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# Towards an Empowering Education through the Promotion of Learner Autonomy in Morocco: Pedagogical Practices and Implementation Challenges

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## Abstract

Learner autonomy, considered an essential transversal skill, is supported by various pedagogical practices. This study aims to identify the pedagogical practices that promote learner autonomy in Moroccan primary education and examine the reasons behind their adoption. Employing a mixed-methods approach, the study involved a sample of 258 primary school teachers from three Moroccan regions. Quantitative data, collected through a five-point Likert scale questionnaire, were analyzed using descriptive analysis and non-parametric Kruskal-Wallis and Dunn's post-hoc tests. Qualitative data, obtained from semi-structured interviews with a sub-sample of teachers, underwent thematic analysis. The results reveal highly uneven adoption of autonomy-supportive practices. Exploratory learning and adaptive support are relatively well-integrated, while self-directed digital learning and learner involvement in educational decisions remain marginal. Further analysis shows significant differences between these practices ($p < 0.05$), suggesting a preference among teachers for structured approaches over learner-centered autonomy strategies. The study also highlights several major barriers, including insufficient professional training, limited institutional support, inequalities in access to digital resources, and a school culture still largely focusing on academic performance. These factors hinder the adoption of autonomy-supportive practices, particularly digital self-learning and active student participation in educational choices. These findings underscore the need for systemic reforms to enhance the integration of autonomy-promoting teaching practices. It is recommended to strengthen continuous teacher training, with a particular emphasis on digital tools and participatory methodologies. Furthermore, reducing inequalities in access to digital resources is essential to ensure equitable learning opportunities for all students.

**Keywords:**

Learner Autonomy, Empowering Education, Pedagogical Practices, Implementation Challenges.

## Introduction

Learner autonomy has become a central concern in educational discourse over the past few decades, reflecting a global shift from teacher-centered instruction toward learner-centered pedagogy. The concept, first popularized by Holec (1981), refers to the learner's capacity to take charge of their own learning process through self-direction, reflection, and decision-making. Within contemporary education systems, autonomy is viewed not only as a pedagogical goal but also as a fundamental skill for lifelong learning and active citizenship (Little, 2022) and recognized as a transversal competency (Bosmans et al., 2023; Rubene et al., 2024).

In the Moroccan context, the Strategic Vision for Education Reform 2015–2030 emphasizes learner autonomy as a core competency essential for educational quality and social transformation. Despite this political and institutional recognition, the operationalization of autonomy within classrooms remains a persistent challenge. Teachers often face multiple constraints—including rigid curricula, standardized assessments, and limited professional support—that restrict their ability to foster independent learning. As a result, autonomy frequently remains an abstract goal rather than a tangible classroom practice.

Previous studies on learner autonomy have mainly focused on secondary or higher education contexts, leaving a noticeable gap in understanding how primary school teachers interpret and implement autonomy-promoting practices. In addition, most existing research in the Moroccan context has adopted a theoretical or descriptive approach, with limited empirical evidence on teachers' actual practices and the factors that influence them.

To address these limitations, the present study investigates how Moroccan primary school teachers promote learner autonomy through specific teaching practices, how frequently these practices are used, and the underlying reasons behind their use or non-use. By combining quantitative and qualitative methods, this research offers a comprehensive understanding of the conditions that facilitate or hinder the development of learner autonomy in Moroccan primary education.

This study therefore contributes to the literature by providing context-specific empirical insights into teachers' practices and perceptions, linking classroom realities to broader policy objectives outlined in the strategic vision for education reform 2015–2030. It also seeks to inform professional development programs and educational policies aimed at strengthening teacher agency and student autonomy in diverse learning environments.

## Literature review

### *Autonomy as a Fundamental Skill*

The literature highlights the crucial importance of autonomy as an essential transversal skill. Hoffmans-Gosset (1994), in her book Learning Autonomy, Learning Socialization, considers autonomy as a perfection, a form of life that is good in itself and that allows the individual to be "freer, more independent, more responsible, more open and more aware" (p. 160). In other words, more than an ability to direct oneself, it would be a "living well, living better, living authentically and living together" (Hoffmans-Gosset, 1994: 163), contributing significantly to the fulfillment of life as opposed to what is domination or imposition.

Furthermore, according to Deci and Ryan (2020), authors of the self-determination theory (SDT), individuals with a high level of self-determination (regulations: identified, integrated and intrinsic) are better motivated to make decisions in various areas of life. In this perspective, the meta-analysis by Howard et al. (2021) show that high levels of self-determination are linked to individual performance and well-being. Thus, by allowing individuals to control their actions, make decisions aligned with their personal values, and develop a sense of responsibility, autonomy is therefore not limited to a specific area of life, nor to learning alone; it is a transversal skill that contributes significantly to long-term personal and professional development.

