that “the great aim of research is to produce knowledge, and few areas of human activity are as rich and promising in research as education” (p. 13). Our interpretation of this excerpt is that, more than just knowledge of the law, there is an obligation to understand it, publicise it and contribute to its implementation. Sá-Chaves (2011) points out that more than the legislation, it is necessary to train the professionals who operationalise the guidelines and provide sufficient resources.

In terms of resources, given the current scenario, those of a digital nature make a difference, especially when the

practice of pedagogical supervision is intended to be inclusive. It is therefore to be applauded that, over the last 15 years, the Cape Verdean government has mirrored this understanding, through the implementation of the Integrated School Management System (SIGE) in 2010 by the Operational Centre for the Information Society (NOSI) and its consequent improvements. As far as capacity building is concerned, as well as focusing on teachers who work in Basic Education (BE) or Secondary Education (SE), we recognise the need to strengthen the skills of those who teach in Higher Education Institutions (HEIs), since they are the ones who train (potential) teachers for the different levels of education.

It's no coincidence that the European Digital Competence Framework for Educators - Dig-Comp-Edu - has been implemented all over the world for the different levels of education, involving the diagnosis of digital competences, the drawing up of training plans and the carrying out of training actions (Li & Meng, 2023; Lucas & Moreira, 2018; Lucas, Bem-haja, Santos, Figueiredo, Dias, & Amorim, 2022; Santos, Pedro, & Mattar, 2022; Vieira & Pedro, 2021). It should be noted that Dig-Comp-Edu includes 22 competences, subdivided into six areas, all of which are related to the activity of pedagogical supervision, and allows six levels of users to be identified. Cape Verde cannot ignore these principles that urge professionals to invest in innovation, giving voice to the words of Prioli& Albrecht (2023), when they argue that advances in science and technology are inherent to society, relevant to its historical time, leaving their mark on educational spaces, and practices. (p.415)

Seeing legislation as an instrument that regulates the behaviour and actions of individuals, in strict compliance with the principles in force in society, we assume that the presence of SPs committed to exercising their competences to the full is a good indicator for pursuing the challenges set out in the Government Programme for the 9th Legislature (2016-2021); among them, we highlight the need to increase the system's capacity to respond, in terms of efficiency and effectiveness in implementing the philosophy of Inclusive Education. Aware of the need to decentralise the measures that operationalise public policies, the government has strengthened the legal framework with the publication of two pieces of legislation. On the one hand, Decree-Law n.º 8/2019, of 22 February, which presents the current curricular configuration of Basic Education, and Secondary Education levels, the administrative bodies, and their management, including the Pedagogical Council, although in this study we are interested in focusing on the competences of the SPs. On the other hand, Decree-Law n.º 9/2019, of 22 February, in which the government explains the reasons for configuring Baccalaureate and Secondary schools into clusters, defines the criteria for creating clusters.

The time that separates us from the date of publication of these diplomas justifies a reflection on the operationality of their guidelines. This is the first of a few studies we hope to carry out with the aim of developing two SPs performance evaluation scales for assistant headmasters, and teachers. We are focusing on the version for teachers, with the following objectives: (i) to design the scale in the light of the reference legislation; (ii) to check its psychometric properties; (iii) to determine whether SPs meet the requirements set out in a number two of the Article 24 of Decree-Law n.º 8/2019, of 22 February; (iv) to identify the gains resulting from the entry into force of the two pieces of legislation.

## 2. Supervision as the responsibility of SPs – a cross-reference between scientific literature, and Cape Verdean legislation

If discussing pedagogical supervision is not an easy task, it is even more demanding in a scientific article, which requires the ability to synthesise; our concern is therefore to emphasise the empirical dimension, and we are not only interested in the context under study and the guidelines of the legislation. We agree with Sá-Chaves (2007) when he recognises that an analysis of education issues without a transdisciplinary vision excludes "[...] the possibility of comparing ourselves, measuring ourselves and obtaining through these indicators the exact (because relative) dimension that explains us as part of a plural, diverse and complex whole". (p. 149)

In Cape Verdean schools, SPs are responsible for supervision, according to Decree-Law n.º 8/2019, of 22 February. This decree reinforces the consensus about the importance of these professionals in schools and the understanding that it is a position combined with teaching experience, aimed at professionals with training in areas such as School Administration and Management, Educational Inspection, Educational Supervision, This is the reading that articles 24 and 25 of Decree-Law n.º 8/2019 invite us to make; in fact, article 24 states that the SPs are responsible for the supervision of schools:

> 1 - [...] are responsible for guiding and controlling teaching and learning processes.
> 2 - [...] are appointed from among career teachers with at least five years of good and effective teaching service and who preferably have specialised training in curriculum development, pedagogical supervision or educational administration and the capacity for pedagogical leadership, as well as moral and civic integrity.

