



Educational Challenges within Ecological Systems: Multi-Stakeholder Perspectives from Urban High Schools in Southern Morocco

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ABSTRACT

High school students worldwide face challenges that impact their academic performance and overall development, and in developing countries such as Morocco, these challenges are intensified by social, cultural, and systemic factors. Despite the critical role of secondary education as a pathway to higher education, research on the difficulties faced by Moroccan high school students remains limited. This study used a case study approach to examine educational experiences in urban public high schools in Southern Morocco, drawing on data from 110 participants (77 students, 20 parents, and 13 teachers) through focus groups and surveys. Findings show that students encounter obstacles such as difficulties in core subjects, exam-related stress, limited access to tutoring, inadequate career guidance, and insufficient psychological support. The study highlights the need to enhance student engagement, strengthen parental involvement, and foster teacher collaboration, offering practical recommendations for policymakers to improve educational outcomes.

KEYWORDS

High school education; student experiences; multi-stakeholder perspectives; educational challenges; Morocco.

INTRODUCTION

Educational systems worldwide face important challenges in providing quality learning experiences for secondary school students, yet high school remains underrepresented in educational research despite its critical role in determining future trajectories (Eccles & Roeser, 2011). This gap is especially evident in developing countries, where secondary education functions as a critical bridge between foundational learning and post-secondary opportunities (World Bank, 2018).

The theoretical framework of this study is grounded in Bronfenbrenner's (1979) ecological systems theory, which emphasizes how multiple environmental systems collectively shape student development and learning outcomes through interconnected relationships. Stakeholder perspectives correspond to different ecological levels: students operate within the microsystem of daily school interactions, parents link home and school contexts within the mesosystem, and teachers function within institutional structures that reflect broader exosystem and macrosystem influences (Rosa & Tudge, 2013).

In the Moroccan educational context, these ecological levels manifest in distinct ways. At the microsystem level, students engage in daily classroom interactions conducted across multiple languages while coping with significant academic pressure. The mesosystem involves the interplay between Arabic-speaking home environments and French-medium academic instruction. The exosystem encompasses national educational policies, resource allocation, and teacher training systems. Finally, the macrosystem reflects broader cultural values surrounding education, family honor, and social mobility, which serve as sources of both motivation and pressure.

Research on educational stakeholder perspectives shows that understanding educational quality requires analyzing experiences from multiple viewpoints rather than relying solely on administrative data (Tikly, 2011). Student voice research positions young people as competent social actors who can provide meaningful insights into educational experiences (Bragg, 2007; Cook-Sather, 2006). Yet, this body of literature has largely centered on primary or higher education, leaving secondary education in developing countries comparatively underexamined.

In Morocco, the Baccalaureate¹ examination represents a critical academic and social milestone, functioning as the primary bridge between secondary and higher education. Performance on this exam not only shapes students' future opportunities but also plays a central role in social mobility. Morocco offers a particularly compelling case for examining secondary educational experiences given its status as a developing country undergoing educational reform while navigating complex linguistic, cultural, and economic realities. Despite decades of reform initiatives and substantial financial investment averaging more than 5% of GDP annually, the country continues to face persistent challenges in achieving educational excellence, as reflected

¹ The baccalaureate is Morocco's national standardized examination taken at the end of the final year of high school. Students choose specialized tracks (sciences, literature, economics) and are examined in both Arabic and French across multiple subjects over several days. Results serve as the sole criterion for university admission and program eligibility.

in consistently low performance on international assessments (Martin & Mullis, 2013; Mullis et al., 2023). This study addresses an important empirical gap by examining how educational policies and investments translate into the lived experiences of high school students, families, and educators in Morocco. While policy analyses and quantitative outcome studies exist, research that systematically captures the perspectives of students, parents, and teachers—particularly within contexts where cultural traditions, linguistic diversity, and socioeconomic constraints shape educational trajectories—remains limited (Morchid, 2020).

We examine educational experiences in urban public high schools in Southern Morocco from the perspectives of students, parents, and teachers. The central research question guiding this study is: What educational challenges do students, parents, and teachers encounter in urban public high schools in Southern Morocco, and how do these challenges manifest across different ecological levels?

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Theoretical foundations: Ecological systems and stakeholder perspectives in education

Bronfenbrenner's (1979, 1994) ecological systems theory provides a framework for analyzing how environmental systems shape educational outcomes through dynamic, bidirectional interactions. The microsystem encompasses the immediate environments where students spend their daily lives, the mesosystem involves interactions between these environments, the exosystem includes institutional policies and community resources, and the macrosystem reflects broader cultural values and societal structures. Contemporary applications highlight this framework's continued relevance for understanding educational processes across diverse cultural contexts (Ashiabi & O'Neal, 2015; Neal & Neal, 2013).

Stakeholder theory in education (Freeman et al., 2010) provides an additional lens for examining how educational quality emerges from the interactions of multiple groups with vested interests in learning outcomes. Students, parents, and teachers serve as primary stakeholders whose perspectives are essential for assessing educational effectiveness, as each group contributes unique insights shaped by its distinct position within the educational ecosystem (Efendi, 2022; Odhiambo & Hii, 2012).

The integration of these theories demonstrates that understanding educational experiences requires a systematic examination of how macro-level policies, cultural values, and societal expectations translate into the micro-level realities of daily life for different stakeholder groups. This combined approach is especially relevant in developing countries, where educational policies often encounter implementation challenges arising from resource limitations, cultural dynamics, linguistic diversity, and competing social priorities (Hill & Tyson, 2009; Makuvire et al., 2023; Pule, 2023; Tikly, 2011).

Student voice and agency in secondary education

Student voice has gained prominence in educational research as scholars increasingly recognize young people as competent social actors who can offer valuable insights into their educational

experiences (Bragg, 2007; Cook-Sather, 2006). This marks a shift away from traditional deficit-oriented perspectives toward empowering frameworks that acknowledge students' capacity for critical analysis and meaningful contributions to educational improvement (Sharma & Loreman, 2013).

Research on student voice in secondary education highlights key factors that promote engagement, academic success, and positive educational experiences. Students consistently stress the value of supportive teacher relationships, curriculum content that feels relevant, and meaningful opportunities for autonomy in learning (Mitra, 2004).

However, most student voice research has been conducted in Western, developed contexts, with limited attention to how cultural factors, linguistic diversity, economic constraints, and distinct educational traditions shape student experiences in developing countries (Bajaj, 2018; Chimombo, 2005). Studies that do examine these contexts reveal unique challenges, including language transitions between home and school, economic pressures that disrupt educational continuity, limited post-secondary opportunities, and cultural expectations that may either support or conflict with students' educational aspirations (Erling et al., 2017; Lewin, 2009).

