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Embracing Diversity, New Trends and Opportunities

Edited by Elsa Justino and Inês Casquilho-Martins

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Education and Human Development is an interdisciplinary research area that aims to shed light on topics related to both learning and development. This Series is intended for researchers, practitioners, and students who are interested in understanding more about these fields and their applications.

Meet the Series Editor

Katherine Meltzoff received her BA in Psychology from Trinity College, in Connecticut, USA and her Ph.D. in Experimental Psychology from the University of California, San Diego. She completed her postdoctoral work at the Yale Child Study Center with Dr. James McPartland. Dr. Meltzoff' doctoral dissertation explored neural correlates of reward anticipation to social versus nonsocial stimuli in children with and without autism spectrum disorders (ASD). She has been a faculty member at the University of California, Riverside in the School of Education since 2016. Her research focuses on translational studies to explore the reward system in ASD, as well as how anxiety contributes to social challenges in ASD. She also investigates how behavioral interventions affect neural activity, behavior, and school performance in children with ASD. She is also involved in the diagnosis of children with ASD and is a licensed clinical psychologist in California. She is the Assistant Director of the SEARCH Center at UCR and is a faculty member in the Graduate Program in Neuroscience.

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Elsa Justino holds a Ph.D., an MSc and a degree in Social Work. She's an Assistant Professor at the Iscte-University Institute of Lisbon (ISCTE-IUL) and a researcher at the CIES-Iscte. Among other leading positions, she was a University Administrator at the University of Trás-os-Montes and Alto Douro (UTAD) and a Manager of the University Social Services, Head of Office of the Secretary of State for Employment and Vocational Training, Deputy Director of the Directorate General for Higher Education and Vice-President of the Student Support Fund. From 2016 to 2022, she was an Invited Professor at the University of Trás-os-Montes e Alto Douro (UTAD). In 2022, she was appointed as Co-Coordinator of the High-Level Independent Panel for selecting and monitoring the National Programme for Higher Education Accommodation.

Inês Casquilho-Martins is a social worker with an MSc and Ph.D. in Social Work. She is an Assistant Professor at Iscte-University Institute of Lisbon and a researcher at the Center for Research and Studies in Sociology at Iscte-University Institute of Lisbon (CIES-Iscte) and at the Lusíada Research Center on Social Work and Social Intervention (CLISSIS) - Lusíada University. She was an Assistant Professor at ISSSL - Universidade Lusíada, where she coordinated the master's in Social Work and the research line "Teaching and Training in Social Work" at CLISSIS. In 2019, she received the Silva Leal Prize for her doctoral thesis in Social Work, "Models of social protection in societies with austerity programs".

Contents

Preface

Access to higher education is widely recognized as a crucial driver of socio-economic development, fostering social mobility and contributing to sustainable growth. However, significant inequalities in access and retention persist across different regions of the world, particularly affecting historically marginalized populations. This book, *Scholarship Models around the Globe – Embracing Diversity, New Trends and Opportunities*, explores diverse scholarship and academic funding models across various geographical and social contexts, shedding light on the dynamics of inclusion, the challenges faced by scholarship recipients, and emerging opportunities. Bringing together contributions from researchers from different backgrounds, the book offers a comparative and multifaceted perspective on the complexities of higher education funding.

By presenting a diverse range of case studies, this volume enables an in-depth comparison of different experiences and their effects on students' academic and professional trajectories. This approach allows for a nuanced understanding of the factors contributing to successful scholarship programmes and those requiring further refinement to ensure greater equity and effectiveness.

In Chapter 1, Evans Ntshengedzeni Netshivhambe examines the South African context, focusing on the enduring structural inequalities rooted in the legacy of apartheid. Despite significant efforts by the post-1994 democratic government to expand access to higher education—most notably through the National Student Financial Aid Scheme (NSFAS)—graduates who benefited from these programmes still encounter barriers to employment. Factors such as slow economic growth, a strong preference for STEM fields, and the financial burden known as "black tax" all contribute to these challenges.

In Chapter 2, Victor Carlos Salazar Condo, Gonzalo Sanz-Magallon Rezusta, and María del Carmen García Centeno analyze the impact of the Beca 18 programme in Peru. Their study explores the economic returns of higher education and identifies key factors influencing scholarship recipients' dropout rates. Elements such as gender, geographic location, economic activity, and the type of university play a decisive role in shaping students' academic and professional outcomes. The chapter also underscores the importance of ensuring high-quality education and the relevance of academic programmes to improve graduate employability.

Chapter 3, written by Gustavo Enríquez and Adelina Arredondo, investigates how gifted students were addressed in Mexico's educational policy agenda between 1980 and 2006. The authors trace the evolution of gifted education within the country's special education policies, highlighting the lack of a cohesive strategy for identifying and supporting gifted learners. They argue that the absence of a unified framework has hindered the effective inclusion of these students in the educational system, focusing on formal definitions instead of a broad and comprehensive analysis of specific contexts for skill development.

In Chapter 4, Huseyin Tutar examines Turkey's approach to scholarships for international students. The tradition of sending students abroad for education dates back to the 19th century during the Ottoman Empire, when scholars were dispatched to acquire knowledge and technological expertise. This practice continued with the establishment of the Republic and was formalized under Law No. 1416, which remains in force today. More recently, the Türkiye Scholarships programme has expanded Turkey's role as a global destination for higher education. However, while these scholarships provide valuable opportunities, they also place significant responsibilities on students, which the chapter explores in detail.

Chapter 5, by Sam Ramaila, looks at strategies for fostering inclusion in African scholarship programmes. The continent's rich linguistic, cultural, and historical diversity presents unique challenges for achieving equitable access to higher education. The chapter examines barriers such as gender disparities, socio-economic constraints, and geographic inequalities while highlighting successful initiatives promoting educational inclusion. Based on these case studies, the author presents key policy recommendations to create more equitable funding models through collaboration between governments, non-governmental organizations, and international partners.

Finally, in Chapter 6, Diosnel Centurión explores the relationship between human development and education in the digital age. Drawing on Paulo Freire's pedagogical theories, the author argues that education serves as a tool for empowerment and social transformation. The chapter discusses the potential of digital technologies to enhance personalized learning and promote greater educational inclusion. However, it also addresses the risks associated with digital inequalities, over-reliance on technology, and cybersecurity threats, emphasizing the need for fair integration to benefit learners and avoid inequality.

This book engages in critical debates on education policy and equity in higher education access through a comparative lens, offering valuable insights for researchers, policymakers, and practitioners. Ultimately, it seeks to deepen understanding of how scholarship models can drive inclusion, social mobility, and sustainable development. By examining both successes and ongoing challenges, it serves as an essential resource for those dedicated to creating more equitable and effective higher education policies.

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Chapter 1

Post-Apartheid Inequalities and the Impact of Funding on Graduate Employability

Ntshengedzeni Evans Netshivhambe

Abstract

This study examines the challenges faced by marginalised populations in accessing and benefiting from higher education funding models in South Africa. It explores how student loan schemes and income-contingent loans, while intended to improve access, often reinforce post-apartheid inequalities by burdening graduates with debt and limiting employment opportunities. The study also evaluates the effectiveness of the South African government's 2018 transition to a fully subsidised funding model in addressing these disparities. Despite increased financial support through initiatives such as the National Student Financial Aid Scheme (NSFAS), barriers to employment and salary expectations remain significant socio-economic challenges. This research employs a qualitative approach, utilising secondary sources, including existing literature, government reports, and archival materials. The findings reveal that while funding programmes have improved access to higher education for marginalised communities, graduates continue to experience declining job absorption rates and persistent inequalities, particularly among women and African graduates. The study concludes that financial and socio-economic challenges perpetuate cycles of inequality, underscoring the need for comprehensive policies that extend beyond funding access to ensure equitable employment opportunities and long-term socio-economic transformation.