On the other hand, Article 24(1) sets out the obligations of the PS, complemented in Article 25 by the functions of guidance and control; Article 17 stipulates that teachers are professionals who ensure that the guidelines of both the legislation and the Governing Board of the cluster or non-cluster school are effectively implemented. Number 2 reflects the relevance of Education Science and/or curricular units, namely Educational Administration, Curriculum Development, Inclusive Education, Management in Education, Educational Inspection, Pedagogical Guidance, Multimedia for Education, Institutional Evaluation and/or Teaching Performance, and especially Pedagogical Supervision, which is the one that interests us most in this study.

These competences, which the legislation attributes to PSs, are in line with what is required of these professionals in

more developed countries. This is recognised by Alarcão (2002), who argues that pedagogical supervision should reflect the "[...] ability to act on the essential links in the system in order to maintain the articulation/connection between all parts of the school" (p. 32); similarly, Booth & Ainscow (2002) argue that "inclusion implies making schools welcoming and stimulating places for both staff [teaching and non-teaching] and pupils" (p. 9).

The task of guaranteeing harmony between the subjects involved requires that teachers and pupils have support, accompaniment, contexts, challenges, and opportunities that help them to be committed to their duties. Students can be expected to be empowered in terms of the cognitive and metacognitive strategies that result in autonomous thinking; likewise, teachers are expected to use didactic-pedagogical strategies and technological artefacts that help to explore and stimulate the affective and metacognitive dimensions of learning, factors that, in the view of Booth & Ainscow (2002), make *this modus operandi* a "routine" in the light of the dimensions that shape the *Index para Inclusão*.

It is essential to realise that the school community must have supervisors who are committed to their duties, especially that of supporting teachers and students. This is nothing more than wanting to lead the list of institutions that give voice to the words of Rodrigues (2003), when he says that, more than physical presence, inclusion is a feeling of a mutual practice of belonging between the school and the child, that is, the young person feeling that they belong in the school and the school feeling that it is responsible for them. It is therefore important that there is a consensus that the greater the level of understanding of the role of SPs, combined with the view that the success of the educational institution depends on the level of collaboration and co-operation that exists between members, the greater the achievement of teaching and supervision goals will be. Assuming this consensus leads to recognising the vision of the school as a learning organisation proposed by Senge (1990).

This modus operandi makes all the difference when it comes to school groupings, since a bad image given by a school to the community, though, for example, the poor performance of its students in the General Internal Tests (GIT) or the General National Test (GNT), can be seen as the result of the poor performance of the teachers. De Andrade & Antunes (2023) warn that [...] what happens at one point in time is not something isolated, but strongly influenced by what happened at previous points (p. 2). Hence the importance of school supervision, of being vigilant, in short of a constant commitment to initiatives aimed at the involvement and professional growth of teachers, collaboration and co-operation between all those involved. Both supervisors and teachers must admit that they are two sides of the same coin, the school, or the quality of teaching.

SPs and other members of school management are urged to have a shared vision, to seek better and more innovative communication strategies with teachers, helping them to have a positive understanding of the role of supervision in schools. They are challenged to replace imposition with technical-relational, scientific-professional, and ethical-moral authority, endeavouring to deconstruct the stereotypical view that many teachers have of supervision. Allied to this reductionist view is the aggravating that supervision and control are disposable (Valério, 2022).

Changing this view, at least in Cape Verde, is not easy, but it will be possible when the SPs and/or others involved incorporate the two visions mentioned by Gaspar, Seabra & Neves (2012), taking advantage of the contributions made by Stones (1984):

> [he] Supervision refers to 'an in-depth, reflective, and self-critical view of the surrounding context but also turned inwards to understand the meaning of reality; a vision with the capacity to foresee; a hindsight; and a second vision to promote what is intended to be instituted, to avoid what is not desired and to recognise what has happened and should not have happened. (p. 30)

According to Sá-Chaves (2014), supervision requires valuing others, and recognising learning as a task of self-implication. In this way, it is up to SPs to be willing to recognise that good examples must come from above, starting with investing in their intellectual growth and that of their teachers, including discussing legal regulations and reducing negative scenarios in favour of strengthening individual responsibilities. It is essential to discuss the roles of SPs with teachers; to do so is to give a voice to Delas Penas & Salundaguit (2019), when they describe school management as part of teaching and learning, as a task to support the school community; in short, it is to reflect the importance of pedagogical supervision in the face of the challenges facing the school.

## 3. Methodological aspects

This study has a mixed design, although with a more quantitative slant. The qualitative approach is present within the scope of the cross-analysis between the contribution of scientific literature and the content of Decree-Law n.º 8/2019, of 22 February, and Decree-Law n.º 9/2019, of 22 February. The quantitative approach is present at the level of processing, presenting the data collected, analysing, and discussing the results. This research therefore falls into the group of studies that are both exploratory and descriptive (Cresswell, 2009; Vilelas, 2009).