Research from sub-Saharan Africa highlights how students navigate complex multilingual environments while balancing family expectations and limited resources (Trudell, 2007). Studies across various developing country contexts further show how students manage the tension between traditional cultural values and modern educational demands while contending with linguistic transitions and resource constraints. Yet, much of this research emphasizes access and retention, with less attention to educational quality as perceived by students themselves.

Parent and teacher perspectives in secondary education

Research on family engagement shows strong positive relationships between different forms of parental involvement and student academic outcomes across diverse educational settings (Hill & Tyson, 2009). However, the nature and effectiveness of parental involvement shift significantly during the secondary school years, as students gain greater autonomy and academic demands become more specialized and complex (Hill & Chao, 2009; Zuilkowski et al., 2018).

In developing country contexts, parental involvement is further constrained by disparities in educational background, language barriers, and economic pressures. Research from Kenya shows that parents with limited formal education often struggle to support children in secondary school subjects taught in English (Piper & Miksic, 2011). Similarly, studies in Bangladesh highlight how economic pressures compel families to balance long-term educational aspirations with immediate survival needs (Ahmed et al., 2005).

Teacher perspectives offer essential insights into how educational policies, resource allocations, and institutional structures translate into everyday classroom realities. Research on secondary education highlights persistent challenges faced by teachers, including large class

sizes, limited resources, insufficient professional development opportunities, and the constant pressure to prepare students for high-stakes examinations (Avalos, 2011; Priestley et al., 2015).

In developing countries, teachers face additional challenges stemming from inadequate infrastructure, policy instability, restricted technology integration (Morudu, 2025), and limited career advancement opportunities (Molise, 2021), all of which affect motivation and retention (Evers & Kneyber, 2015; Welmond, 2002). Research from Ghana illustrates how teachers adapt pedagogical practices to resource-constrained settings (Opoku-Amankwa et al., 2011), while studies from India document innovative strategies developed to address the complexities of multilingual classrooms (Annamalai, 2004).

Teacher perspectives also reveal innovative practices, contextual knowledge, and adaptive strategies that can inform educational improvement efforts (Guthrie, 2018). Yet, research focusing specifically on teachers' views of student experiences remains limited, particularly in developing countries, representing a significant gap given teachers' unique position to observe how students navigate challenges and grow within their educational contexts (Probyn, 2019).

Secondary education in developing contexts: The case of Morocco

Secondary education in developing countries faces distinct challenges, including complex language transitions, limited post-secondary opportunities, and reliance on high-stakes examination systems (Lewin, 2009; World Bank, 2018). Yet, much of the educational research in these contexts has concentrated on access and retention, with comparatively little attention to educational quality as experienced by different stakeholder groups (Tikly, 2011; UNESCO, 2021).

Morocco's educational system has undergone substantial transformation since independence in 1956 through successive reform initiatives aimed at improving access, quality, and relevance. Major efforts include the National Charter of Education and Training (1999–2009), the Emergency Plan (2009–2012), the Education Action Plan (2013–2016), and the Strategic Vision for Education Reform (2015–2030) (Idrissi et al., 2021; Mansouri & Moumine, 2017; Morchid, 2020). Despite sustained policy attention and significant financial investment averaging more than 5% of GDP annually, Morocco continues to face persistent challenges in educational achievement, as reflected in international assessments that consistently place student outcomes below both regional and global benchmarks (Martin & Mullis, 2013; Mullis et al., 2023; Saoudi et al., 2020).

The high school stage in Morocco holds particular importance due to several interconnected factors. The baccalaureate examination system functions as the primary gateway to higher education and decisively shapes students' future trajectories, generating intense pressure for success (El Khayati et al., 2025). This system also requires students to navigate complex language transitions, particularly the shift from Arabic to French in scientific subjects, which adds significant cognitive and linguistic demands (Morchid, 2020). Moreover, the concentration of post-secondary opportunities in urban centers heightens the stakes of

baccalaureate performance while reinforcing geographic inequalities that disadvantage students from peripheral regions (Ibourk, 2013; Mansouri & Moumine, 2017).

Studies of Morocco's educational system have highlighted persistent challenges such as language policy implementation (Adoui, 2023), regional and socioeconomic disparities (Ibourk, 2013), and gender inequalities (Chentoufi et al., 2024). However, much of the existing research has concentrated on policy analysis or quantitative outcome measures, with relatively little empirical attention to how these policies and systems are experienced by stakeholders themselves. This gap is especially significant given Morocco's ongoing reform efforts and the need for evidence-based policymaking grounded in the lived experiences of students, families, and educators.

METHODOLOGY

Study design

We employed a case study approach to examine educational experiences across multiple stakeholder perspectives within the bounded system of urban public high schools in Southern Morocco. This methodological choice reflects a commitment to examining educational challenges as complex, contextually embedded phenomena that arise from dynamic interactions among individuals, institutions, and broader sociocultural systems.

The case study design allows for an in-depth examination of how educational policies, cultural values, and institutional structures are translated into the lived experiences of students, families, and educators within a specific geographic and cultural context. Our bounded system—urban public high schools in Laayoune—was strategically selected to illuminate broader educational dynamics in Morocco's peripheral regions while preserving the contextual specificity necessary for meaningful analysis.

Our multi-stakeholder design applies ecological systems theory and stakeholder theory by systematically integrating the perspectives of students, parents, and teachers as primary educational stakeholders. These groups represent distinct ecological levels within the educational system and provide complementary insights essential for understanding educational experiences. Students contribute microsystem-level perspectives on daily interactions, parents offer mesosystem insights that bridge home and school environments, and teachers provide institutional knowledge reflecting broader policy and structural influences.

This methodological approach positions our research to generate insights that extend beyond the specific case, informing understandings of secondary education in comparable developing country contexts while preserving the rich contextual detail necessary for meaningful policy and practice implications.

The study was conducted in urban public high schools in Southern Morocco, with a particular focus on participants connected to Club d'Excellence², a regional educational initiative

² Club d'Excellence is a regional educational initiative established by Phosboucraa Foundation (www.phosboucraafoundation.org/). This program provides extracurricular activities and academic support to enhance

that provides academic support and extracurricular activities aimed at enhancing high school students' personal and academic development.

Participants and sampling

We recruited 110 participants across three stakeholder groups using purposive sampling to capture diverse perspectives within each group while maintaining focus on information-rich cases capable of providing deep insights into educational experiences. This strategy prioritized participants who could contribute detailed, contextually grounded accounts of the phenomenon under investigation.

The student sample consisted of 77 high school students (25 male, 52 female; M age = 16.35, SD = 0.51) enrolled in science classes at urban high schools, including both first- and second-year baccalaureate students. The parent sample included 20 participants (14 male, six female; M age = 49.75, SD = 6.51), while the teacher sample comprised 13 participants (11 male, two female; M age = 44.08, SD = 10.33) with varying years of teaching experience and diverse subject specializations.