### *Teaching Practices for the Development of Autonomy*

According to the scientific literature, several teaching practices contribute to the development of learner autonomy. These practices reflect a renewed conception of the teacher's role, no longer viewed merely as a transmitter of knowledge but as a mediator who guides learners in the gradual construction of their capacity to learn independently. From this perspective, research highlights several key levers in the process: encouraging exploration and freedom of choice, fostering metacognitive awareness, stimulating critical thinking and reflective distancing, providing appropriately adjusted pedagogical support, and leveraging the potential of digital tools to promote self-directed learning.

The following sections will examine each of these practices in detail, drawing on the main theoretical and empirical frameworks that support them, while outlining the pedagogical and institutional conditions required for their effective implementation.

### *Development of Metacognitive Awareness*

The use of metacognitive strategies plays a crucial role in the development of learner autonomy

(Werdiningsih et al., 2022). Learners who have a variety of metacognitive strategies are more confident, perceive their learning as satisfying and effective, and are more motivated to manage new information (Alzahrani, 2022). Metacognitive awareness, defined as the ability to be aware of one's own cognition and reflect on one's learning (Kallio et al., 2018; Tuononen et al., 2023), is a key aspect of learner autonomy. Teachers can encourage the development of this awareness by encouraging learners to reflect on their learning process.

Rather than teaching new strategies, it is better to help learners evaluate the effectiveness of those they already know and modify them if necessary (Stanton et al., 2021). A high level of metacognitive awareness offers lasting benefits, allowing learners to reflect critically on their learning, resulting in significant improvements in their performance in a variety of domains, whether academic or professional.

*Encouragement to Explore*

The role of teachers in promoting learner autonomy lies in their ability to create an environment that is conducive to exploration and discovery. By encouraging learners to ask questions, seek answers for themselves, and explore new ideas, they build their confidence in their ability to learn autonomously. However, as Engler and Westphal (2024) point out, this autonomy cannot develop without sufficient intrinsic motivation. The latter is stimulated by several factors, including the prospect of achieving long-term projects or goals, as well as positive self-perception in the learning process (Shin & Bolkan, 2021). By helping learners understand the meaning and relevance of their learning in the long term, teachers play a key role in nurturing this intrinsic motivation and, consequently, in developing their autonomy.

*Establishing Appropriate Support*

Scaffolding, as described by Bruner and Ross (1976), involves the support of novice learners by a more competent person in order to guide them towards desired goals. Teachers are thus encouraged to assess the level of autonomy of learners and adjust their interventions accordingly, seeking to strike a balance between support and freedom. Typically, the autonomy granted to learners falls somewhere between limited autonomy, where most decisions are made by the teacher, and higher autonomy, where learners enjoy greater freedom (Basri, 2023; Lengkanawati, 2017; Yuliani & Lengkanawati, 2017).

It is therefore up to teachers to find the right balance in order to allow learners to gradually develop their autonomy. As Vygotsky (1934) points out, if the child can do today in collaboration, he will be able to do tomorrow alone (Khosravizadeh, 2023). By providing appropriate support and encouraging peer collaboration, teachers can thus help learners gradually acquire autonomy.

*Promotion of Critical Thinking and Perspective*

Traditional definitions of autonomy do not always fully consider the cognitive dimensions that support learners' ability to manage their own learning. Mykhalchuk and Onufriieva (2020) highlight the importance of psychological dimensions in defining autonomy, emphasizing learners' ability to step back, exercise critical reflection, and make informed decisions. Kinsella et al. (2024) emphasize that autonomy cannot be reduced to observable behaviors; it also relies on complex cognitive processes that promote self-regulation and mastery of learning.

Reflexivity and critical thinking thus appear as essential components in the development of autonomy. These cognitive processes allow learners to evaluate their actions with discernment, to measure their progress critically and to make thoughtful decisions to guide their learning. By cultivating these skills, educators play a central role in promoting autonomy and the active engagement of learners in their own educational journey.

*Involvement of Learners in Educational Choices*

Nikolov et al. (2020) highlight the effect of the freedom of choice granted by teachers on the development of learners. The study highlights how, within the educational system, the logic of the learner's choice is becoming increasingly important, "the imposition of a single regime of exercises or tasks is increasingly replaced by the logic of the (relative) choice of the student" (p. 50). The study emphasizes that this approach places the learner at the center of the educational system, making them responsible for various tasks formerly assumed exclusively by teachers. For example, learners now have the possibility of choosing the activities in which they participate, the exercises they do, and even the subject they research.