Keywords: marginalised populations, systemic inequalities, post-apartheid inequalities, graduate employment, socio-economic challenges, higher education funding

1. Introduction

The injustices caused by the apartheid regime in South Africa did not only affect the sociological, physical, and mental lives of black people, but their means of making a living were relegated to labouring through hard work as uneducated people who at most became mineworkers, gardeners, domestic workers, and garbage collectors [1–4]. These types of jobs were justifiable, because the black labour force constituted intentionally uneducated people. When South Africa took over the political reins from the apartheid government in 1994, commissions of reconciliation were

established to bring the white and black people together, in an effort to foster forgiveness, thereby laying the foundation for a new democratic country, this was an important but no means critical task of the first democratic government (which at the time was led by the African National Congress (ANC)) [5]. A higher priority of the newly elected democratic government was to address poverty alleviation, inequality, and access to education for the previously disadvantaged, as a matter of urgency [6]. To redress the problems of educational inequality, funding schemes were introduced. Funding schemes, such as the National Student Financial Aid Scheme (NSFAS), were crucial in redressing education inequality and including black children in the education system [6–10]. This scheme funds undergraduate students so that they can at the very least earn a degree or a diploma [11].

De Villiers [6] argues that NSFAS was introduced after 1994 to address rising higher education fees and promote equality for previously disadvantaged groups. Originally established as the Tertiary Education Fund of South Africa (TEFSA), the scheme was managed by the Independent Development Trust (IDT) before being rebranded as NSFAS in 1999, following the enactment of the NSFAS Act of 1999. This study also draws on findings from a report compiled by the Education and Skills Development (ESD) unit within the Human Sciences Research Council (HSRC). The report examines the employment outcomes of NSFAS-funded graduates and highlights a concerning decline in their job absorption rates, which dropped from 98% in 2005 to 76% in 2015. This decline has significant implications for the employability and success of these students ([12], p. iv). Furthermore, Wildschut et al.'s [12] report reveals disparities in employment outcomes, with women and African NSFAS-funded graduates experiencing lower employment rates compared to their male, white, Indian, and coloured counterparts. Although the 2019 and 2022 NSFAS Vital Statistics indicate that women made up the majority of beneficiaries compared to men, dropout rates and throughput paint a different picture regarding employability [13, 14]. Graduates from historically disadvantaged backgrounds were less likely to secure jobs than those from historically advantaged backgrounds, further underscoring systemic inequities in employment access ([12], p. iv).

This research also examines the funding model for postgraduate studies, highlighting the establishment of the National Research Foundation (NRF) in 1999. Created under the National Research Foundation Act (Act No. 23 of 1998), the NRF was designed to advance research and development in South Africa. There was a prevailing sense that there was more emphasis and support for Science, Technology, Engineering, and Mathematics (STEM) to the detriment of the humanities and social sciences [15, 16]. The STEM funding tendencies were also highlighted in the findings of Wildschut et al.'s ([12], p. iv) report, which compares the employment outcomes of graduates from STEM fields to those from other disciplines, including Social Sciences, Life Sciences, Psychology, and Public Management Services. More than a decade after the establishment of NSFAS and NRF, the trend towards STEM funding expanded to the establishment of the National Institute for the Humanities and Social Sciences (NIHSS) in 2013, which funds postgraduate students in the humanities and social sciences [17]. In 2011, Dr. Blade Nzimande, the then Minister of Higher Education and Training, commissioned a report to assess the state of the humanities and social sciences. The findings were published in June 2011 under the title *The 2011 Charter for the Humanities and Social Sciences* [18, 19]. The charter led to the official establishment of the NIHSS on 5 December 2013. All these funding schemes were envisioned as a pathway for disadvantaged people, the majority of whom were black youth, to

play a material part in the economic development of South Africa, contributing to the growth of domestic product (GDP).

As a result of these education opportunities, key sectors of the economy in South Africa were now starting to include black people in the workplace, specifically in the management tier of business, and not relegate them to hard labour [12, 20]. The NSFAS funding scheme has played a pivotal role in fostering progress, such as driving economic transformation outlined in the National Development Plan (NDP). This progress has begun to take root across various economic sectors, promoting employment equity and advancing inclusivity ([21], p. 29). Education funding models became an avenue for previously disadvantaged students to become economic contributors [22]. However, according to the NDP, the "funding for higher education as a proportion of GDP has declined over the last few years from 0.76% in 2000 to 0.69% in 2009 and additional funding is needed to support an increase in participation and knowledge production" ([21], p. 88). This research explores the impact of national financial aid schemes established by the South African government to promote equal opportunities, enhance job placement across various fields, and empower disadvantaged groups, with a particular focus on black graduates. The research highlights that, despite the availability of funding opportunities for graduates, real-world employment prospects are clouded by various social challenges that affect previously disadvantaged NSFAS-funded students. Although these programmes aim to promote equity and economic inclusion, the study highlights ongoing challenges faced by beneficiaries. Many graduates employed in low-paying jobs face significant pressures, including meeting family responsibilities and repaying loans, all while striving to make ends meet. For those unable to secure employment aligned with their fields of study, or who remain unemployed despite completing their education, their academic achievements often feel devalued and meaningless [22].

I argue that while many historically disadvantaged students were able to secure the opportunity to study further through government national funding schemes, inequality, lack of job opportunities, and social pressures are still affecting these funded graduate students, as well as more systemic factors, such as slow economic growth, black tax, high unemployment rates, STEM bias, geographical disadvantage, and corruption [22–25]. The findings show that regardless of employment distress experienced by those NSFAS-funded students who struggle to find jobs and difficulties repaying back NSFAS loan, many students who began their education after South Africa's independence benefited from the opportunity to pursue their studies at many levels such as university education, including postgraduate programmes—and without financial burden, through the funding schemes designed to support previously disadvantaged students [6, 9, 11, 12]. The research also indicates that, despite NSFAS's transition from loan to full bursary in 2018, many students have still struggled to find jobs, with a significant portion failing to see their studies through. With no motivation to earn their qualifications in order to repay the loan (as per the previous model), it suggests that the problem is deeper than simply access to finance for these previously disadvantaged groups as many drop out due to not completing their studies, constituting financial misuse and a concomitant lack of motivation. The data collection methodology for this research was based on a conceptual approach that looked at the review of existing literature; reports from government, research bodies, and archival material were also perused as part of the data collection.

2. Methodology

The specific methods used for data collection for this research were based on secondary sources that include a review of existing literature, analysis of archival materials, and other relevant sources such as government reports. Existing academic literature and scholarly works included journal articles, books, and reports from relevant fields such as education, sociology, and political science, as well as works that focused specifically on South African higher education, student finance, and post-apartheid educational policies. Archival materials such as reports were accessed to provide historical context and insights into the evolution of higher education policies in South Africa, particularly those that relate to funding mechanisms such as the National Student Financial Aid Scheme (NSFAS). Archival reports, policy documents, and other government annual reports publications were perused to trace the development of NSFAS and other relevant initiatives, as well as to explore the socio-economic challenges faced by students in post-apartheid South Africa. Social student movements, such as strikes and protests like #FeesMustFall, were used as data sources. The methodology approaches used allowed the research to address complex issues from multiple angles, thereby contributing to a deeper and more holistic understanding of the subject matter.