The questionnaire includes questions relating to sociodemographic variables and uses a 32-item scale adapted from the decree-laws mentioned. We call this instrument Scale of competences of deputy head teachers, abbreviated as ECompSubPed, and the items referring to competences are accompanied by a five-point Likert scale, with 1 being the lowest value (totally disagree) and 5 the highest value (totally agree). Low values reflect disagreement, high values reflect agreement and values tending towards 3 reflect neither disagreement nor agreement; for example, with the item «OPP1: The SPs have guided the teaching-learning processes». Therefore, a respondent's answers to the 24 items on the ECompSubPed achieve overall scores ranging from 32 to 160.

As there were 68 teachers, including subject coordinators and head teachers, an attempt was made to involve everyone. To strengthen the analysis of the instrument's psychometric properties, Maximum Likelihood (ML) or Bayesian estimation proved to be pertinent, since they ignore the existence of ordinary least squares estimation. Analysing perceptions of SPs performance follows descriptive logic. However, the analysis of perceptions is preceded by an analysis of reliability indices based on the Cronbach's alpha coefficient (α), a very common concern in situations that involve checking the consistency of instruments.

## 4. Results and their discussion

The discussion of the results begins with the socio-demographic information of the respondents and extends to the data collected on their perception of the performance of the deputy headteacher, assisted by the subject coordinators and headteachers, including data on the psychometric properties of the instrument used.

### 4.1 Participants' socio-demographic information

**Table 1:** Socio-demographic and professional information of respondents

| | | *Gender of the respondent* | | | | | |
|---|---|---|---|---|---|---|---|
| | | *Male* | | *Femele* | | *Total* | |
| | | *N* | *%* | *N* | *%* | *N* | *%* |
| Age of the respondent | 25-30 | 8 | 17.0 | 0 | 0.0 | 8 | 12.1 |
| | 31-35 | 7 | 14.9 | 1 | 5.3 | 8 | 12.1 |
| | 36-40 | 17 | 36.2 | 4 | 21.1 | 21 | 31.8 |
| | 41-45 | 4 | 8.5 | 9 | 47.4 | 13 | 19.7 |
| | 46-50 | 6 | 12.8 | 2 | 10.5 | 8 | 12.1 |
| | 51-55 | 5 | 10.6 | 3 | 15.8 | 8 | 12.1 |
| | Total | 47 | 100.0 | 19 | 100.0 | 66 | 100.0 |
| Link type | Term contract | 30 | 63.8 | 17 | 89.5 | 47 | 71.2 |
| | Belonging to the Ministry Staff | 17 | 36.2 | 2 | 10.5 | 19 | 28.8 |
| | Total | 47 | 100 | 19 | 100 | 66 | 100 |
| Length of service | 1-5 years | 16 | 34.0 | 2 | 10.5 | 18 | 27.3 |
| | 6-10 years | 6 | 12.8 | 1 | 5.3 | 7 | 10.6 |
| | 11-15 years | 3 | 6.4 | 1 | 5.3 | 4 | 6.1 |
| | 16-20 years | 9 | 19.1 | 4 | 21.1 | 13 | 19.7 |
| | 21-25 years | 3 | 6.4 | 6 | 31.6 | 9 | 13.6 |
| | 26-30 years | 9 | 19.1 | 4 | 21.1 | 13 | 19.7 |
| | 31-35 years | 1 | 2.1 | 1 | 5.3 | 2 | 3.0 |
| | Total | 47 | 100.0 | 19 | 100.0 | 66 | 100.0 |

Table 1 allows us to see that, of the 68 subjects, 66 participated in the study and that, of this universe, the majority are male (71.2%) and are in the age group over 35 years old. Regarding employment, teachers with a fixed-term contract constitute the majority (71.2%), which means that less than ⅓ belong to the Ministry of Education (ME). This situation does not encourage teachers' sense of belonging, especially in a scenario where the majority (62%) have been teaching for more than 10 years at the institution where they work. This same majority, although less expressive (56%), includes teachers who have worked between 11 and 35 years. In Table 2 we see an unnatural situation that constitutes a paradox arising from the situation mentioned above, as we see that more than ¼ of the respondents (27.3%) belong to the ME, despite having between 1 and 5 years of service in the institution.

**Table 2:** Cross between type of employment and length of service

| | | *Type of connection with the school* | | | | *Total* | |
|---|---|---|---|---|---|---|---|
| | | *Fixed-term contract* | | *Definitive framework* | | | |
| | | *N* | *%* | *N* | *%* | *N* | *%* |
| Definitive framework | 1-5 years | 4 | 8.5 | 14 | 73.7 | 18 | 27.3 |
| | 6-10 years | 7 | 14.9 | 0 | 0.0 | 7 | 10.6 |
| | 11-15 years | 4 | 8.5 | 0 | 0.0 | 4 | 6.1 |
| | 16-20 | 12 | 25.5 | 1 | 5.3 | 13 | 19.7 |
| | 21-25 | 7 | 14.9 | 2 | 10.5 | 9 | 13.6 |
| | 26-30 | 11 | 23.4 | 2 | 10.5 | 13 | 19.7 |
| | 31-35 | 2 | 4.3 | 0 | 0.0 | 2 | 3.0 |
| | Total | 47 | 100.0 | 19 | 100.0 | 66 | 100.0 |