Autonomy in learning is defined as the capacity for independent, self-determined action (Zabaleta & Pérez-Izaguirre, 2023) and the ability to plan, implement, monitor, and evaluate one's own learning (Little, 2022). It involves students taking responsibility for their learning, breaking down barriers present in teacher-directed environments (Esfandiari & Gawhary, 2019). Learners are thus empowered and encouraged to take charge of their own learning, which contributes to strengthening their autonomy. This decentralization of power extends to several aspects of learning, including the choice of content to complement and enrich the program, working methods and assessment methods, means of time control and workload management. Thus, the freedom of choice granted

by teachers plays a crucial role in developing learners' autonomy, by empowering them and encouraging them to actively engage in their learning.

*Encouraging Self-Learning through Digital Resources*

The integration of information and communication technologies in education has profoundly transformed teaching practices, opening up new perspectives for the development of learner autonomy. These technologies establish a continuous link between the learner and the teacher, while offering unlimited access to information and knowledge, even outside the traditional classroom setting. According to Amadieu and Tricot (2014), information and communication technologies represent an inexhaustible reservoir of educational resources, promoting learners' autonomy by providing them with the tools necessary to become active players in their learning.

However, their positive impact is based on a strategic integration focused on learning needs rather than on the simple use of technological tools. Such an approach allows learners to develop essential skills such as self-regulation, self-direction and self-assessment. By encouraging learners to use these tools independently to search for information, design projects and solve problems, teachers prepare them to actively invest in their educational journey. This approach promotes the emergence of autonomous and responsible learners. However, the effectiveness of information and communication technologies depends closely on how it is integrated into the educational process, requiring appropriate pedagogical support from teachers to maximize its benefits.

*The Current Study*

Building on the literature review presented above, the present study focuses on the teaching practices implemented by primary school teachers in Morocco to promote learner autonomy. It addresses the following research questions: (1) What teaching practices are implemented by primary school teachers in Morocco to promote learner autonomy?; (2) How frequently are these practices used?; and (3) What are the underlying reasons behind the use or non-use of certain teaching practices that aim to develop learner autonomy, as perceived by teachers?

The justification for this study is threefold. First, despite the growing interest in promoting learner autonomy, few studies have examined the concrete practices of teachers in the Moroccan context, leaving a gap in understanding the strategies actually employed and the obstacles encountered. Second, the study aims to make both theoretical and practical contributions: theoretically, by enriching knowledge on the pedagogical levers that foster autonomy in a specific educational context; practically, by providing insights for teacher professional development and the improvement of classroom practices. Thus, this research will offer a clearer understanding of how learner autonomy can be systematically supported in a context-sensitive way, while providing concrete recommendations for teachers and educational policymakers.

## Methods

*Research Design*

This study adopts a mixed-methods approach to explore the development of learner autonomy in primary schools in three regions of Morocco: Casablanca-Settat, Rabat-Salé-Kénitra, and Doukkala Abda. To achieve the objectives of the study, both quantitative and qualitative data were collected and analyzed to provide a more comprehensive and holistic understanding of the issue under study. Based on a preliminary observation via a questionnaire and interviews with a sub-sample of teachers, we identified the pedagogical practices implemented by teachers to promote this autonomy.

*Participants*

The sample of this research is composed of 258 primary school teachers, from the three regions mentioned earlier. More detail is given in Table 1.

This distribution highlights a strong presence of experienced teachers among the study participants. Interview participants (15 teachers) were selected to represent a diversity of educational experiences and contexts. This distribution ensures a balanced representation of the perspectives of experienced teachers as well as those at the beginning of their careers.

**Table 1.**
*Demographic profile of participants*

| Regions | | Number of participants | Teaching experience | Number of participants | Interview participants |
|---|---|---|---|---|---|
| Casablanca-Settat | | 86 | | | |
| Rabat-Salé-Kénitra | | 102 | | | |
| Doukkala Abda | | 70 | | | |
| | Total | 258 | > 10 yrs | 141 | 8 |
| | | | 5 – 10 yrs | 36 | 4 |
| | | | 1 – 5 yrs | 54 | 3 |
| | | | < 1 yr | 27 | |

*Data Collection Instruments and Procedure*

A questionnaire designed based on the theoretical foundations and teaching strategies identified in the literature review was administered to investigate teaching practices that promote learner autonomy among Moroccan primary school teachers. It consisted of two sections. The first included demographic information such as years of experience and region of education. The second comprised 14 items exploring the frequency of autonomy-supportive teaching practices, rated on a five-point Likert scale ranging from "Rarely or never" (1) to "Always" (5).