3. Literature review

3.1 The role of higher education funding in bridging historical inequalities and job placement

In 2012, South Africa developed the National Development Plan (NDP) document, which serves not only as a strategic blueprint and guiding framework for South Africa's transformative goals to be realised by 2030 but also as a key document for evaluating governmental progress as a whole [26, 27]. Its ambitious vision seeks to reposition South Africa, on a new trajectory under a democratic dispensation, addressing critical challenges, such as unemployment, inequality, poverty, and racial segregation. A key projection of the NDP is that by 2030, the country should have at least 10 million university graduates, with one in six South Africans holding a university degree ([21], p. 84). Producing many graduates poses significant risks if job creation does not keep pace with the growing demand for employment from skilled professionals [28]. Graduate funding strategies must align with the creation of sufficient job opportunities for graduates, as both are critical to realising the vision articulated in the NDP. According to Statistics South Africa [29], the graduate unemployment rate for 2021 year stood at 11%, significantly lower compared to 39.1% for individuals without a matric qualification and 36.6% for those with a matric which means the plan is not totally flawed [30].

South Africa could not have even contemplated bridging the inequality gap attempted by the NDP if the aforementioned funding schemes had not been established, as many students from disadvantaged families would not have been able to afford tertiary education fees [31, 32]. Most of these university candidates were usually first-generation graduates, with parents and grandparents who had generally worked menial jobs with a low level of education [33–36]. Examining the role of social support in the persistence of first-generation African students at higher education institutions in South Africa has been essential for this research. The problems

experienced by these trailblazers—as the first in their families to attend university, but where their parents are unable to support them financially—are important to highlight as they are related to poverty, which will affect them during their studies, as there will be limitations in terms of resources and which continue to affect them after they graduate, as they are expected to lend a helping hand financially [25, 37]. When South Africa transitioned from apartheid to a democratic regime, many parents from low-income families were unable to support their children's aspirations for higher education [6]. High unemployment rates and low wages left families struggling to afford basic necessities, with little to no resources available for tuition and accommodation costs [30]. As a result, the introduction of the funding scheme was widely appreciated by parents, as it provided a vital lifeline for their children to access higher education opportunities denied to them.

The introduction of the National Student Financial Aid Scheme (NSFAS) in 1999 played a crucial role in promoting educational equality [6]. From its inception, it was partially loan and bursary until later, when the students started pushing the ruling party to fulfil the constitutional promise of free education for all by demanding this extend to tertiary education [11, 12, 38, 39]. Through a funding model such as NSFAS, South Africa witnessed a significant increase in the number of graduates entering the workforce, including many black graduates who had gained access to higher education through initiatives like NSFAS [12, 40, 41]. This influx of educated individuals into the job market marked a transformative shift in addressing historical inequalities, as many of these graduates became the first in their families to attain university degrees and a proper job [42].

There is no doubt that NSFAS addressed educational inequality and significantly improved the lives of many disadvantaged individuals in South Africa. It provided access to higher education for thousands of students who would otherwise have been excluded due to financial constraints [43]. This access prepared many for jobs and has enabled many to earn degrees and diplomas, inspiring future generations while breaking generational cycles of poverty and opening doors to opportunities previously out of reach [39, 44]. However, the broader socio-economic challenges of unemployment and slow economic growth continue to affect both educated and uneducated individuals, limiting the comprehensive transformative potential of education [45–47]. The loan component of the funding scheme required repayment as soon as graduates secured employment. However, social challenges and high unemployment rates have hindered many graduates' ability to meet these repayment obligations.

3.2 NSFAS loan repayment: Addressing black tax and workplace unemployment inequality

Many disadvantaged students, often the first in their families to graduate with NSFAS funding, faced significant challenges in repaying the loan component. However, this financial obligation also served as a strong motivator for many to excel academically, knowing they would need to repay the loan upon securing employment [48, 49]. The dual structure of the funding scheme meant that students were incentivised to perform well, not only to secure their futures but also to honour the responsibility of repaying the loan portion [50–52]. This repayment mechanism was designed to create a cycle of support, ensuring that the funds could be reinvested to assist future generations of students from disadvantaged backgrounds [52]. The funding model instilled a sense of responsibility in students, motivating them to

work diligently to ensure they could repay the loan. Upon completing their studies, NSFAS-funded students are required to begin repaying the loan portion of their funding as soon as they are employed [49]. According to Matukane and Bronkhorst ([50], p. 12) "repayment of student loans plays a critical role in allowing the NSFAS to reinvest back into the university system in order to assist more students." Repayment arrangements have been poorly implemented, as NSFAS struggles to track graduates' employment status. While government employers notify NSFAS of new hires, making repayment monitoring easier, tracing graduates in the corporate sector remains a significant challenge. Matukane and Bronkhorst ([50], p. 13) observed that, in some instances, deductions were made without the consent of the individuals involved. This was justified on the basis that the funds were taxpayer money owed to the government, which needed to be repaid to support other students. Ntshoe and De Villiers ([49], p. 73) postulate that "however, student loans have inherent limitations, including the non-repayment, or the extended time taken by students to pay back the loan."

The repayment process symbolised a form of collective responsibility, as the returned funds contributed to sustaining the funding pool for incoming students; the collection methods just needed to operate within the ambit of the law regarding deductions made without consent [50]. The underlying principle was to create a self-perpetuating system of financial aid that could continuously expand access to higher education for those in need. However, while the model aimed to instil a sense of accountability and foster a spirit of "paying it forward," it also highlighted broader socio-economic challenges that came with a lack of unemployment and low salary wages for most graduate students [52]. Many graduates struggled to secure employment immediately after completing their studies [12], making it difficult to meet their repayment obligations. However, the loan would nevertheless be accumulating interest, which discourages many to pay back [50, 53]. For those who did find work, the loan repayments often became an additional financial burden of distress, particularly for individuals already supporting their families due to "black tax" [24].

Black tax refers to the financial support provided by individuals to their families, which often includes giving money to parents, siblings, or extended relatives, purchasing groceries, or even building a home for them [23, 24]. This practice stems from the reality that many black students come from impoverished backgrounds, and upon graduating from university, they are often seen as the primary source of financial support for their families [24, 54, 55]. Mhlongo [24] asserts that for many black graduates, this responsibility is unavoidable and argues that the only sustainable way to alleviate this burden is through the accumulation of generational wealth. Despite these challenges, the initial structure of NSFAS funding played a crucial role in enabling access to higher education for countless students who otherwise would not have had the opportunity. It also underscored the importance of balancing financial sustainability with the socio-economic realities faced by students and graduates in South Africa.

The dual pressures of NSFAS loan repayments and black tax not only created financial strain but also limited the ability of many graduates to save, invest, pay back their study loans, or pursue postgraduate. This situation underscored the persistent socio-economic inequalities that continue to shape the lives of many black South Africans, even as access to education improved [24]. While expanding higher education opportunities was a crucial step towards addressing historical injustices, it also underscored the need for broader systemic reforms. These reforms should focus on building a more inclusive economy that creates well-paying jobs and tackles the structural inequalities that perpetuate cycles of poverty. As Wildschut et al. [12]

argue, people such as black, coloured, and Indian who were funded by NSFAS are still disproportionately affected by workplace inequality [46, 47]. NSFAS's immediate priority was to support students to enter the workforce and begin earning an income to support themselves and their families (while simultaneously attempting to repay the loan) but failed to address the inequality socio-economic problems that affect disadvantaged students. These include cultural expectations of "black tax," slow economic growth, unemployment, and low salaries, which further complicated matters for many black graduates to repay their NSFAS loans [52]. They were often obligated to contribute financially to their households, leaving little room to consider the time-intensive and financially demanding pursuit of postgraduate education [23, 24]. Many students aspired to pursue postgraduate education for better qualifications and improved salary prospects, but the financial pressure from their families made it difficult to achieve these goals.