### 4.2 Data referring to the Scale on the performance of pedagogical supervision

**Table 3:** Descriptive data of the scale, and items, including reliability values Cronbach's alpha (α)

| *Item number on the scale* | *Item number in factor* | *Mean* | *Standard deviation (SD)* | *Asymmetry (sk.T. E.) = .295* | *Curthose (ku T. E.) = .582* | *α if the item is deleted* |
|---|---|---|---|---|---|---|
| 1 | OPP1 | 4.42 | .681 | -1.075 | 1.226 | .800 |
| 7 | OPP2 | 4.61 | .653 | -2.795 | 12.872 | .794 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | OPP3 | 4.48 | .728 | -2.040 | 6.811 | .803 |
| 10 | OPP4 | 4.33 | .687 | -.838 | .764 | .810 |
| 12 | OPP5 | 4.30 | .784 | -1.784 | 5.127 | .789 |
| 19 | OPP6 | 4.33 | .751 | -1.090 | 1.181 | .834 |
| 20 | OPP7 | 4.32 | .683 | -.800 | .762 | .793 |
| 21 | OPP8 | 4.62 | .548 | -1.081 | .188 | .821 |
| 2 | CPP1 | 4.30 | .656 | -.745 | 1.066 | .805 |
| 5 | CPP2 | 4.42 | .725 | -1.104 | .771 | .802 |
| 6 | CPP3 | 4.35 | .813 | -1.261 | 1.265 | .807 |
| 22 | CPP4 | 4.62 | .576 | -1.244 | .618 | .817 |
| 23 | CPP5 | 4.50 | .662 | -.984 | -.149 | .791 |
| 24 | CPP6 | 4.50 | .707 | -1.346 | 1.454 | .789 |
| 25 | CPP7 | 4.53 | .638 | -1.034 | .021 | .784 |
| 26 | CPP8 | 4.20 | .845 | -1.181 | 2.063 | .812 |
| 9 | AFE1 | 4.44 | .682 | -2.022 | 8.431 | .832 |
| 11 | AFE2 | 4.27 | .692 | -.709 | .535 | .833 |
| 13 | AFE3 | 4.33 | .829 | -1.702 | 3.963 | .813 |
| 18 | AFE4 | 4.33 | .829 | -1.535 | 3.248 | .830 |
| 27 | AFE5 | 4.45 | .845 | -2.302 | 6.893 | .813 |
| 28 | AFE6 | 4.39 | .802 | -1.768 | 4.459 | .839 |
| 31 | AFE7 | 4.39 | .699 | -.723 | -.644 | .838 |
| 32 | AFE8 | 4.42 | .681 | -.773 | -.517 | .837 |
| 3 | IDP1 | 4.20 | .845 | -.708 | -.389 | .764 |
| 4 | IDP2 | 4.11 | .914 | -.839 | -.033 | .763 |
| 14 | IDP3 | 4.45 | .826 | -1.877 | 4.298 | .733 |
| 15 | IDP4 | 4.53 | .588 | -.825 | -.273 | .750 |
| 16 | IDP5 | 4.21 | .851 | -1.200 | 2.035 | .731 |
| 17 | IDP6 | 4.56 | .611 | -1.491 | 3.251 | .775 |
| 29 | IDP7 | 4.47 | .613 | -.707 | -.429 | .751 |
| 30 | IDP8 | 4.45 | .612 | -.651 | -.488 | .761 |
| OPP = Guidance on pedagogical practice | | 4.43 | .465 | -1.993 | 6.100 | .826 |
| CPP = Control of pedagogical practice; | | 4.43 | .472 | -1.635 | 2.788 | .821 |
| AFE = Support for the educational function of the group/school | | 4.38 | .529 | -2.105 | 5.564 | .848 |
| IDP = Incentives for professional development | | 4.91 | .528 | -1.448 | 2.678 | .778 |

α = alpha; SD = Standard deviation; T. E. = total error

Table 3 shows the values of descriptive indicators such as the mean ($\bar{X}$), standard deviation (SD), asymmetry, kurtosis, as well as internal consistency alpha (α), both scale as a whole and of each item and factor. In it we see that the respondents' perceptions are highly positive both in terms of the dimensions and at the level of each of the items. Indeed, the averages tend towards 4 and 5, corresponding, respectively, to "agree" and "completely agree". The lowest average was recorded in item «26 – SPs supervise teachers' daily records in SIGE» ($\bar{X} = 4.20; DP = .845$), the highest occurs in the factor incentives for teaching personal and professional development (IDP, ($\bar{X} = 4.91; DP = .528$). Respondents' perceptions of SPs performance are positive, especially in relation to the incentives that the group offers to teachers to progress professionally (IDP).