The study was conducted in Laayoune, the largest city in Morocco's southern regions, representing the urban context of this peripheral area of the country. As the regional educational hub for Morocco's southern provinces, Laayoune provides a representative case for examining urban educational experiences in peripheral regions.

Data collection procedures

Data collection proceeded in two sequential phases, moving systematically from exploratory qualitative insights to confirmatory quantitative patterns. Conducted between late 2022 and 2024, the process was extended due to significant disruptions caused by teacher strikes that affected school operations and participant availability. The study received formal approval from the local university's ethics committee, and all participants provided written informed consent after receiving detailed information about the study's purpose, procedures, potential risks and benefits, and participant rights. For student participants, parental consent was obtained in addition to student assent.

Phase 1: Qualitative focus group discussions

Focus group discussions were conducted separately with each stakeholder group to ensure contextually appropriate dialogue and to allow participants to speak freely about their experiences. Each session lasted approximately 90 minutes and was facilitated by two experienced researchers: one serving as the primary moderator using a semi-structured guide and the other taking detailed observational notes.

The focus group discussions examined specific themes related to educational challenges and experiences, structured within the ecological framework:

the personal and educational growth of high school students and support academic excellence in Morocco's southern regions. As a pilot project, it is being implemented in three high schools in Laayoune, Morocco, benefiting 113 students and 22 educators.

Student focus groups (n = 20; 14 girls, six boys) were organized around the central question: "What have been your main experiences during your learning journey, and how do you navigate the challenges you encounter?" Discussions addressed themes such as academic difficulties, examination stress, language-related challenges, career guidance needs, and requirements for psychological support. To ensure participants could express themselves comfortably, sessions were conducted in Arabic, French, and English.

Parent focus groups (n = 20; 14 male, six female) were guided by the central question: "What do you observe about your children's educational journey, and how do you support them?" Discussions explored themes such as family support strategies, educational aspirations, resource constraints, and geographic limitations. Sessions were conducted primarily in Arabic and French to accommodate parents' linguistic preferences.

Teacher focus groups (n = 13; 11 male, two female) were guided by the central question: "From your professional experience, what do you observe about your students' educational journey and classroom experiences?" Discussions addressed themes such as pedagogical challenges, resource limitations, curriculum concerns, and professional development needs. Sessions were conducted primarily in French and Arabic, reflecting the professional linguistic environment of Moroccan education.

Detailed written notes were taken by both researchers during the sessions and consolidated immediately afterward to ensure accuracy and completeness. This approach emphasized building participant trust and encouraging openness in sharing sensitive information about educational experiences.

Phase 2: Student survey development and administration

The student survey was developed directly from themes identified in the preliminary analysis of focus group data. The process involved analyzing recurring themes, creating survey items to capture both their presence and intensity, obtaining expert review from three educational professionals to assess content validity, clarity, and cultural appropriateness, and conducting pilot testing with a small group of students.

Inter-rater agreement among the expert reviewers was assessed using Fleiss' Kappa, which yielded $\kappa = 0.97$, indicating almost perfect agreement and providing strong evidence for the survey's content validity.

The final survey included both closed-ended questions to measure the specific themes identified in the focus groups and open-ended questions that allowed students to elaborate on their responses. It was administered in person to 77 students during dedicated sessions lasting approximately 20 minutes each. To ensure accessibility, the survey was conducted primarily in Arabic, with English and French terms included where necessary for academic concepts.

Data analysis

The data analysis strategy employed both within-case and cross-case analysis while ensuring triangulation across multiple data sources. Reliability measures included inter-rater reliability

for qualitative coding (Cohen's $\kappa = 0.89$), member checking with participants to verify accuracy, and maintaining an audit trail documenting all analytical decisions.

Within-case analysis followed Braun and Clarke's (2006) six-phase thematic analysis framework, adapted for case study research. The process began with data familiarization across all stakeholder groups within the bounded system. Initial coding systematically identified patterns within the single case of Laayoune high schools, with particular attention to how themes emerged across different ecological levels (microsystem, mesosystem, exosystem, macrosystem).

Cross-case pattern analysis involved examining convergent and divergent themes across the three stakeholder groups, treating each group as a sub-unit of analysis within the bounded system.

Ecological level analysis applied the ecological systems framework to examine how challenges emerged at different system levels and how these levels interacted within the specific context of Southern Morocco.

Quantitative component: Descriptive statistics from the student survey revealed quantitative patterns that complemented and triangulated the qualitative themes, emphasizing convergence across multiple data sources rather than full mixed-methods integration. The analysis preserved case study integrity by examining the bounded system in its entirety while drawing on multiple data sources to develop a comprehensive understanding of educational challenges within this specific context.

RESULTS

The case study analysis of urban public high schools in Southern Morocco reveals a complex bounded system in which educational challenges emerge across multiple ecological levels, producing interconnected experiences for students, families, and educators that reflect both common challenges in developing countries and context-specific factors unique to Morocco's southern regions.

Within-case analysis: The bounded system of Southern Morocco high schools

The case of urban public high schools in Laayoune represents a bounded system shaped by distinctive geographic, linguistic, and cultural factors that shape educational experiences. As the largest city in Morocco's southern region, Laayoune functions as the regional educational hub while remaining geographically distant from the country's main educational centers in the north. This positioning creates a distinct educational ecosystem in which students, parents, and teachers navigate challenges that reflect both the implementation of national policies and constraints specific to the region.

Within this bounded system, three primary ecological levels proved critical for understanding educational challenges: the microsystem of daily classroom interactions, the mesosystem of home-school connections, and the exosystem/macrosystem encompassing policy and cultural influences.