3.3 Postgraduate funding in South Africa: A key to better jobs and socio-economic transformation

Postgraduate studies, such as master's and doctoral degrees, are frequently viewed as a luxury and largely fall outside the scope of NSFAS funding. Students aspiring to advance their education beyond an undergraduate degree must seek alternative funding sources, such as the National Research Foundation (NRF), corporate bursaries, and government or university scholarships [17, 56]. Limited funding options create additional barriers for disadvantaged students, especially those with NSFAS loan repayments, making postgraduate education an exceptional challenge ([17], p. 37). Although NSFAS has made substantial strides in levelling the educational playing field, its limitations highlight the need for expanded policies that address not only access but also progression within higher education for postgraduate studies as many struggle to find jobs after their undergraduate qualification [32]. Bridging the funding gap is essential for fostering a more inclusive professional workforce and ensuring that education serves as a true catalyst for economic and social transformation in South Africa, as well as producing future academic through postgraduate funding models [57, 58]. South African universities have produced a significant number of undergraduate students, many of whom face limited employment opportunities, placing additional strain on the economy [21]. As a result, pursuing postgraduate education has emerged as a more viable pathway to enhance career prospects and secure a stable future and income for many. Cyranoski et al. [28] postulate that in places such as Singapore, PhD holders are paid better than those with undergraduate degrees.

Saidi ([56], p. 3) argues that South Africa, like many other countries, places a disproportionate emphasis on undergraduate education while often neglecting the critical importance of postgraduate studies. In the United Kingdom, Leathwood and O'Connell [59] highlight that higher education funding in the post-1992 era, often referred to as "The Learning Age," was designed to promote inclusive education and address inequality. This period marked a shift towards more accessible funding models, aimed at ensuring equitable opportunities for all individuals to pursue higher education. In South Africa, due to the historical past, the primary focus of the education system has tended to be on equipping young graduates with the skills necessary to enter the workforce, thereby addressing immediate economic needs and job inequality [44]. However, this focus on preparing students for employment often overlooks the crucial role that postgraduate education plays in the development of the next generation of educators, scholars, and leaders [57]. Postgraduate education,

particularly in the form of master's and doctoral degrees, serves not only to advance knowledge but also to cultivate the teachers, researchers, and thought leaders who will contribute to the future of the education system itself. By neglecting this aspect of the educational ecosystem, South Africa risks undermining its ability to produce highly skilled professionals who are equipped to teach, innovate, and drive long-term educational reform, while producing undergraduate students is good, some of them are struggling to find jobs [60]. Moreover, the emphasis on undergraduate studies, while essential for providing foundational education, does not sufficiently address the need for a well-rounded academic workforce that can contribute to the higher education sector's growth and diversification. Postgraduate studies are integral to fostering academic depth and expertise, and the lack of sustained focus on postgraduate education limits the country's capacity to build a robust academic pipeline [56].

3.4 Sustaining the academic pipeline: Funding, inclusivity, and the future of postgraduate education in South Africa

Universities soon recognised their critical role in addressing an emerging challenge within the higher education sector: ensuring the continuity of the academic profession and the production of postgraduate cohorts. They saw the need to find solutions to the ageing professoriate, particularly among senior academics, who were predominantly white and approaching retirement [61, 62]. This demographic shift created an urgent need to diversify and sustain the academic workforce by grooming and upskilling a new generation of scholars through an internal funding model, particularly for black academics, to ensure a more inclusive and representative academic community [63, 64]. In response, universities began actively encouraging students to pursue doctoral studies, emphasising the importance of advancing their academic careers to fill the impending gap in senior academic roles [57]. Programmes were developed to identify and nurture talented students, providing mentorship and opportunities for research exposure.

According to Saidi, the Council on Higher Education has acknowledged the importance of supporting postgraduate studies, viewing them as essential both for driving economic growth and for sustaining the continuity of university programmes [56, 65–67]. The production of PhD cohorts is crucial in meeting some of South Africa's developmental strategic goals set by the NDP, but there must be enough jobs created to support the graduates. A 2009 scoping study by Cyranoski et al. [28] revealed that the United States ranks second only to China in the production of doctoral graduates, and this is significant because the US's unemployment rates are low. And unemployment rates among postgraduate degree holders are low. However, the study emphasises the importance of aligning the production of PhDs with corresponding job opportunities to prevent an unemployment crisis. In the field of life sciences, for example, the authors note that despite the increasing number of graduates, downsizing within pharmaceutical companies has significantly impacted employment rates, highlighting a disconnect between graduate output and industry demand.

PhD upskilling is one initiative aimed at addressing the historical underrepresentation of black academics in universities, which contributes to transforming the intellectual and cultural landscape of higher education in South Africa. At the same time, universities also turned their attention to their own academic staff members who lacked doctoral qualifications. Recognising the importance of fostering a culture of scholarship and academic excellence, institutions introduced incentives and support mechanisms to encourage staff to undertake PhD studies. Internal funding

schemes, reduced teaching loads, and sabbaticals were among the strategies used to facilitate this upskilling process [68, 69]. For many staff members, obtaining a PhD became not only a professional necessity but also an opportunity to contribute to the broader goal of decolonising and diversifying knowledge production within South African universities. Some universities aligned the PhD completion process with the key performance indicators (KPIs) of academic staff who have not yet earned a PhD, incentivising them to complete their degrees [70]. Many institutions are incentivised by government subsidies provided by the Department of Higher Education and Training (DHET), which allocates funding to universities upon the successful completion of doctoral degrees. This financial support serves as a key motivator for promoting doctoral research [15, 71].

These initiatives marked a critical shift in the higher education landscape, underscoring the dual objectives of addressing historical inequities and unemployment and building a sustainable academic pipeline through postgraduate studies [45]. By supporting both students and staff in pursuing advanced degrees, universities aimed to ensure that the next generation of scholars and educators would reflect the diverse and dynamic realities of post-apartheid South Africa [57]. This strategic focus on postgraduate education funding remains a cornerstone of efforts to create a more equitable and inclusive academic environment. The National Research Foundation (NRF) played a pivotal role in advancing doctoral studies in South Africa by providing funding to support research across a range of disciplines, often in working closely with South African universities [72]. This collaboration enabled many students to pursue advanced degrees and contribute to the country's knowledge economy.

4. Findings

4.1 "Black tax" and its impact on education, poverty, and inequality in marginalised communities

The findings show that the dual pressures of loan repayment and financial responsibilities tied to "black tax"—the expectation to support extended family members—place a heavy burden on graduates, limiting their ability to save, invest, or pursue further education, perpetuating cycles of poverty [23, 24, 73]. These factors are exacerbated by socio-economic challenges as unemployment, slow growth, and structural inequalities persist, limiting education's role in reducing poverty and inequality. Amoateng, Heaton, and Kalule-Sabiti ([73], p. 56) highlight how the concept of "black tax" is deeply intertwined with the living arrangements of black, coloured, and Asian communities, who often reside in extended family households. These arrangements, while culturally significant, are frequently situated within contexts of poverty, further complicating the already fragile support structures. In such families, when one individual achieves financial success, they are typically expected to shoulder the responsibility of supporting not only immediate family members but also extended relatives [73].