Table 3 shows several aspects: the asymmetries are all negative, indicating the presence of more high scores than low scores as all items have negative asymmetry (*sK*); the distributions are, for the most part, leptokurtic, because the kurtosis indices (Ku) are, for the most part, greater than zero; asymmetry (*sk* T. E. = .295), and flattening or kurtosis (*ku* T. E. = .582) have values well below those that indicate a serious violation of normality, with the values being, respectively, ≥ 3 and ≥ 10 (Kline, 2004, *apud* Maroco, 2010). These facts attest to the normality of the distribution. This scenario is reinforced by Figure 6, through the estimated regression values.

*ECompSubPed* (with an α = .944) reveals very good internal consistency; the values are more modest at the level of the factors OPP (α = .826), CPP (α = .821), AFE (α = .848) and IDP (α = .778), however, they are high (Malhotra, 2011) ; item «16 – SPs identify scientific-pedagogical limitations of teachers and help them to overcome them» (IDP5) stands out positively, as it is what most contributes to reducing the internal consistency of *ECompSubPed*, if it is eliminated ( α = .731). It is not the item that reveals the greatest satisfaction among respondents with the SP's performance. Item «28 – SPs organize or participate in meetings with guardians and students» (AFE6) shows that if it is eliminated from *ECompSubPed*, internal consistency increases (α = .839). Table 3 shows the 32 items subdivided into four factors (i) OPP (1, 7, 8, 10, 12, 19, 20 and 21), CPP (2, 5, 6, 22, 23, 24, 25 and 26), AFE (9, 11, 13, 18, 27, 28, 31 and 32) and IDP (3, 4, 14, 15, 16, 17, 29 and 30). This scenario is reinforced by the model (Figures 2 and 3).

The second dimension of the analysis involves the Analysis of Structural Equations (SEA), admitting that this decision

presupposes corroborating Maroco (2010), when he states that it is something that "[…] requires relatively complex calculation procedures" (p. 25). The author reinforces with Figure 1.