Cross-stakeholder convergent themes

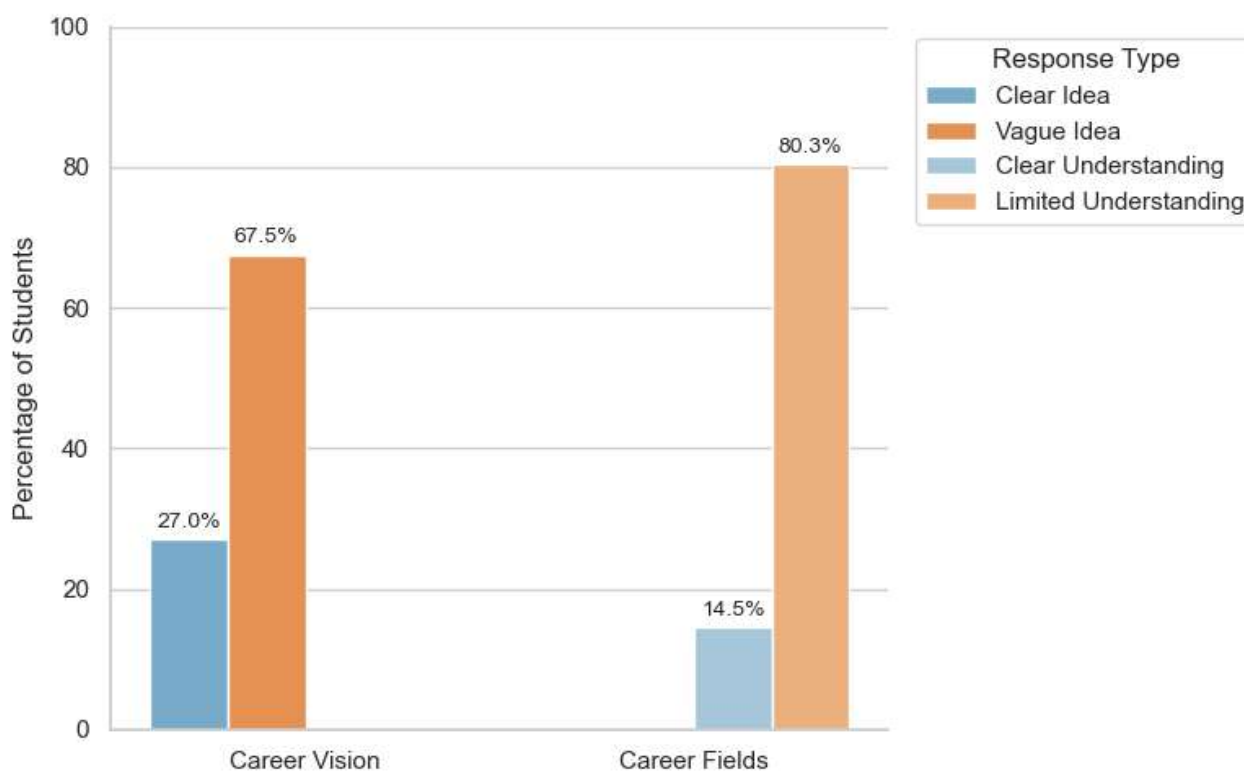
The Motivation-guidance paradox: A system-wide phenomenon

A striking pattern across all stakeholder groups revealed a fundamental disconnect between high student motivation and persistently inadequate guidance systems. This "motivation–guidance paradox" emerged as a defining characteristic of the Laayoune educational ecosystem.

As illustrated in Figure 1, students displayed exceptionally high commitment to academic success, with 98.7% reporting strong determination to pass the baccalaureate examination. Yet this motivation coexisted with significant uncertainty about future trajectories: only 27% had clear career visions, and just 14.5% understood available post-baccalaureate options, despite 75% expressing strong aspirations to pursue higher education.

Figure 1.

Clarity of Career Vision and Knowledge of Academic Pathways Among Students



This pattern was evident across all stakeholder groups. Parents expressed frustration with inadequate career guidance, noting, "I believe that career orientation is one of the biggest challenges. There is a lack of training and orientation days." Teachers similarly described guidance as a systemic shortcoming, stating, "Career orientation is a significant struggle for students due to the shortage of guidance counselors, making it difficult for them to find the right path." Such convergence highlights how exosystem-level policy gaps translate into microsystem-level student uncertainty and family stress.

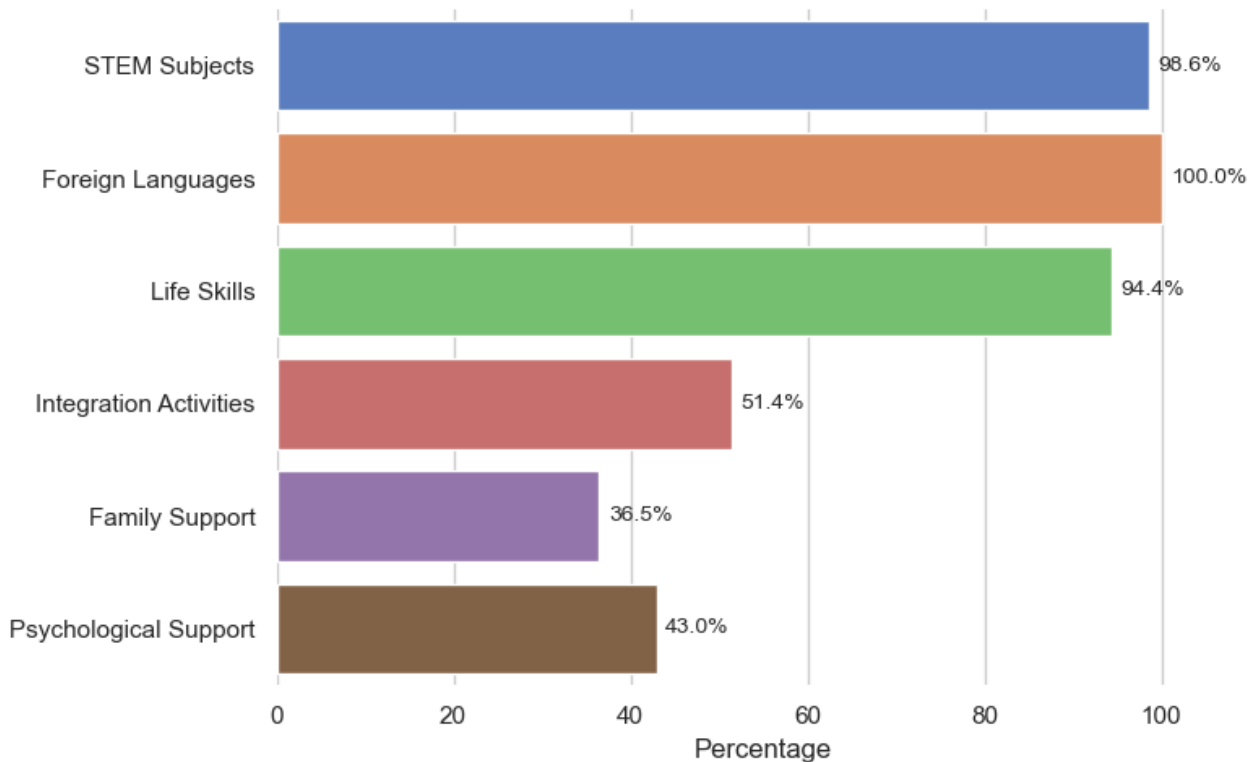
Universal support needs: Multi-domain system requirements

Within the bounded system, all stakeholder groups identified interconnected support needs spanning multiple domains, underscoring the systemic nature of educational challenges in this

context. As illustrated in Figure 2, students reported a universal need for language support (100%) and an almost universal need for assistance in scientific subjects (98.6%). They also emphasized the importance of psychological support (43%), life skills development (94.4%), and extracurricular activities (90.3%).