The black tax burden extends beyond basic survival needs, encompassing the financial and emotional weight of uplifting others, often at the expense of their own personal and economic advancement [23, 24]. This dynamic can perpetuate a cycle of dependency, where the success of one is stretched thin across many, limiting the potential for generational wealth-building or long-term economic stability. Moreover, the black tax phenomenon highlights the structural inequalities that necessitate such

reliance, pointing to systemic failures in addressing poverty and providing equitable opportunities for all members of these communities [74]. The problem of poverty in Africa has already been highlighted by the World Bank Group [75]. While rooted in solidarity and cultural values, this practice underscores the dual challenges of individual progress and collective responsibility in marginalised communities. Wildschut et al. [12] postulate that historically disadvantaged students have lower access to job opportunities as compared to historically advantaged students, which means very few get the opportunity and even if they get it, they receive appalling salaries compared to their counterparts, due to historical racial discrimination and regardless of their qualifications [76].

The findings also show that many of these graduates started to face immediate financial pressures upon entering the workforce, which affected NSFAS repayment obligations [77]. One of the significant portions of their burden stemmed from the obligation to repay the NSFAS loan that had funded their education while simultaneously shouldering the burden to support their extended families and start their own families [73]. In addition to repaying their educational loans, these graduates often carried the weight of familial expectations. As the first in their families to achieve higher education, they were seen as beacons of hope, expected to uplift their families financially [24]. This sense of responsibility, while rooted in cultural values of solidarity and mutual support, often made them vulnerable to the aforementioned black tax [24]. Black tax could also be described as the financial demands placed on individuals by extended family members, which, though well-intentioned, can become overwhelming [23]. For many, it meant diverting a substantial portion of their income to support their families, covering everything from basic needs to education for siblings, healthcare for parents, and even debt repayment for relatives. The mounting pressure of loan repayment and the financial burden of black tax compelled many graduates to pursue postgraduate degrees in the hope of securing higher salaries that exceed typical entry-level earnings [28]. However, for many individuals, this aspiration proved challenging due to persistent poverty, limited funding opportunities, and the immediate need to meet basic survival demands.

This is exacerbated by the focus of funding schemes like NSFAS on undergraduate education, which has created a gap in support for postgraduate studies. This neglect undermines the development of a skilled academic and professional workforce [57, 58]. The lack of emphasis on postgraduate funding threatens the continuity and diversity of the academic workforce [56]. Universities are beginning to address these gaps by encouraging doctoral studies to ensure a pipeline of skilled professionals and academics, particularly among underrepresented groups. To maximise the impact of higher education funding, systemic interventions are necessary. These include creating an inclusive economy with better job opportunities, addressing structural inequalities, and balancing the financial sustainability of funding models with the socio-economic realities of graduates. While higher education funding has significantly contributed to bridging historical inequalities in South Africa, its impact is limited by broader socio-economic challenges [42]. Addressing these issues requires a comprehensive approach that integrates job creation, economic growth, and enhanced support for postgraduate education to ensure sustainable transformation and equitable opportunities for all. Initiatives like free education for deserving students were introduced to alleviate the obstacles that hinder access to education.

Another challenge faced by NSFAS-funded graduates in South Africa is the geographical disadvantage experienced by many students from previously disadvantaged

backgrounds, which significantly impacts their opportunities. Upon completing their studies, these graduates often begin job hunting immediately. However, those from rural provinces far from urban centres—where most job opportunities are concentrated—face unique challenges [78]. Unlike peers who may have relatives in cities to provide temporary accommodation, these students often lack such support. To increase their chances of securing interviews, they need to relocate closer to urban areas, where potential employers are based. This relocation requires additional financial support from family or other sources to cover essentials like rent and food, which many families cannot afford. As a result, some graduates are forced to return home and apply for jobs remotely, which may negatively affect their chances of success. Others, under pressure from poverty and family expectations, may take any available job, even if it is unrelated to their field of study while continuing to apply for roles aligned with their qualifications. This situation places additional strain on graduates, as they face the burden of repaying their NSFAS loans while still searching for stable, relevant employment [52]. Wildschut et al. [12] suggest that factors influencing the employability of NSFAS graduates include their field of study, geographic background, and the university they attended.

5. Discussion of the results

5.1 From partial loan repayments to free higher education: Opportunities and challenges for deserving students and the missing middle

In 2015, the South African government was under pressure to provide free higher education through a series of nationwide strikes. Students started to mobilise from university to university, starting from the University of the Witwatersrand, and proceeding to Rhodes University, before emanating to other universities, all striking for fees to fall under the movement #FeesMustFall [38]. #FeesMustFall became a movement that compelled the then President Jacob Zuma to declare that according to the constitution of South Africa, which guarantees that basic education shall be a constitutional right for all (including adult education), he declared that higher education should be made free through the funding of NSFAS to the deserving and needy students [79]. Since 2018, this was gazetted, specifically that tertiary education was made free for all deserving students, which meant the NSFAS funding scheme would become responsible for providing such funds without any binding repayment of a loan expected [11, 39]. From 2018 onwards, the NSFAS introduced a non-repayment solution for students, eliminating loan repayments for new beneficiaries. However, students funded under the previous partial loan and bursary scheme were still required to repay their loans.

In the 2018/19 NSFAS annual report, then Minister Dr. Bonginkosi Emmanuel Nzimande stated that when NSFAS transitioned from a loan and bursary system to fully subsidised funding in 2018, the government committed to increasing university spending from 0.68 to 1% of the Gross Domestic Product (GDP) over 5 years ([13], p. 14). The introduction of fully subsidised funding resulted in a significant increase of 37.7% in funding from 2017 to 2018, followed by an even more dramatic surge of 233% in the 2018/19 financial year ([13], p. 33). Since its inception in 1999, NSFAS has seen substantial growth in the number of funded students. Between 1999 and 2008 alone, there was an increase of over 400%, with financial aid reaching

approximately 153,795 students—accounting for 17% of higher education enrolments at the time. This upward trend continued in subsequent years. According to the NSFAS *Vital Statistics* reports from 2019 and 2022, the number of funded students rose to 750,000 in 2019 and further increased to 810,532 by 2022 ([14], p. 6). These figures illustrate the continued expansion of the funding scheme, with a growing number of students benefiting from financial aid each year. The shift to the non-repayment scheme, while beneficial, has not been without challenges for those considered "deserving" students.

The criteria to fund deserving students were then classified as those whose parents were not working or those whose parents earned a combined gross annual household income of ZAR350,000 or less, which is roughly about USD 20,000 [80–82]. These criteria also became a limitation for students whose household income could exceed the ZAR350,000. The criteria for selecting needy and deserving students inadvertently created a new category of students, referred to as the "missing middle." These students come from households where the total annual income exceeded the threshold of ZAR350,000 but under ZAR600,000, which disqualified them from financial aid. However, their families still struggled to afford tuition fees, leaving them in a precarious financial position [10, 83, 84]. This often led to certain students preferring not to disclose their households' income or to distort the actual earnings of their parents in order to qualify for funding. Some would also forge or fabricate documents as a way to gain access to bursaries, while some would pretend to no longer have parents, by furnishing details of their grandmothers as their guardians, who were invariably pensioners, thus also enabling them to qualify for free education [50]. All these system manipulations show the desperation of many in accessing free education. At the tertiary level, the introduction and expansion of the National Student Financial Aid Scheme (NSFAS) marked a watershed moment in making higher education more accessible without a loan repayment burden [40, 41]. Through NSFAS, university tuition and related costs are fully covered for students classified as poor and deserving.