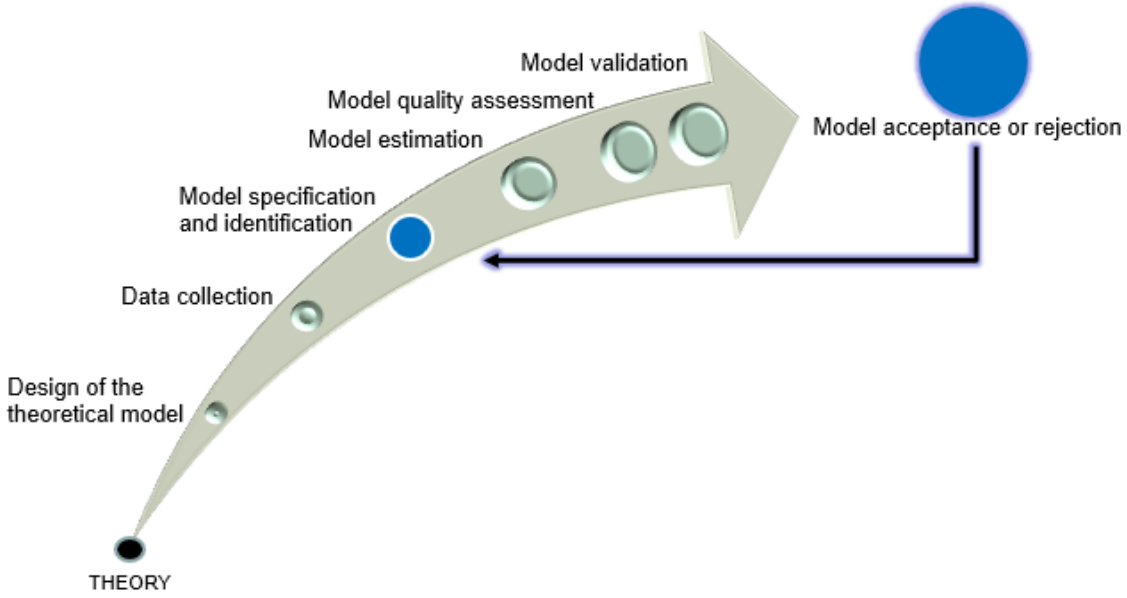


**Figure 1:** Structural Equation Analysis Stages, adapted from Maroco (2010, p. 25)

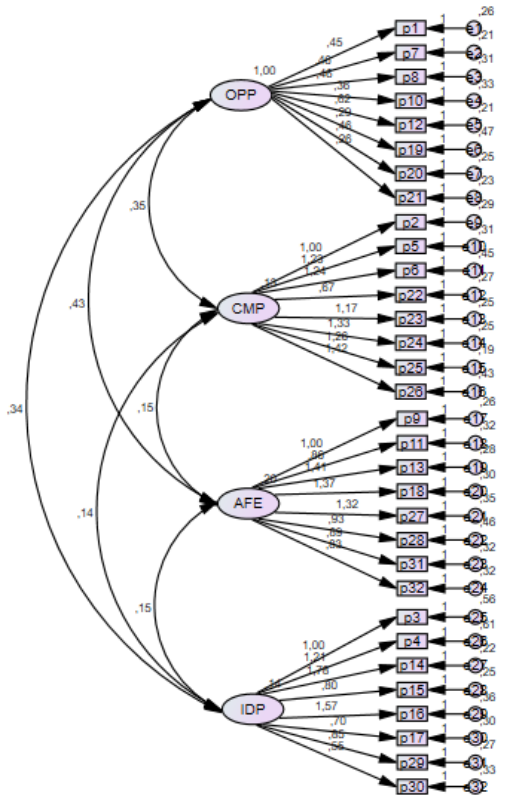


**Figure 2**: Unstandardized estimates from *ECompSubPed*'s initial model

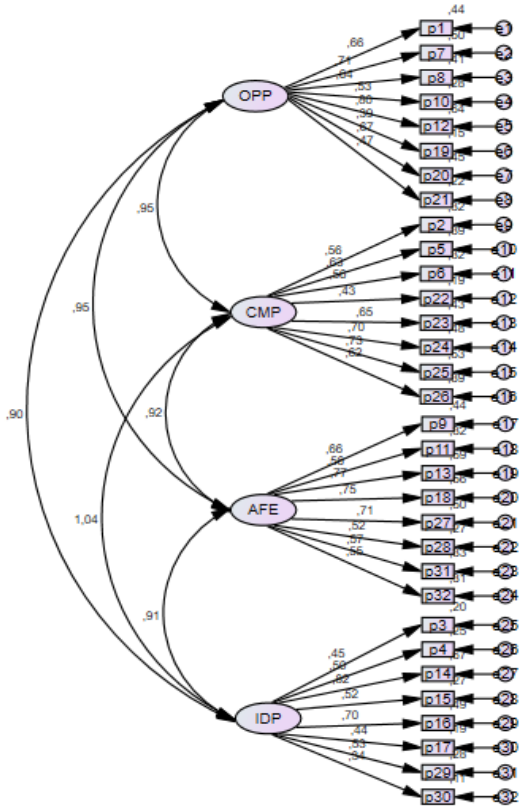


**Figure 3**: Standardized estimates from the *ECompSubPed* initial model

Figures 2 and 3 show the data from the assessment of the quality of the model adjustment, a step that, according to Maroco (2010), "[…] aims to evaluate how well a theoretical model is capable of reproducing the correlational structure of the variables manifestations observed in the sample under study" (p. 40). If the first displays correlations and factor loadings, the second displays estimates of standardized values, which help to conclude about factorial, convergent and discriminant validity. To evaluate the fit of the specified model, we use the ratio between the statistical value of the chi-square ($\chi 2$) and its degrees of freedom (df), the goodness-of-fit index (GFI), the comparative fit index (CFI), the nonstandard fit index (NNFI), the root mean square error of approximation index, the standardized root mean square residual (SRMR) index, and the standardized root mean square error index (Bentler, 1990; Bollen & Long, 1993; Maroco, 2010).

We start with the data from the calculation of the *EcompSubPed* degrees of freedom and the conditions involved. According to Figure 4, the results of the goodness-of-fit chi-square test ($\chi 2$= 751.662, df = 458, sig. <.001) are significant. In Figure 5 we see the estimated regression values with significant p-values in the order of .001 in most items: only 7 of the 32 items present values slightly higher, especially item p30 (IDP8, $r^2$= .339; p = .021). This scenario is repeated in other situations such as Figure 6. The output corresponding to the Fit Model (Figure 7) helps us understand whether the model is suitable. We chose the value of the independence model (1540.743) and the quotient (1.561) as they are favourable indicators for concluding that the model is adjusted, since the literature approves a value between 1 and 3 (Kline, 2005; Maroco, 2010). Figure 8 exposes a mix of positive (RMR = .047, an adequate value as it is < 5) and negative (GFI = .597; PGFI = .535, values below what is considered adequate (≥ .90) scenarios. Figure 9 highlights the CFI (.719) and Delta2 (.929) values, which reinforce the list of model adjustment problems (Bentler, 1990; Maroco, 2010).