In addition to the questionnaire, semi-structured interviews were conducted with a sub-sample of 15 teachers to gain a deeper understanding of their perceptions and the contextual factors influencing the use or non-use of autonomy-promoting practices. The interview guide was developed based on key dimensions of learner autonomy highlighted in the literature and on emerging themes from the preliminary quantitative results. To ensure clarity and methodological rigor, the guide was reviewed by two experts in educational research and teacher training, and minor revisions were made to improve the precision of the questions.

The interviews were conducted between June 15 and June 30, 2024, following the quantitative data collection phase (March 10–May 30, 2024). Participants were strategically selected to ensure diversity in teaching experience and educational contexts. Each interview lasted approximately 30–45 minutes and was conducted either face-to-face or online, depending on availability. With participants' consent, all interviews were audio-recorded and transcribed verbatim, ensuring the accuracy of subsequent qualitative analysis.

**Data Analysis**

Quantitative data were analyzed using descriptive statistics to identify general trends in teaching practices. To explore differences in the frequency of use among the six types of autonomy-supportive practices, non-parametric Kruskal–Wallis tests were conducted, followed by Dunn's post-hoc test with Bonferroni correction. Effect size was measured using epsilon squared ($\varepsilon^2$) to assess the magnitude of differences.

Qualitative data were analyzed using a thematic approach (Braun & Clarke, 2006), aimed at identifying recurrent themes and patterns related to teachers' perceptions, challenges, and motivations regarding autonomy-promoting practices. The analysis followed a systematic process: (1) Familiarization with the data through multiple readings of transcripts; (2) Initial coding to identify meaningful units of information; (3) Collation of codes into broader themes reflecting underlying ideas and relationships; (4) Review and refinement of themes to ensure coherence and representativeness; (5) Interpretation of the themes in relation to the research questions and existing literature.

To ensure trustworthiness and validity, a double-coding procedure was applied to a subset of transcripts, and inter-coder discrepancies were discussed until full agreement was reached. The coding framework and thematic structure were also reviewed by two external experts, ensuring the reliability and credibility of the qualitative findings.

**Results**

*Pedagogical Practices Promoting Autonomy*

In Table 2 below, we highlight the teaching practices that promote learner autonomy. From the answers to the questionnaire items, where 2 to 3 items represent each type of teaching practice, the quantitative data reveal the score of use of these practices by teachers to encourage student learner autonomy.

**Table 2.**
*Average score of teaching practices promoting learner autonomy*

| Teaching Practice | Mean | Std Dev |
|---|---|---|
| Encouraging Exploration (X1) | 3.56 | 0.44 |
| Providing Adaptive Support (X2) | 3.59 | 0.50 |
| Promoting Critical Thinking (X3) | 3.52 | 0.48 |
| Developing Metacognitive Awareness (X4) | 3.37 | 0.39 |
| Encouraging Digital Self-Learning (X5) | 2.49 | 0.45 |
| Involving Learners in Educational Choices (X6) | 2.03 | 0.51 |

The research highlighted variability in the adoption of practices aimed at developing learner autonomy. Some practices, such as those encouraging exploration, are widely adopted, with an average score of 3.56. In particular, teachers often encourage their students to seek answers on their own before asking for help.

Regarding the provision of appropriate support, the average score is 3.59. Teachers appear to be attentive to the needs of struggling students and provide adaptive guidance when necessary.

Promoting critical thinking and perspective-taking has an average score of 3.52. Teachers organize activities where students provide constructive feedback on each other's work, fostering a collaborative learning environment.

Developing metacognitive awareness has an average score of 3.37. Teachers encourage their students to define what they want to accomplish in each course

or learning project and also organize individual meetings to discuss their progress.

Regarding self-learning through digital resources, the results are relatively low, with an average score of 2.49. Although some teachers encourage online research, the use of digital resources such as explanatory videos remains limited.

Finally, the involvement of learners in pedagogical choices is the least adopted practice, with an average score of 2.03. Teachers seem reluctant to let their students contribute to the selection of course content or participate in pedagogical management in general.