However, the definition of "deserving" remains a highly contested issue in South Africa, stirring debates that are both social and political in nature. While the NSFAS funding scheme is designed to prioritise those most in need, questions arise about who is "rightfully" eligible for this assistance [41]. Socio-economic criteria are often complicated by broader considerations of social justice, historical inequality, and current political pressures. Some argue that the application of these criteria unintentionally excludes individuals from the so-called "missing middle"—families whose income exceeds the threshold for NSFAS support but who still cannot afford university fees [38, 54]. Others point to instances of systemic abuse, where fraudulent documents are submitted to qualify for funding, further complicating the administration of the programme. Moreover, the notion of "deserving" is also entangled with deeply rooted issues of identity, race, poverty, inequality, and historical marginalisation. South Africa's apartheid history continues to shape public perceptions of fairness and entitlement, making it difficult to achieve consensus on how to allocate limited resources equitably [77, 85].

5.2 Balancing support for STEM and the humanities

These tensions highlight the need for ongoing policy refinement and transparent mechanisms to ensure that financial aid reaches those who need it most, without reinforcing existing disparities or creating new ones. Despite these challenges, the

provision of free education through NSFAS has transformed the lives of countless individuals, enabling many first-generation university students to break the cycle of poverty and aspire to upward social mobility [33, 35, 36]. It represents a critical step towards redressing past inequities, even as the system grapples with the complexities of equitable implementation in a country still marked by profound socio-economic divides. In postgraduate studies, the term "deserving" has often been associated with funding for STEM subjects, which has significant implications for the social sciences and humanities. The report produced by Wildschut et al. ([12], p. iv) found that graduates from STEM fields had more job opportunities and employability compared to those from disciplines such as social sciences, life sciences, psychology, and public management, which is a trend that is often used to justify the bias towards STEM subjects.

Funding disparities within the South African education system show that funding models for higher education need to be inclusive of all qualifications instead of preference for STEM subjects, a focus that has not only influenced the structure of undergraduate education but has also shaped the trajectory of postgraduate studies [86–89]. Students pursuing advanced degrees in mathematics, science, and technology often find themselves with access to more funding opportunities, research grants, and institutional support, compared to their counterparts in the humanities and social sciences [90]. National funding bodies, corporate sponsors, and international collaborations overwhelmingly favour STEM research, leaving humanities and social science scholars to compete for a smaller pool of resources. This imbalance perpetuates a hierarchy within academia, where certain disciplines are valued over others. Despite their importance, these fields often struggled to secure adequate funding, which limited their capacity to produce impactful research and train the next generation of scholars [91]. This highlights the importance of creating a funding policy that is not one-sided but a holistic one. These fields offer critical insights into issues such as inequality, social justice, governance, cultural preservation, and identity formation. They are vital for shaping informed public policies, fostering social cohesion, and understanding the historical and cultural contexts that influence contemporary society [74, 92].

The establishment of the NIHSS has enabled disadvantaged students pursuing postgraduate studies in the humanities and social sciences to receive funding, ensuring that the transformative potential of research reaches beyond traditionally privileged institutions. The combined efforts of the NRF and the NIHSS exemplify a broader commitment to cultivating a balanced and robust research ecosystem in South Africa, one that values the contributions of all academic disciplines in addressing the country's development goals. By the end of 2024, the NIHSS had successfully supported the graduation of more than 500 PhD students since its inception, a significant milestone in its mission to bolster research in the humanities and social sciences. This cohort included not only South African students but also students from the Southern African Development Community (SADC) region and other African countries [57]. South Africa needs to do more to systematically defeat the marginalisation of humanities and social sciences, which is deeply rooted in the way the education system has historically been designed and prioritised [88, 93]. Government policies and initiatives have reinforced this bias by channelling significant investments into science, technology, engineering, and mathematics (STEM) education [86–89]. While these efforts are vital for national development, they have inadvertently sidelined other fields of study, particularly the humanities and social sciences, which are often perceived as less critical to economic progress.

6. Research limitation

This research primarily examines the impact of government-funded instruments such as NSFAS, NRF, and NIHSS in addressing educational inequalities through undergraduate and postgraduate funding. However, it does not extensively explore other funding mechanisms, including corporate bursaries, which are designed to invest in students with the expectation of a return on investment—typically through students working for the company for a period equal to the length of funding received. Additionally, the research does not cover other government-provided funding instruments, such as vocational training, learnerships, and internship programmes, which serve as incentives to support students' dropouts with educational and career development [22]. While the study highlights the gaps in funding accessibility for the "missing middle" and the lack of support for postgraduate education, it does not provide detailed analyses of alternative funding models or their potential outcomes. The study acknowledges that the sources used provide valuable insights into the evolution of funding mechanisms and policy implementation, but they may not fully capture the nuanced experiences of individual scholars or institutions. These limitations suggest a need for future research that investigates holistic solutions, including postgraduate funding mechanisms, employment pathways for graduates, and comparative studies with funding models in similar socio-economic contexts. Future research could address these gaps by incorporating a broader range of methodologies, including qualitative and quantitative analyses, to provide a more balanced and holistic perspective on postgraduate funding in South Africa.

7. Conclusion

This chapter highlights the persistent challenges faced by systematically marginalised populations, particularly in relation to student loan schemes and income-contingent loans. These financial mechanisms, while intended to improve access to higher education, often perpetuate post-apartheid inequalities by burdening graduates with debt that is difficult to repay due to low salaries and limited job opportunities. The transition to a fully subsidised funding model in 2018 represented a major shift in addressing these barriers, significantly increasing government investment and expanding financial aid to historically disadvantaged students. However, while this shift has contributed to greater university enrolments, concerns remain about the sustainability of the funding model and its effectiveness in addressing systemic inequalities. To ensure that higher education serves as a true catalyst for socio-economic transformation, this study recommends a more inclusive approach to funding, equitable employment opportunities for graduates, and systemic reforms that directly tackle the structural barriers hindering economic mobility.

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Chapter 2

Salary Returns of Higher Education and Determinants of University Dropout among Beneficiaries of a Peruvian State Scholarship Programme

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Abstract

This study examines the salary returns of higher education in Peru and dropout rates among beneficiaries of the Beca 18 (National Scholarship and Educational Credit Programme) programme in universities. The results indicate that completing university education leads to greater economic benefits, influenced by factors, such as gender, place of residence, economic activity, type of university, and the field of study. Additionally, factors that increase the likelihood of losing the scholarship were identified, including the place of origin, mother tongue, age, scholarship modality, field of study, place of study, and type of university management. The discussion focuses on the benefits of completing university, subsidy policies, the relevance of academic programmes, and the quality of education.

Keywords: salary returns, university dropout, state scholarship programme, higher education, socioeconomic determinants

1. Introduction

The Peruvian economy has experienced notable growth over the last decade; however, the COVID-19 pandemic triggered a significant contraction in 2020. The World Bank [1] reported a rebound in 2021, with the economy growing by 13.3%, yet challenges such as inflation have negatively impacted families' purchasing power. In 2022, the National Institute of Statistics and Informatics (INEI) [2] indicated that multidimensional poverty affects 25.9% of the population, underscoring the persistent inequality in the country.

Higher education is crucial for Peru's socioeconomic development, enhancing job opportunities and stimulating economic growth. A study by the Ministry of Education of Peru [3] found that university graduates earn, on average, 150% more than individuals with only secondary education. Additionally, initiatives like Beca

18 from PRONABEC (National Scholarship and Educational Loan Programme) have been instrumental in expanding access to higher education, enabling young people from diverse socioeconomic backgrounds to pursue their studies. Investment in higher education also fosters innovation and competitiveness, which are vital for the country's advancement.