**Notes for Model (EcompSubPed1)**

**Computation of degrees of freedom (EcompSubPed1)**

| | |
|---|---|
| Number of distinct sample moments: | 528 |
| Number of distinct parameters to be estimated: | 70 |
| Degrees of freedom (528 - 70): | 458 |

**Result (EcompSubPed1)**

Minimum was achieved
Chi-square = 751,662
Degrees of freedom = 458
Probability level = ,000

**Figure 4:** Notes for model legend (initial)

**Covariances: (Group number 1 - EcompSubPed1)**

| | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|
| AFE | <--> IDP | ,154 | ,054 | 2,881 | ,004 | |
| CMP | <--> AFE | ,152 | ,046 | 3,328 | *** | |
| OPP | <--> CMP | ,351 | ,074 | 4,750 | *** | |
| OPP | <--> IDP | ,340 | ,094 | 3,603 | *** | |
| CMP | <--> IDP | ,145 | ,052 | 2,809 | ,005 | |
| OPP | <--> AFE | ,428 | ,076 | 5,602 | *** | |

**Figure 6:** Estimated covariance values

**CMIN**

| Model | NPAR | CMIN | DF | P | CMIN/DF |
|---|---|---|---|---|---|
| EcompSubPed1 | 70 | 751,662 | 458 | ,000 | 1,641 |
| Saturated model | 528 | ,000 | 0 | | |
| Independence model | 32 | 1540,743 | 496 | ,000 | 3,106 |

**Figure 7**: The descriptions of *EcompSubPed1*, the saturated model, and the independence of its items

**RMR, GFI**

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| EcompSubPed1 | ,047 | ,597 | ,535 | ,518 |
| Saturated model | ,000 | 1,000 | | |
| Independence model | ,192 | ,190 | ,138 | ,179 |

**Figure 8**: Descriptives of RMR, GFI, AGFI, PGFI

**RMSEA**

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| EcompSubPed1 | ,099 | ,086 | ,112 | ,000 |
| Independence model | ,180 | ,170 | ,190 | ,000 |

**Figure 10**: Descriptives of RMSEA

**Estimates (Group number 1 - EcompSubPed1)**

**Scalar Estimates (Group number 1 - EcompSubPed1)**

**Maximum Likelihood Estimates**

**Regression Weights: (Group number 1 - EcompSubPed1)**

| | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|
| p1 | <--- OPP | ,447 | ,076 | 5,843 | *** | W1 |
| p7 | <--- OPP | ,459 | ,072 | 6,395 | *** | W2 |
| p8 | <--- OPP | ,464 | ,083 | 5,620 | *** | W3 |
| p10 | <--- OPP | ,364 | ,081 | 4,492 | *** | W4 |
| p12 | <--- OPP | ,625 | ,082 | 7,641 | *** | W5 |
| p19 | <--- OPP | ,290 | ,092 | 3,146 | ,002 | W6 |
| p20 | <--- OPP | ,455 | ,076 | 5,964 | *** | W7 |
| p21 | <--- OPP | ,256 | ,066 | 3,882 | *** | W8 |
| p2 | <--- CMP | 1,000 | | | | |
| p5 | <--- CMP | 1,228 | ,297 | 4,142 | *** | W9 |
| p6 | <--- CMP | 1,236 | ,323 | 3,832 | *** | W10 |
| p22 | <--- CMP | ,669 | ,215 | 3,107 | ,002 | W11 |
| p23 | <--- CMP | 1,169 | ,275 | 4,257 | *** | W12 |
| p24 | <--- CMP | 1,329 | ,300 | 4,436 | *** | W13 |
| p25 | <--- CMP | 1,259 | ,275 | 4,576 | *** | W14 |
| p26 | <--- CMP | 1,424 | ,345 | 4,124 | *** | W15 |
| p9 | <--- AFE | 1,000 | | | | |
| p11 | <--- AFE | ,861 | ,208 | 4,148 | *** | W16 |
| p13 | <--- AFE | 1,405 | ,258 | 5,440 | *** | W17 |
| p18 | <--- AFE | 1,371 | ,257 | 5,328 | *** | W18 |
| p27 | <--- AFE | 1,319 | ,260 | 5,073 | *** | W19 |
| p28 | <--- AFE | ,926 | ,239 | 3,873 | *** | W20 |
| p31 | <--- AFE | ,890 | ,210 | 4,233 | *** | W21 |
| p32 | <--- AFE | ,833 | ,204 | 4,085 | *** | W22 |
| p3 | <--- IDP | 1,000 | | | | |
| p4 | <--- IDP | 1,212 | ,403 | 3,004 | ,003 | W23 |
| p14 | <--- IDP | 1,776 | ,475 | 3,737 | *** | W24 |
| p15 | <--- IDP | ,798 | ,262 | 3,044 | ,002 | W25 |
| p16 | <--- IDP | 1,571 | ,445 | 3,532 | *** | W26 |
| p17 | <--- IDP | ,700 | ,255 | 2,750 | ,006 | W27 |
| p29 | <--- IDP | ,846 | ,275 | 3,072 | ,002 | W28 |
| p30 | <--- IDP | ,545 | ,236 | 2,307 | ,021 | W29 |

**Figure 5**: Estimated regression values

**Baseline Comparisons**

| Model | NFI Delta1 | RFI rho1 | IFI Delta2 | TLI rho2 | CFI |
|---|---|---|---|---|---|
| EcompSubPed1 | ,512 | ,472 | ,729 | ,696 | ,719 |
| Saturated model | 1,000 | | 1,000 | | 1,000 |
| Independence model | ,000 | ,000 | ,000 | ,000 | ,000 |

**Figure 9:** Baseline comparison scores

Figure 8, in turn, shows a mixture of positive scenarios (RMR = .047, an adequate value as it is < 5), and negative (GFI = .597; PGFI = .535), values below what is considered adequate (≥ .90). Figure 9 highlights the CFI (.719) and Delta2 (.929) values, which, unfortunately, reinforce the list of model adjustment problems (Bentler, 1990; Maroco, 2010).