Figure 2

Student-Reported Needs for Academic and Personal Support



The linguistic challenge within this bounded system extends beyond academic difficulty, reflecting the broader demands of navigating Morocco's multilingual educational structure. As one student explained: "I am confident that I can take the exam without difficulties in memorization or revision. However, my main concern is the French language. I struggle to understand it, write texts, and construct sentences."

Parents recognized these academic struggles but felt inadequately equipped to provide meaningful support, especially in subjects requiring French proficiency or advanced scientific knowledge beyond their own educational backgrounds. Teachers corroborated these gaps, highlighting systemic constraints such as large class sizes, limited resources, and curriculum demands that left little opportunity to address individual learning needs.

Beyond academic needs, emotional well-being emerged as a critical concern across all stakeholder groups, reflecting the intense psychological pressure created by high-stakes examinations and family expectations. Students identified psychological support as essential (43%), with many expressing deep fears of disappointing families who had invested heavily in their education. As one student explained: "I feel afraid of disappointing my family by not being able to achieve a good grade, even though I study hard."

Parents shared detailed observations of their children's heightened stress, particularly during examination periods, while teachers noted the emotional toll academic pressure placed on student performance and classroom behavior. This convergence across stakeholder groups illustrates how individual needs at the microsystem level reflect broader cultural and academic pressures operating at the macrosystem level.

Ecological level analysis within the bounded system

Microsystem level: Daily classroom interactions

Within individual classrooms in the Laayoune system, students navigate complex linguistic transitions while managing intense academic pressure. Teachers described systemic pedagogical constraints noting: "Some of the challenges we are currently facing in the classroom include the absence of practical sessions for students to apply what they have learned, as well as a lack of essential resources and materials."

The microsystem is characterized by overcrowded classrooms, limited resources, and demanding curricula that hinder individualized support, even in the presence of strong student motivation.

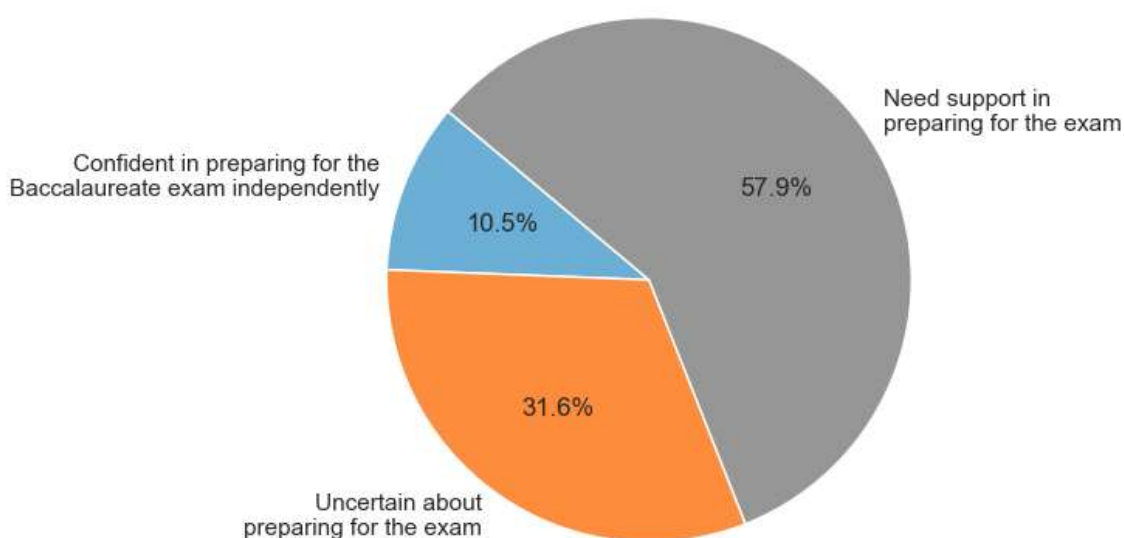
Mesosystem level: Home-school connections

The mesosystem in this bounded system is defined by the complex linguistic and cultural bridges families must build between Arabic-speaking home environments and French-medium academic instruction. Parents reported feeling insufficiently equipped to provide meaningful support, especially in subjects requiring French proficiency or advanced scientific knowledge beyond their own educational backgrounds.

Only 10.5% of students reported feeling confident about preparing independently for the baccalaureate examination, while 57.9% expressed uncertainty regarding their ability to prepare effectively.

Figure 3.

Student Confidence in Preparing for the Baccalaureate Exam



As illustrated in Figure 3, this lack of confidence in independent preparation reflects the complex challenges students encounter in meeting the academic demands of the baccalaureate system while contending with limited support resources at both home and school levels.

Exosystem/macrosystem level: Policy and cultural influences

At the broader system level, geographic constraints unique to Southern Morocco create additional barriers. Parents reported that the limited availability of specialized academic programs and universities often forced families to consider long-distance separation to pursue educational opportunities. In addition, teacher strikes and policy instability generated system-wide disruptions that cascaded down to the classroom level, further complicating students' educational experiences.

The cultural macrosystem generates both motivation and pressure through expectations of family honor, with academic achievement serving simultaneously as a marker of individual aspiration and a source of family validation.

DISCUSSION

This multi-stakeholder case study of high school educational experiences in Southern Morocco provides critical insights into how students, parents, and teachers navigate the complex realities of secondary education in a developing country context. The findings highlight several key contributions to educational research and policy: the empirical validation of ecological interconnectedness in shaping educational experiences, evidence of strong stakeholder agency operating within significant systemic constraints, and the identification of concrete intervention points for improving educational outcomes.

The findings offer strong empirical support for ecological systems theory by showing how macrosystem-level policy gaps cascade through exosystem factors to produce microsystem-level confusion, stress, and inefficiency for students and families. This case study thus provides concrete evidence for Bronfenbrenner's (1979) theoretical prediction that developmental outcomes arise from dynamic interactions across ecological levels.

The findings show that stakeholder agency operates actively within ecological constraints rather than being wholly determined by them, supporting Rosa and Tudge's (2013) emphasis on the bidirectional nature of ecological interactions. Students displayed resilience and self-direction, parents developed sophisticated support strategies despite limited resources, and teachers adapted pedagogical practices creatively within substantial institutional constraints. This extends ecological systems theory by demonstrating, through a bounded case study, that individuals and families retain significant capacity for adaptation and innovation even in challenging circumstances.

From a stakeholder theory perspective, the case study supports Freeman et al.'s (2010) argument that understanding complex systems requires incorporating multiple stakeholder perspectives, while also providing detailed empirical evidence of how these perspectives

converge in meaningful ways and diverge to highlight distinct experiences and roles within educational systems.