### *Preference for Certain Autonomy-Supportive Strategies among Teachers*

We conducted Kolmogorov-Smirnov normality test and justification to decide whether to utilize parametric statistics or non-parametric statistics for comparing datasets regarding this matter. Table 3 summarizes the test result.

**Table 3.**
*Normality test result*

| Teaching Practice | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| X1 | .240 | 258 | .000 | .853 | 258 | .000 |
| X2 | .471 | 258 | .000 | .533 | 258 | .000 |
| X3 | .360 | 258 | .000 | .716 | 258 | .000 |
| X4 | .435 | 258 | .000 | .510 | 258 | .000 |
| X5 | .402 | 258 | .000 | .675 | 258 | .000 |
| X6 | .195 | 258 | .000 | .891 | 258 | .000 |

The table shows that all six teaching practices exhibited p-values < 0.05, indicating a non-normal data distribution. Since ANOVA as parametric statistic tool assumes normality, it was deemed inappropriate for this purpose. Instead, the Kruskal-Wallis' test, a non-parametric alternative, was utilized. The following is the test result summary table.

**Table 4.**
*Kruskal-Wallis' test result*

| Test | Chi-Square | df | p-value |
|---|---|---|---|
| Kruskal-Wallis | 926.397 | 5 | 0.000 |

The test result confirmed a statistically significant difference among at least one of the six teaching practices ($p < 0.05$).

Further analysis using Dunn's post-hoc test with Bonferroni Correction to identify pairwise differences among teaching practices arrived at the following result summary.

**Table 5.**
*Dunn's post-hoc test results (p-values)*

| | X1 | X2 | X3 | X4 | X5 | X6 |
|---|---|---|---|---|---|---|
| X1 | 1 | 1 | 0.719 | 0.311 | 8.44E-54 | 1.52E-94 |
| X2 | 1 | 1 | 1 | 0.135 | 7.36E-56 | 2.85E-97 |
| X3 | 0.719 | 1 | 1 | 0.0002 | 4.1E-68 | 2.9E-113 |
| X4 | 0.311 | 0.135 | 0.0002 | 1 | 3.26E-39 | 8.22E-75 |
| X5 | 8.44E-54 | 7.36E-56 | 4.1E-68 | 3.26E-39 | 1 | 4.06E-06 |
| X6 | 1.52E-94 | 2.85E-97 | 2.9E-113 | 8.22E-75 | 4.06E-06 | 1 |

The finding, as demonstrated in Table 5, shows significant disparities between high- and low-utilization teaching practices, particularly in the contrast between exploratory approaches and digital self-learning or student involvement. Epsilon-squared ($\varepsilon^2$) to determine effect size estimation was computed, yielding $\varepsilon^2 = 0.14$, indicating a large effect size and substantiating the substantial differences in teaching practice utilization.

The Kruskal-Wallis' test results ($\chi^2 = 926.397$, $df = 5$, $p < 0.05$) revealed statistically significant disparities across the six teaching practices, indicating heterogeneity in their adoption. This divergence suggests that educators exhibit a pronounced preference for certain autonomy-supportive strategies while underutilizing others, a pattern that may be attributed to structural limitations, pedagogical paradigms, or institutional policies governing instructional autonomy.

Dunn's post-hoc test was performed to determine specific differences among the teaching practices. The analysis revealed that Encouraging Exploration (X1) and Providing Adaptive Support (X2) had significantly higher frequencies than Encouraging Self-Learning through Digital Resources (X5) and Involvement in Educational Choices (X6) ($p < 0.05$). The results suggest a strong preference for structured instructional methods over student-driven learning approaches.

### *The Underlying Reasons for the Uneven Use of Teaching Practices*

This section presents the results of interviews conducted with primary school teachers, carried out after the collection of data from the questionnaire on the score of use of teaching practices that promote learner autonomy. The objective of these interviews is to deepen the understanding of the reasons behind the variable use of certain practice. The following are our findings regarding this purpose of study.

1. Obstacles to the mobilization of certain practices likely to promote autonomy

In Table 6 below, we summarize the main themes, along with some quotes illustrating teachers' perceptions.

2. Educational preferences to promote the development of student autonomy

In Table 7 below, we summarize the main themes, along with some quotes illustrating teachers' perceptions.