Finally, Figure 10 displays the RMSEA indicator (.099) with a high value for what Maroco (2010) considers ideal (≤ .05). However, this value falls within the range that the same author describes as a good adjustment. What should concern us is the fact that GFI, AGFI, CFI, and Delta2 present values below those that are tolerated. This scenario leads us to conclude that the model, as initially defined, "[…] is not appropriate to explain the correlational structure of the variables observed in that specific sample" (Maroco, 2010, p. 53). This scenario leads us to (re)specify the model, believing that this measure could result in improved model adjustment.

In the attempt to improve the model based on the analysis of modification indices (MI), which involved the elimination of one item in each factor based on the highest value criterion, we found insignificant effects. The best value achieved (Standardized RMR = .0892) appears disproportionate, given the principle of parsimony (Gil, 2002; Maroco, 2010). Maroco (2010) emphasizes that the incorporation of a certain "[…] trajectory or correlation between errors can considerably improve the adjustment, but, without a sensible or theoretically defensible explanation, the substantive gain associated with the new model is, at the very least, dubious, from a strictly statistical point of view […]" (p. 55). The fact that the sample is relatively small is another element that weighs in favour of maintaining this scenario.

For all of this, especially due to the limitations observed, we reiterate our commitment to more studies in the future, involving more significant samples, although we are aware that we will never have a fully adjusted model. This is the guarantee that the scientific literature offers us, when it urges us to admit that a model rarely fits or adjusts completely considering all the measurement parameters in the evaluation, especially in an initial model.

## 5. Conclusion

Duncan Waite (1995), in the book Rethinking instructional supervision. Notes on its language and culture explains that to see where we are going, we need to see where we came from, since the past is always with us. This vision is not only profound, rich, and revealing of the human essence, but also makes all the difference in the exercise of SP's duties, given that they have increased responsibilities in relation to what society expects from schools.

Without a doubt, SPs are faced with complicated dilemmas and that, more than just knowing, they require wisdom, to be able to make more assertive decisions. This study offers us elements that help us affirm that the two diplomas contribute to extraordinary gains, starting with the fact that they serve as a reference in decision-making when faced with the dilemmas we face. However, for the sake of objectivity, we chose three major gains:

- help to avoid, in similar scenarios, opting for different decisions or measures merely motivated by a matter of perception, such as, for example, the decision of a government official to open or close a school;
- aim, like other diplomas, to ensure uniformity in the practice of the pedagogical subdirection so that everything converges towards improving the quality of teaching, challenging teachers, towards pedagogical innovation through the use of digital technologies, in line with the profile of the new generation of students and the consequent educational, social and professional inclusion of young people;
- contribute to the change and innovation of practices, which results in new learning, new challenges, but also to the emergence of new dilemmas.

These gains are in line with the words of Grandisoli, Jacobi,& Marchini (2023), when they argue that situations like these require an approach "[…] to school renewal, making it more challenging, contextualized, resilient and that effectively fulfils a role that transcends the formative and strengthens its commitment to a preventive and transformative ethos of collective realities" (p. 21). One of the bets that will have to be made is, without a doubt, the investment in the continuous training of teachers and, in particular, of SPs so that they can exercise supervision with a sense of leadership, involving technical, scientific-pedagogical and moral authority, committed with the professional growth of teachers, with the improvement of student performance and with the extension of the school as a whole.

We are urged to bring our vision closer to that of Stones (1984) because, despite having concluded in his study that the exercise of supervision in schools appears associated with a relationship of forces and tensions, based on the fact that supervisors are seen as distant and mere executors of artificial and ritualized practices, the author outlines an optimistic overview of supervision for the future, admitting that teachers will demonstrate openness, accessibility and friendliness, a vision that demarcates itself from that which makes it too bureaucratized. For the author, in this scenario, supervisors are seen as consultants, their offices are overflowing with warmth; They are relaxed, but very professional.

As a final observation, we record two humble proposals here, aiming to make the scenario designed by Stones (1984) a reality in Cape Verde. We challenge:

a) strict compliance with legislation and other commitments assumed by the government, in partnership or not, with international organizations;
b) that the SPs, if not chosen by their peers, through free elections, be appointed among the group's teachers or among external candidates whose curricula include training in at least one of the three areas required by legislation, the participation in training actions on the inclusion and/or use of digital technologies applied to education.

This measure will help to reduce the scenarios mentioned by Vieira (1993), when he states that it is still very common to find supervisors without any qualifications, probably because their selection mechanisms do not include professional specialization criteria.

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