These findings align with and extend previous research in similar developing country contexts. The motivation–guidance paradox mirrors results from Kenya (Zuilkowski et al., 2018) and South Africa (Probyn, 2019), suggesting it is a widespread challenge in secondary education across developing countries. However, the linguistic challenges identified in this study (with 100% of students reporting a need for French support) appear more acute than those documented in other multilingual settings, likely reflecting Morocco's unique multilingual system and the specific demands of French-medium scientific instruction. Likewise, while teacher resource constraints echo findings from Ghana (Opoku-Amankwa et al., 2011) and Bangladesh (Ahmed et al., 2005), the combined effects of overcrowding, material shortages, and curriculum misalignment observed here suggest distinctive systemic challenges in Morocco's peripheral regions that require targeted policy attention.

The findings challenge several prominent assumptions in the educational development literature. First, the exceptionally high levels of student motivation (98.7%) contradict deficit narratives that portray students in developing countries as lacking academic commitment. At the same time, the results extend this literature by showing how strong motivation without adequate guidance systems produces new forms of educational inequality, as highly capable students work diligently toward goals they do not fully understand. The coexistence of commitment and intense fear of disappointing one's family underscores how deeply embedded obligations of family honor shape educational experiences, generating both powerful motivation and significant psychological pressure. This pattern suggests that academic achievement serves simultaneously as an individual aspiration and a family responsibility, with success validating parental sacrifice and sustaining family standing within community networks.

Second, the types of support needs consistently identified across all stakeholder groups challenge the narrow, single-focus interventions often implemented in developing country educational contexts. The interconnected academic, emotional, linguistic, and guidance needs revealed through detailed stakeholder perspectives suggest that effective educational improvement requires holistic, coordinated approaches that address multiple domains simultaneously. The universal struggle with French language instruction (100% of students requiring support) exemplifies this complexity, representing not just an academic difficulty but also the challenge of navigating Morocco's multilingual educational landscape. In this context, students must master French to access higher education and professional opportunities while preserving their Arabic cultural and linguistic identity, creating layered cognitive, cultural, and identity challenges.

Third, the geographic constraints consistently identified by parents highlight how place-based factors create additional layers of educational inequality in developing countries, often overlooked in policy discussions centered on national-level indicators. While rural–urban educational disparities are well documented in the literature, findings from this bounded case

show that even urban areas in peripheral regions face systemic constraints that shape educational opportunities, family decision-making, and resource allocation.

Stakeholder perspectives from this case study identify several intervention points for improving educational experiences while building on existing strengths. The motivation–guidance paradox suggests that career counseling programs could harness students’ strong motivation while addressing the information gaps that currently limit effective decision-making. Such programs should engage all stakeholder groups systematically by providing students with clear information about educational pathways and career options, equipping parents with resources to support informed choices, and training teachers to integrate career guidance into everyday pedagogical practice.

The identification of interconnected support needs underscores the importance of integrated systems that address multiple domains simultaneously. The universal demand for language support (100%) and the near-universal need for assistance in scientific subjects (98.6%) indicate that academic support programs must prioritize these areas while also acknowledging their close connection to emotional well-being, family support, and career planning. The fact that 43% of students identified psychological support as essential suggests that mental health services should be embedded within academic support structures rather than treated as separate interventions.

Teacher perspectives on resource constraints, professional development needs, and institutional limitations underscore the importance of systemic approaches that build institutional capacity alongside providing individual support. Teachers’ observations of overcrowded classrooms, inadequate materials, and disconnected curriculum content suggest that effective educational improvement requires addressing structural barriers that constrain teacher effectiveness, rather than merely training teachers to adapt within existing limitations. Several important limitations affect the interpretation and generalizability of these findings. The purposive sampling strategy centered on Club d'Excellence participants likely overrepresents stakeholders who are more motivated, engaged, and resourced than the general population. The focus on urban schools and science-track students also limits understanding of educational experiences in rural contexts and among students in humanities tracks. Future research should address these limitations through targeted investigations, including: (1) longitudinal tracking of baccalaureate cohorts over three years to examine how challenges and support needs evolve from first year to graduation; (2) comparative case studies across Morocco’s diverse regions (northern cities, rural Atlas communities, and Saharan provinces) to distinguish region-specific from universal challenges; including more diverse student populations, particularly students with varying levels of academic performance and students with learning disabilities (Benmarrakchi et al., 2017); (3) randomized controlled trials testing the effectiveness of integrated career guidance programs for students, as well as training programs in career counseling to support parents in guiding their children’s career choices and strengthening school counseling units (Idowu et al., 2020); (4) ethnographic studies documenting teacher

adaptation strategies and innovative pedagogical practices in resource-constrained settings; and (5) studies focusing on humanities-track students to assess whether linguistic and career challenges differ from those of science students.

Additionally, research should extend to academic tracks beyond science programs and incorporate stakeholder groups such as school administrators, policymakers, and community leaders. Comparative case studies across Morocco's diverse regions, as well as in similar developing country contexts, would help distinguish between universal challenges and those shaped by context-specific factors.

This case study demonstrates the value of centering stakeholder voices in assessing educational quality and identifying realistic, culturally appropriate opportunities for improvement that build on existing strengths rather than imposing external solutions. The exceptionally high levels of student motivation and agency challenge deficit narratives common in educational development discourse, while highlighting the critical need for systems capable of channeling this motivation into meaningful opportunities for growth and achievement. By positioning stakeholder experiences as legitimate sources of knowledge about educational effectiveness, educational research and policy can advance more responsive, culturally grounded, and practically effective approaches to supporting educational aspirations in Morocco and similar contexts worldwide.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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REFERENCES

- Adoui, A. (2023). Language and Identity in Multilingual Societies: Exploring the Role of Language Policies in the Contexts of Morocco and the United States. *Lingua. Language and Culture*, 22(2), 58-78.
- Ahmed, M., Nath, S. R., Hossain, A., & Kalam, M. A. (2005). Quality with equity: The primary education agenda. *Campaign for Popular Education (CAMPE)*.
- Annamalai, E. (2004). Medium of power: The question of English in education in India. In J. W. Tollefson & A. B. M. Tsui (Eds.), *Medium of instruction policies: Which agenda? Whose agenda?* (pp. 177-194). Lawrence Erlbaum Associates.
- Ashiabi, G. S., & O'Neal, K. K. (2015). Child social development in context: An examination of some propositions in Bronfenbrenner's bioecological theory. *SAGE Open*, 5(2), 1-14. <https://doi.org/10.1177/2158244015590840>