**Table 6.**

*Obstacles to the mobilization of certain practices likely to promote student autonomy*

| Emerging themes | Details | Examples of statements |
|---|---|---|
| Lack of training and support | Insufficient initial and continuing training: Many teachers feel ill-prepared to be able to integrate certain practices into their teaching. Inadequate initial training, combined with a lack of continuing training, creates methodological uncertainty among some participants that hinders their ability to integrate teaching practices requiring technological and technical skills such as the creation of digital resources.<br><br>Limited institutional support: Teachers lack support to experiment with new strategies, which limits their pedagogical autonomy. | - "I often feel lost when faced with new teaching methods. The training I received was not sufficient to help me mobilize these practices such as the inverted classroom... the preparation of online resources requires technical knowledge..."<br>- "... This is the lack of support...we need more support from educational inspectors."<br>- " Without support, it is difficult to experiment with innovative approaches."<br>- "...It would be beneficial to organize continuing education focused on diversifying assessment methods based on learners' choices, as well as on the effective involvement of students in the choice of teaching materials and time management."<br>- "I think that our educational autonomy is limited, we cannot explore approaches beyond the established guidelines..." |
| Traditional school culture | Resistance to change: Some teachers are anchored in pedagogical traditions that make it difficult to integrate more participatory practices.<br><br>Performance-based assessment: The pressure to achieve good results leads to a preference for conventional methods. | - "It is difficult to change mentalities. Many teachers, including myself, are used to traditional teaching methods that seem safer."<br>- "The pressure to get good results in exams pushes me to favour classical teaching methods ... I don't dare take risks ..."<br>- "I fear that my students will not succeed if I change my usual strategies..."<br>- "There is a real fear of risk among my colleagues; everyone wants to avoid problems ..." |
| Perception of the value of new practices | Doubts about the effectiveness of self-learning methods: Some teachers doubt the effectiveness of self-learning methods and prefer face-to-face teaching.<br><br>Motivation, age and specificity of students: Challenges related to age, motivation and diversity of learning levels in the classroom concern some teachers. | - "I have doubts about the effectiveness of digital resources for self-learning. For me, nothing replaces direct interaction with students."<br>- "If students are not motivated, it discourages me from adopting new methods."<br>- "...Given their young age, students need constant guidance; I am not sure they can learn on their own..."<br>- "The heterogeneous level of my students complicates the application of some modern methods ..."<br>- "In my class, many students have difficulty following; I fear that they do not really benefit from an empowering approach..." |
| Socio-economic context | Inequalities in access to resources: Students from disadvantaged backgrounds have limited access to digital resources needed for self-learning, which discourages some teachers from integrating these tools.<br><br>External pressure and family expectations: Parents' expectations influence how teachers approach these practices. | - "My students often come from disadvantaged backgrounds and don't have access to the digital tools needed to learn independently ."<br>- "I feel guilty when I can't provide the same learning opportunities as my colleagues in urban areas."<br>- "Parents want to see immediate results, which makes it difficult to experiment with less conventional methods." - "It's frustrating to know that some students don't even have access to the Internet at home; this limits our educational options."<br>- "Parents expect us to choose content ourselves based on the curriculum, without taking into account the interests and needs of their children, which makes change even more difficult." |

**Table 7.**

*Pedagogical preferences to promote the development of learner autonomy*

| EmergingThemes | Details | Examples of statements |
|---|---|---|
| Project-based pedagogy | It is seen as an effective method for developing learner autonomy because it actively engages students in their learning process, strengthening their organizational and collaborative skills. | - "I have found that project-based learning really engages students and helps them develop their autonomy..."<br>- "This method gives meaning to their cognitive efforts and prepares them to become responsible in various contexts."<br>- "Projects allow students to apply what they learn in a real-world context, which develops their self-determination..."<br>- "I see a real difference in their engagement when they work on a project that they are passionate about ." |
| Collaborative learning | For many teachers, this approach aims to develop autonomy while strengthening critical thinking. It encourages interaction and the exchange of ideas, allowing students to evaluate and justify their points of view, thus stimulating their autonomy. | - "I use collaborative learning very often because it turns students into actors in their own learning."<br>- " When students work in groups, they not only learn the content, but also soft skills and..."<br>- "This method helps my shy students to express themselves more in a safe environment; they feel more valued and more autonomous." |

## Discussion

This study advances the understanding of learner autonomy in Moroccan primary education, framing the analysis within the Strategic Vision for Education Reform 2015–2030. The findings highlight both opportunities and systemic challenges, demanding a critical engagement with theoretical, pedagogical, and policy dimensions. In response to the first research question, which examined the types of teaching practices used to promote autonomy, the results reveal significant variation across pedagogical approaches.