Despite these advantages, higher education in Peru faces significant challenges that necessitate policies aimed at promoting equal opportunities and improving educational quality. While the massification of higher education has increased access to university education, deep-rooted inequalities remain. High-quality education often comes with a steep price, making it less accessible, whereas lower-quality education, though more affordable, perpetuates social inequity [4–7].

Completing university studies has a notable impact on individuals' income. An additional year of education can increase income by an average of 18.6%, while finishing a university degree can boost income by 29.6% or more [8–10]. In the Peruvian context, an extra year of higher education results in a 15.9% increase in income for those who complete their studies, compared to 3.9% for those who do not [11, 12].

However, university dropout remains a persistent problem in the country, influenced by both socioeconomic and academic factors. Although scholarships and financial support have proven effective in mitigating dropout, the issue persists [13–15]. Educational policies, therefore, should focus not only on improving the quality of higher education but also on reducing dropout rates to maximise the benefits associated with completing university studies [16, 17].

Since 2012, the National Scholarship and Educational Credit Programme, known as Beca 18, has played a crucial role in improving access to higher education for low-income youth in Peru. This programme has significantly increased the likelihood that these young people enrol in high-quality universities and has strengthened their educational trajectory [18, 19]. However, research on the impact of Beca 18 is still limited and often based on small samples, highlighting the need for broader and more comprehensive studies [20–22].

Studies on dropout within the framework of Beca 18 have identified significant economic barriers and adaptation challenges as key factors affecting beneficiaries [23, 24]. In response, efforts have been made to decentralise the programme, resulting in 71% of scholarship recipients in 2021 coming from regions outside the capital [25].

In this context, this research aims to evaluate the impact of completing university higher education on salary returns in Peru, as well as to identify the factors that increase the likelihood of losing a scholarship before graduating among young beneficiaries of the Peruvian state programme Beca 18.

2. Completion of higher university education and salary returns

This section focuses on estimating the association between the completion of higher university education and salary returns. It allows for a comparison of the Peruvian context with extensive evidence from various countries regarding the impact of higher education—especially its completion—on salaries.

To estimate the salary returns of higher education in Peru, we utilised the National Household Survey (ENAHO) data from 2014 to 2021. This dataset includes a sample of 34,964 observations, comprising individuals with completed higher education (21,558) and those without it (13,406). The sample is probabilistic, stratified, and multi-stage, ensuring robust representation.

The analysis employed the Mincer model [26], with adjustments based on Heckman's methodology [27], to address selection bias. This approach connects income to years of education and work experience. To correct for selection bias, a logit model was used to estimate the probability of labour force participation, followed by the application of the inverse Mills ratio.

The final equation used to estimate salary returns is:

$$\begin{aligned} log_{\text{-salin-real}} = {} & \alpha + \beta 1(a_{edu}) + \beta 2(experiencia) + \beta 3(experiencia2) + \beta 4(log_{H1}) \\ & + \beta 5(mujer) + \beta 6(LM) + \beta 7(ECO) + \beta 8(urbano) + \beta 9(anio) \\ & + \beta 10(tipo\_ocupacion) + \beta 11(carrera) + \beta 12(privada) \\ & + \beta 13(log\_imr1) + \beta 14(cal\_scimag + \varepsilon \end{aligned} \quad (1)$$

where log_salin_real is the deflated monthly income, a_edu is the years of education, experiencia and experiencia2 represent work experience and its square, log_H1 is the logarithm of the hours worked, mujer indicates female gender, LM represents Metropolitan Lima, ECO is the economic sector, urbano indicates the urban area, anio is the year of the survey, tipo_ocupacion describes the type of occupation, carrera is the professional category, privada indicates if the university is private, log_imr1 is the inverse of the Mills ratio, and cal_scimago represents the ranking of the university according to SCImago Institutions Rankings (SCIMAGO).

The model revealed statistically significant regression coefficients. We conducted tests for multicollinearity, heteroscedasticity, and error normality, all of which confirmed the model's validity. To correct for self-selection bias, we used the inverse Mills ratio. Additionally, due to the large sample size, we assumed normality in the residuals.

Table 1 shows that salary returns for university education in Peru increased from 11.6 to 16.7% between 2014 and 2021 for those who completed their studies. In contrast, for those who did not complete higher education, the return increased from 2.5 to 2.8%. This pattern of higher returns associated with completing higher education has also been documented in other countries, including Colombia [10, 28], the Dominican Republic [9], and Argentina [8].

The results from the 2014 to 2021 pooled data (**Table 2**) show that, ceteris paribus, the rate of return to university education is 12.2%. This means that each additional

Year	Complete education (%)	Std. error	p-value	Incomplete education (%)	Std. error	p-value
2014	11.61	0.019	0.000	2.50	0.009	0.000
2015	12.29	0.015	0.000	2.74	0.007	0.000
2016	13.16	0.012	0.000	2.57	0.006	0.000
2017	14.09	0.011	0.000	2.85	0.005	0.000
2018	14.83	0.012	0.000	2.55	0.005	0.000
2019	15.51	0.016	0.000	3.50	0.007	0.000
2020	16.08	0.020	0.000	3.06	0.008	0.000
2021	16.72	0.024	0.000	2.78	0.102	0.006

Source: ENAHO. Compiled by the author.

Table 1.
Returns to university higher education 2014–2021 by years.

Total higher education	**Complete higher education**	**Incomplete higher education**	**Total higher education**
Years of education	0.122*** (0.00309)	0.159*** (0.0122)	0.0377*** (0.00588)
Experience	0.0331*** (0.00156)	0.0315*** (0.00176)	0.0341*** (0.00313)
Experience (squared)	−0.000814*** (0.0000501)	−0.000747*** (0.0000558)	−0.000835*** (0.000103)
Hours worked (logarithm)	0.579*** (0.00963)	0.480*** (0.0150)	0.620*** (0.0127)
Gender (female)	−0.0451*** (0.0102)	−0.0447*** (0.0126)	−0.121*** (0.0167)
Residence (lima metro)	0.278*** (0.0102)	0.272*** (0.0127)	0.276*** (0.0177)
Economic activity			
Mining	1.029*** (0.0452)	1.077*** (0.0610)	0.949*** (0.0699)
Manufacturing	0.466*** (0.0392)	0.538*** (0.0561)	0.384*** (0.0547)
Construction	0.667*** (0.0395)	0.797*** (0.0562)	0.528*** (0.0552)
Commerce	0.387*** (0.0376)	0.426*** (0.0551)	0.368*** (0.0513)
Transport and communications	0.574*** (0.0381)	0.614*** (0.0555)	0.512*** (0.0523)
Hotels and restaurants	0.240*** (0.0411)	0.317*** (0.0663)	0.217*** (0.0538)
State	0.776*** (0.0362)	0.825*** (0.0520)	0.715*** (0.0505)
Other services	0.670*** (0.0362)	0.760*** (0.0525)	0.541*** (0.0500)
Urban	0.167*** (0.0222)	0.128*** (0.0311)	0.198*** (0.0308)
Analysis years (control)	0.0426*** (0.00278)	0.0420*** (0.00334)	0.0416*** (0.00471)
Occupation type			
Self-employed	−0.888*** (0.0263)	−0.914*** (0.0335)	−0.895*** (0.0420)
Employee	−0.325*** (0.0235)	−0.248*** (0.0290)	−0.454*** (0.0390)
Field of study			
Humanities and arts	0.140*** (0.0330)	0.150*** (0.0408)	0.166*** (0.0558)
Social sciences, business, and law	0.239*** (0.0126)	0.287*** (0.0145)	0.222*** (0.0273)
Natural sciences, exact sciences, and computing	0.206*** (0.0247)	0.292*** (0.0306)	0.134*** (0.0444)
Engineering, industry, and construction	0.317*** (0.0150)	0.456*** (0.0183)	0.199*** (0.0296)
Agricultural and veterinary sciences	0.257*** (0.0245)	0.348*** (0.0294)	0.195*** (0.0447)
Health sciences	0.255 (0.0158)	0.300*** (0.0172)	0.172*** (0.0355)
Other	0.307*** (0.0693)	0.452*** (0.0696)	−0.153 (0.269)
Private (management)	0.0787*** (0.00850)	0.0400*** (0.0101)	0.175*** (0.0150)
Inverse mills ratio (logarithm)	−0.105*** (0.00324)	−0.0812*** (0.00396)	−0.116*** (0.00564)
Scimago ranking	0.105*** (0.0113)	0.106*** (0.0133)	0.0891*** (0.0205)
Constant	−83.89*** (5.609)	−82.88*** (6.745)	−80.77*** (9.500)
Observations	34,964	21,558	13,406