- Avalos, B. (2011). Teacher professional development in Teaching and Teacher Education over ten years. *Teaching and Teacher Education*, 27(1), 10-20. <https://doi.org/10.1016/j.tate.2010.08.007>
- Bajaj, M. (2018). Conceptualizing transformative agency in education for peace, human rights, and social justice. *International Journal of Human Rights Education*, 2(1), 1-22.
- Benmarrakchi, F., El Kafi, J., Elhore, A., & Haie, S. (2017). Exploring the use of the ICT in supporting dyslexic students' preferred learning styles: A preliminary evaluation. *Education and Information Technologies*, 22, 2939-2957. <https://doi.org/10.1007/s10639-016-9551-4>
- Bragg, S. (2007). "Student voice" and governmentality: The production of enterprising subjects? *Discourse: Studies in the Cultural Politics of Education*, 28(3), 343-358. <https://doi.org/10.1080/01596300701458905>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Bronfenbrenner, U. (1994). Ecological models of human development. *International encyclopedia of education*, 3(2), 37-43.
- Chentoufi, M. A., Alla, A. A., & Mamdouh, N. (2024). Impact of Gender Inequalities on Education in Morocco: An Economic Analysis of Barriers and Opportunities. *International Journal of Civilizations Studies & Tolerance Sciences*, 1(1), 18-27. <https://doi.org/10.54878/haemsz87>
- Chimombo, J. (2005). Issues in basic education in developing countries: An exploration of policy options for improved delivery. *Journal of International Cooperation in Education*, 8(1), 129-152.
- Cook-Sather, A. (2006). Sound, presence, and power: "Student voice" in educational research and reform. *Curriculum Inquiry*, 36(4), 359-390. <https://doi.org/10.1111/j.1467-873X.2006.00363.x>
- Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence*, 21(1), 225-241. <https://doi.org/10.1111/j.1532-7795.2010.00725.x>
- Efendi N. (2022). Implementation of Total Quality Management and Curriculum on the Education Quality. *Journal of Social Studies Education Research*, 13 (3),120 – 149. <https://jsser.org/index.php/jsser/article/view/4340/579>
- El Khayati, M., Courr, A., Kich, I., & Hibbi, F.-Z. (2025). Integrating Artificial Intelligence into High-School Computer Science Curriculum: A Perspective Study in Morocco. *Journal of Curriculum Studies Research*, 7(1), 26-46. <https://doi.org/10.46303/jcsr.2025.2>

- Erling, E. J., Adinolfi, L., & Hultgren, A. K. (2017). *Multilingual classrooms: Opportunities and challenges for English medium instruction in low and middle income contexts*. Education Development Trust.
- Evers, J., & Kneyber, R. (Eds.). (2015). *Flip the system: Changing education from the ground up*. Routledge.
- Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). *Stakeholder theory: The state of the art*. Cambridge University Press.
- Guthrie, G. (2018). *Classroom change in developing countries: From progressive cage to formalistic frame*. Routledge.
- Hill, N. E., & Chao, R. K. (2009). *Families, schools, and the adolescent: Connecting research, policy, and practice*. Teachers College Press.
- Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology*, 45(3), 740-763. <https://doi.org/10.1037/a0015362>
- Ibourk, A. (2013). Determinants of educational achievement in Morocco: A micro-econometric analysis applied to the PIRLS study. *Regional and Sectoral Economic Studies*, 13(2), 179-190.
- Idowu, S., Ifedayo, T., & Idowu, E. (2020). Assessing the Career Conflict Options of Senior Secondary School Students of Ado-Odo Ota Local Government, Ogun State, Nigeria. *Research in Social Sciences and Technology*, 5(3), 55-77. <https://doi.org/10.46303/ressat.05.03.3>
- Idrissi, H., Engel, L. C., & Benabderrazik, Y. (2021). New visions for citizen formation: An analysis of citizenship education policy in Morocco. *Education, Citizenship and Social Justice*, 16(1), 31–48. <https://doi.org/10.1177/1746197919886279>
- Lewin, K. M. (2009). Access to education in sub-Saharan Africa: Patterns, problems and possibilities. *Comparative Education*, 45(2), 151-174. <https://doi.org/10.1080/03050060902920518>
- Makuvire, C., Mufanechiya, A., & Dube, B. (2023). Unpacking Continuous Assessment: Teacher Knowledge and Attitudes in Zimbabwe Rural Secondary Schools. *Research in Educational Policy and Management*, 5(2), 207-225. <https://doi.org/10.46303/repam.2023.17>
- Mansouri, Z., & Moumine, M. E. A. (2017). Outlook on Student Retention in Higher Education University Reforms in Morocco. *International Journal of Education and Literacy Studies*, 5(2), 53–60. <https://doi.org/10.7575/aiac.ijels.v.5n.2p.53>
- Martin, M. O., & Mullis, I. V. S. (2013). *TIMSS and PIRLS 2011: Relationships among reading, mathematics, and science achievement at the fourth grade—Implications for early learning*. TIMSS & PIRLS International Study Center, Boston College. https://timssandpirls.bc.edu/timsspirls2011/downloads/TP11_Relationship_Report.pdf

- Mitra, D. L. (2004). The significance of students: Can increasing "student voice" in schools lead to gains in youth development? *Teachers College Record*, 106(4), 651-688. <https://doi.org/10.1111/j.1467-9620.2004.00354.x>
- Molise, H. (2021). Pathways to Mitigate Challenges of Learner Academic Performance in a Grade 10 Economics Class in South Africa. *Research in Social Sciences and Technology*, 6(1), 83-101. <https://doi.org/10.46303/ressat.2021.5>
- Morchid, N. (2020). Investigating quality education in Moroccan educational reforms from 1999 to 2019. *Journal of Research & Method in Education*, 10(1), 54-61.
- Morudu, K. (2025). Investigating Teachers' Integration of Technology in Automotive: A Case in Technical Schools. *Research in Social Sciences and Technology*, 10(1), 426-441. <https://doi.org/10.46303/ressat.2025.23>
- Mullis, I. V. S., Martin, M. O., Foy, P., Kelly, D. L., & Fishbein, B. (2023). *TIMSS 2019 international results in mathematics and science*. TIMSS & PIRLS International Study Center, Boston College. <https://www.iea.nl/sites/default/files/2020-12/TIMSS-2019-International-Results-in-Mathematics-and-Science.pdf>
- Neal, J. W., & Neal, Z. P. (2013). Nested or networked? Future directions for ecological systems theory. *Social Development*, 22(4), 722-737. <https://doi.org/10.1111/sode.12018>
- Odhiambo, G., & Hii, A. (2012). Key stakeholders' perceptions of effective school leadership. *Educational Management Administration & Leadership*, 40(2), 232-247. <https://doi.org/10.1177/1741143211432412>
- Opoku-Amankwa, K., Edu-Buandoh, D. F., & Brew-Hammond, A. (2011). Publishing in advocacy of multilingual education: Insights from Ghana. *Language and Education*, 25(6), 481-493.
- Piper, B., & Miksic, E. (2011). Mother tongue and reading: Using early reading assessments to investigate language-of-instruction policy in East Africa. In A. Gove & A. Wetterberg (Eds.), *The early grade reading assessment: Applications and interventions to improve basic literacy* (pp. 139-182). RTI Press.
- Priestley, M., Biesta, G., & Robinson, S. (2015). *Teacher agency: An ecological approach*. Bloomsbury Academic.
- Probyn, M. (2019). Pedagogical translanguaging and the construction of science knowledge in a multilingual South African classroom: Challenging monoglossic/post-colonial orthodoxies. *Classroom Discourse*, 10(3-4), 216-236. <https://doi.org/10.1080/19463014.2019.1628792>
- Pule, K. (2023). Probing Learners' Attributes That Facilitate Effective Mathematics Teaching and Learning at the Rural Secondary School Level. *Journal of Culture and Values in Education*, 6(3), 213-227. <https://doi.org/10.46303/jcve.2023.29>
- Rosa, E. M., & Tudge, J. (2013). Urie Bronfenbrenner's theory of human development: Its evolution from ecology to bioecology. *Journal of Family Theory & Review*, 5(4), 243-258. <https://doi.org/10.1111/jftr.12022>