The frequent use of exploratory practices, averaging 3.56, reflects a promising alignment with autonomy-oriented pedagogical goals. This supports Sener et al. (2023) assertion that fostering exploration activates intrinsic motivation—a critical driver of self-directed learning. Harms et al. (2024) underscore that such practices nurture deeper cognitive engagement, beyond merely cultivating decision-making skills. However, the uneven application of exploration, particularly in real-world contexts (score: 2.81), exposes critical gaps. Teachers face constraints, including rigid curricula and insufficient training, which hinder the effective operationalization of exploratory pedagogy (Susanti & Nurhayati, 2024; Tangney et al., 2023). As Freitas et al. (2024) argue, exploration's transformative potential is fully realized only through strategic integration, particularly with digital tools. The Kruskal-Wallis test further substantiates these differences, indicating statistically significant disparities in the implementation of exploratory methods relative to other pedagogical strategies ($\chi^2 = 926.397$, $df = 5$, $p < 0.05$). These results suggest that, while teachers value exploration, systemic limitations prevent its effective translation into practice—a central insight that directly addresses the second research question on the frequency of practice use. Addressing these barriers requires systemic reform to create pedagogical flexibility and provide targeted teacher support, thereby maximizing the efficacy of exploration-focused strategies (Figueroa-Vargas & Casillas-Martín, 2024; Tangney et al., 2023).

Adaptive support, averaging 3.59, remains a cornerstone of autonomy-promoting practices, with teachers tailoring interventions to individual learner needs. This approach resonates with the scaffolding principles articulated by Hampton and Chow (2022), enabling learners to incrementally assume greater responsibility. Nevertheless, the limited application of peer mentoring (score: 2.86) represents a missed opportunity. Vygotsky's Zone of Proximal Development underscores the dynamic interplay of social interactions in advancing autonomy (Karimi-Aghdam, 2017). The reluctance to employ peer mentoring can be attributed to cultural attitudes, lack of institutional frameworks, and insufficient teacher training. Dunn's post hoc test results confirm that peer mentoring is significantly less utilized than exploratory methods ($p < 0.05$), reinforcing the need for structured interventions to facilitate peer-assisted learning environments. This finding also illuminates how contextual and cultural factors shape teachers' decisions, thus contributing to the third research question regarding the underlying reasons behind the use or non-use of certain practices. Expanding teacher training to incorporate peer-led strategies could enhance adaptive support practices, fostering a collaborative learning environment that aligns with global best practices (Sharma et al., 2024).

The critical underutilization of digital self-learning practices (average score: 2.49) reflects systemic inequities in resource distribution and professional readiness. While Yonezawa and Nakai (2024) emphasize the capacity of information and communication technologies to enhance autonomy through self-regulation and inquiry, these benefits remain largely inaccessible in underprivileged regions. Teachers, particularly in rural areas, cite infrastructural deficiencies and inadequate training as significant obstacles (Nurhayati et al., 2024; Suwartono & Nitiasih, 2020). This digital divide, as corroborated by Nayak and Alam (2022), mirrors broader educational inequalities. The lack of equitable access to information and communication technologies not only impedes individual learner outcomes but also perpetuates structural disparities. The statistical findings reinforce this concern, as digital self-learning practices were significantly underutilized compared to all other teaching strategies ($p < 0.05$). Such evidence confirms that structural constraints, rather than teacher attitudes alone, constitute the main barrier to autonomy development. Policymakers must address these inequities by prioritizing investments in information and communication technologies infrastructure and designing comprehensive training programs to equip teachers with the necessary technical and pedagogical skills (Musa et al., 2022; Musa & Nurhayati, 2024).

Involvement of learners in educational choices, with a dismal average score of 2.03, remains the least utilized strategy despite its potential to empower learners. Teachers perceive participatory methods as resource-intensive and fraught with risks, particularly within a performance-driven school culture (Silseth & Erstad, 2022). Day's (2020) analysis of the tensions between autonomy and academic performance underscores the systemic reluctance to embrace participatory approaches. This reveals a persistent tension between traditional accountability norms and emergent pedagogical models that promote autonomy. Aligning assessment frameworks with the principles of participatory pedagogy could alleviate these concerns, fostering an environment where learners actively shape their educational experiences without compromising academic standards. This shift requires a concerted effort to reframe autonomy as a core

educational outcome rather than a supplementary ideal.