- Saoudi, K., Chroqui, R., & Okar, C. (2020). Student Achievement in Moroccan Student Achievement in Moroccan Educational Reforms: A Significant Gap Between Aspired Outcomes and Current Practices. *Interchange*, 51(2), 117–136.
<https://doi.org/10.1007/s10780-019-09380-2>
- Sharma, U., & Loreman, T. (2013). Teacher educator perspectives on systemic barriers to inclusive education: An international conversation. In J. Fox, C. Alexander, & T. Aspland (Eds.), *Bringing Insider Perspectives into Inclusive Teacher Learning* (pp. 168-177). Routledge.
- Tikly, L. (2011). Towards a framework for researching the quality of education in low-income countries. *Comparative Education*, 47(1), 1-23.
<https://doi.org/10.1080/03050068.2011.541671>
- Trudell, B. (2007). Local community perspectives and language of education in sub-Saharan Africa. *International Journal of Educational Development*, 27(5), 552-563.
- UNESCO. (2021). *Global education monitoring report 2021/2: Non-state actors in education: Who chooses? Who loses?*
 UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000379875>
- Welmond, M. (2002). Globalization viewed from the periphery: The dynamics of teacher identity in the Republic of Benin. *Comparative Education Review*, 46(1), 37-65. <https://www.journals.uchicago.edu/doi/10.1086/324049>
- World Bank. (2018). *World development report 2018: Learning to realize education's promise*. World Bank. <https://www.worldbank.org/en/publication/wdr2018>
- Zuilkowski, S. S., Piper, B., Ong'ele, S., & Kiminza, O. (2018). Parents, quality, and school choice: Why parents in Nairobi choose low-cost private schools over public schools in Kenya's free primary education era. *Oxford Review of Education*, 44(2), 258-274. <https://doi.org/10.1080/03054985.2017.1391084>

APPENDIX

Appendix A: Student Survey

1- (a) How would you describe your level of interest in continuing your studies (after the baccalaureate) at a university?

- No interest at all
- Some interest but not sure
- It would be my greatest dream

(b) Explain:

2- How clear is your idea today about the different fields for post-baccalaureate studies (fields/majors)?

- No idea
- Some idea
- Very clear idea

3- (a) How clear is your idea today about the type of career you wish to pursue after your studies?

- No idea
- Some idea of the career I want
- I know exactly what I would like to do

(b) Explain (Open-ended question)

4- How clear is your idea today about the specific subjects that will best prepare you for this career?

- No idea
- Some idea
- Very clear idea

(5) (a) What kind of additional support do you think you need to continue your studies at the university level, beyond the support you have today? (Answer 'no/maybe/yes' to each one)

(Multiple choice)

• (i) Additional academic support (foreign languages and support in some specific subjects such as Math, physics ...)

• (ii) Additional family support

• (iii) Orientation support at the university ("integration days", etc.)

• (iv) Other kinds of support?

(b) Explain (Open-ended question)

6-(a) How would you describe your level of motivation to take the baccalaureate exam?

- Definitely not taking it
- Maybe taking it
- Definitely will take it

(b) Explain (Open-ended question)

7- How do you feel about passing the baccalaureate exam this year? Could you share the challenges you encountered while preparing for the baccalaureate exam? (Open-ended question)

8- (a) What are your biggest fears for the day of the baccalaureate exam? (Multiple choice)

- I don't have any.
- Fail the exam.
- Get a lower / bad grade that will not allow me to enter a high qualified university/school.
- Panic / Mental block on the day of the exam
- Disappoint my family / my teachers

(b) Explain (Open-ended question)

9- (a) Do you think that you can prepare for the baccalaureate exam by yourself, or do you think that you need additional support?

- Yes, I can do it by myself.
- Maybe I need support

- Definitely I need support

(b) If you think that you need support, please explain what kind you think will be most useful to you (Open-ended question)

10- (a) Please, select from the following list tools or devices that you would be interested to try during the preparation for the baccalaureate exam or for the day of the exam (Multiple answers possible)

- Text-to-speech software (tools that can read aloud anything on the screen)
- Translation tools (e.g., google translate)
- Proofreading software or tools to check spelling and Grammar / word prediction software (e.g., Microsoft spelling and grammar checker, Grammarly)
- Readability extensions: tools that allow readers to customize text to be more readable (e.g., adjust font size or spacing, font type contract)

(b) Please tell us how you would consider using these tools to help you succeed in your studies. Explain: (Open-ended question)

11- How interested would you be in the following kinds of support: (Multiple choice)

- (a) More information about universities, colleges, and higher education schools
- (b) More support in academic subjects
- (c) More support in area of languages (French, English, Arabic)
- (d) More support in 'life skills' (communication, time management, studying well)
- (e) More opportunities to develop my extracurricular interests (art, music, sports, technology...)
- (f) More financial and equipment support

Demographic questions

- Age:
- Gender:
- Educational level: (1st year baccalaureate/ 2nd year baccalaureate)

APPENDIX B: Semi-structured focus group guides

Student focus group guide (90 minutes)

"Tell us about a significant challenge you've faced in school."

"What kind of support do you need that you're not getting now?"

Parent Focus Group Guide (90 minutes)

"How are you involved in your child's education?"

"What challenges do you face as a parent supporting their schooling?"

Teacher Focus Group Guide (45 minutes)

"Describe your teaching experience with these students."

"What are the main challenges you observe your students facing?"

"What support do you need to better help your students succeed?"

Note: These semi-structured guides allowed for follow-up probes and natural conversation flow while ensuring consistent coverage of key themes across all focus group sessions.