Collaborative and project-based learning emerged as effective strategies for fostering autonomy, enhancing both engagement and self-regulation. These methods align with Poom-Valickis et al. (2022) and Çini et al. (2023), who report that collaboration fosters critical thinking, metacognitive awareness, and intrinsic motivation. Dunn's test reveals significant differences between participatory approaches and structured teacher-led methods ($p < 0.05$), reaffirming the entrenched resistance to learner-driven pedagogies. Project-based learning, in particular, enables learners to contextualize knowledge in meaningful, real-world applications, cultivating a sense of responsibility and initiative (Noor & Nurhayati, 2023). These results strengthen the argument that promoting autonomy is not only a pedagogical choice but also a policy imperative, fully consistent with the strategic vision for education reform 2015–2030. However, the success of these methods depends on substantial professional development and resource allocation. Expanding teacher training to include project-based methodologies and collaborative strategies is essential to scaling their impact.

The systemic barriers identified in this study—including inadequate training, limited institutional support, and a deeply ingrained performance-oriented culture—underscore the complexity of fostering autonomy. Teachers consistently express a lack of confidence in adopting innovative practices, reflecting structural and cultural limitations (Suwartono & Aniuranti, 2018). Suwartono & Aniuranti (2018) emphasize the role of targeted professional development in mitigating these challenges by equipping educators with the tools and confidence to implement autonomy-focused strategies. Addressing these systemic constraints requires an integrated strategy that aligns policy, practice, and community engagement (Musa & Nurhayati, 2024). This integrated perspective directly links back to the study's overall objective: to understand how teachers' practices, conditions, and beliefs interact in promoting or limiting learner autonomy in moroccan primary education.

The findings of this study have far-reaching implications for educational policy and practice. First, professional development initiatives must prioritize comprehensive training in autonomy-focused methodologies, encompassing digital tools, collaborative learning, and participatory pedagogy. These programs should adopt a dual focus on technical proficiency and pedagogical innovation, empowering teachers to implement these practices with confidence and competence. Second, addressing systemic inequities is imperative. Policymakers must prioritize investments in information and communication technologies infrastructure and ensure equitable resource distribution, particularly in underserved regions. Targeted interventions to bridge the digital divide are essential to creating a level playing field for all learners. Finally, fostering a cultural shift towards valuing learner autonomy requires systemic reforms that transcend individual classrooms. This includes revising assessment frameworks to reward autonomy-oriented outcomes and engaging parents as active partners in supporting autonomous learning. Such multilevel actions would not only enhance teaching quality but also advance the goals of equity and innovation outlined in the strategic vision for education reform 2015–2030, positioning moroccan education as a reference model for learner-centered pedagogy.

**Conclusion**

The main objectives of this research are to identify the most commonly used pedagogical practices to encourage student autonomy and to identify the obstacles and levers influencing their adoption.

The results show that some practices, such as encouraging exploration and project-based learning, are adopted relatively frequently, demonstrating teachers' desire to stimulate students' self-determination and active engagement. However, the study reveals that other practices, such as encouraging self-learning through digital resources and involving students in pedagogical decision-making, remain clearly less common. The results also highlighted explanatory barriers, including lack of continuing education, limited institutional support, a school culture traditionally focused on academic performance, and disparities in access to digital resources. The statistical analysis further substantiates these findings, revealing significant disparities in the frequency of implementation across various pedagogical strategies ($\chi^2 = 926.397$, $df = 5$, $p < 0.05$). This underscores the systemic nature of the barriers preventing widespread adoption of autonomy-supportive practices, necessitating targeted policy and institutional interventions.

This research does, however, have some limitations. The sample, although diverse, may not reflect all educational contexts, particularly those in other regions of Morocco or private institutions. In addition, as teaching practices constitute behavior, the absense of observational data limits the study. The absence of data on the perception of other educational actors regarding the impact of empowering practices also limits the analysis. Moreover, the reliance on self-reported measures introduces potential biases in the data, emphasizing the need for future research to incorporate observational methodologies and longitudinal analyses to track changes in pedagogical adoption over time. Future studies should consider broader research integrating the perspectives of supervisors or educational advisors to deepen the

understanding of autonomy dynamics and their impact.

Moving forward, it is recommended to strengthen continuing education initiatives focusing on the adoption of empowering pedagogical practices and the use of educational technologies. Increased institutional support and efforts to reduce inequalities in access to digital resources are essential to enable teachers to develop their confidence and skills. Additionally, professional development programs should incorporate training in peer mentoring and participatory decision-making to address the underutilization of these autonomy-promoting strategies. Such measures would contribute to transforming pedagogical practices and promoting truly student-centred learning, ensuring a more inclusive, equitable education that is adapted to the challenges of the 21st century. By addressing these structural barriers and leveraging empirical insights, Moroccan education can align more closely with international best practices in fostering learner autonomy.

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