Robust standard errors in parentheses. Source: ENAHO. Compiled by the author.
**p < 0.1, **p < 0.05, ***p < 0.01.*

Table 2.
Returns to university higher education, Peru 2014–2021.

year of university education corresponds to a 12.2% increase in the monthly income of individuals who attain this level of education. However, among those who completed higher education, an additional year of education results in a 15.9% increase in their monthly income, while for those who did not complete their higher education, the increase is only 3.8%.

These findings align with those reported by Adrogué [8] in Argentina, who noted higher returns for individuals with completed higher education compared to those without. Similarly, Parodi et al. [9] found in the Dominican Republic that obtaining a university degree led to a 29.6% increase in returns, suggesting a "diploma effect", where university credentials are perceived as a strong indicator of productivity. Additionally, Sánchez et al. [10] discovered in Colombia that individuals with completed university studies could earn up to 122% more in labour income compared to those without higher education.

The results also reveal that an additional year of work experience yields a salary return of approximately 3.2% for individuals with a complete university education and 3.4% for those with incomplete higher education. Holding other factors constant, the parameter for experience ($\beta 2$) is positive, while the parameter for the square of experience ($\beta 3$) is negative, as anticipated by Mincer [26]. This indicates that, although income increases with experience ($\beta 2$), the rate of increase diminishes due to $\beta 3$, reflecting the concave relationship between experience and income. Other studies have reported slightly lower returns. For instance, Fuentes Pincheira and Herrera Cofré [29] found in Chile that each additional year of work experience results in a 2.8% salary increase, while Tarazona Quintero and Remolina Amórtegui [30] observed a 2.2% increase in Colombia.

Table 2 also reveals that, in terms of elasticities, a percentage increase in hours worked generates a positive variation in income. Ceteris paribus, a 10% increase in hours worked contributes to a 4.8% increase in income for those who completed higher university education, while for those with incomplete higher education, the return is 6.2%. It is likely that, for those with incomplete university education, overtime acts as compensation for salary differences compared to those who completed university (16.7 vs. 2.8% in returns). Barragán Codina et al. [31] found in Mexico that those who completed higher education earn a salary 86% higher per hour than those who did not complete this level.

Moreover, it is observed that being a woman reduces income compared to men: by 4.5% among those who completed their university studies and by 12.1% among those who did not complete them. These results are consistent with the trend of higher returns for men compared to women, as reported by Fuentes Pincheira and Herrera Cofré [29] for Chile, who found that a woman's future income would decrease by 46.9%. In Colombia, Tarazona and Remolina [30] found a 23.8% decrease in women's salaries compared to those of men, suggesting that this difference should be explained within a broad multidisciplinary framework, including sociological aspects.

These results contrast with those reported by Parodi et al. [9], who found higher return rates for women in the Dominican Republic. Additionally, this study reveals that residing in Metropolitan Lima results in a 27.2 and 27.6% higher return in income for individuals with complete and incomplete higher education, respectively, compared to those living in other regions of the country. It also shows that residents in urban areas experience returns of 12.8 and 19.8% higher than those in rural areas for complete and incomplete university studies, respectively. These findings are consistent with those of Parodi et al. [9] and Vargas Urrutia [32], who observed

higher returns in urban areas in the Dominican Republic and Colombia, respectively. In contrast, Ordaz Díaz [33] found in Mexico that education was more profitable in rural areas than in urban ones.

Regarding occupation type, three categories are presented: productive unit (own business), dependent, and independent. Being dependent or independent reduces income returns compared to productive units, both for complete and incomplete university education. This variable is associated with the formality and informality of the activity performed, as well as with deductions for tax rates and other contributions. **Table 2** shows that, ceteris paribus, independent workers experience a 91.4 and 89.5% loss in income (for complete and incomplete university education, respectively) compared to those with their own business. Similarly, dependent workers show a loss of 24.8 and 45.4% in income for complete and incomplete university education, compared to those with their own business.

In relation to economic activity, for those who completed university education, working in mining represents 107.7% more income than in agriculture (taking agriculture as the base comparison in the dummy variable analysis to avoid perfect multicollinearity). Working in state entities, construction, and other services represents 82.5, 79.7, and 76.0% more income than in agriculture, respectively. Smaller impacts are observed in transport and communications (61.4%), manufacturing (53.8%), commerce (42.6%), and finally, hotels and restaurants (31.7%). For those with incomplete higher education, working in mining represents 94.9% more income than in agriculture. Working in the state entities provides 71.5% more income than in agriculture, while other services, construction, and transport and communications offer increases of 54.1, 52.8, and 51.2%, respectively. Manufacturing, commerce, and hotels and restaurants offer increases of 38.4, 36.8, and 21.7% above agriculture.

In the review of salary returns by type of career, for complete university education, engineering, industry, and construction careers stand out (45.6%), followed by agricultural and veterinary careers (34.8%), compared to education careers. To a lesser extent, health sciences, natural, exact, and computing sciences, and social sciences, commerce, and law careers are found, with returns of 30.0, 29.2, and 28.7%, respectively. For incomplete university education, social sciences, commerce, and law stand out (22.2%), followed by engineering, industry, and construction (19.9%). To a lesser extent, agricultural and veterinary careers (19.5%), humanities and arts (16.6%), and health sciences (17.2%) are observed. These results reflect a particular issue with the low returns of education careers compared to other university careers.

These findings are consistent with those of Yamada and Castro [34], who observed the highest returns in medicine and engineering careers (17.7 and 16.4%, respectively), while the lowest returns were found in pedagogy and social sciences (11.2 and 12.3%, respectively). Yamada [35] further identified that the highest-earning professionals were civil engineers, economists, business administrators, and IT professionals, whereas primary education teachers received the lowest remunerations.

Studying at a private university yields higher returns compared to studying at public universities. The results indicate that among those who completed their university education, returns are 4.0% higher for private university graduates. Among those who did not complete university education, returns are 17.5% higher for those who attended private universities, suggesting that even those who did not finish their studies at a private university earn more than their counterparts from public institutions. These findings align with those of Yamada and Castro [34], who reported higher returns for private university education compared to public university education (17.9 vs. 15.2%).

Finally, considering the SCIMAGO quality ranking and the top 13 universities in Peru in 2021, it was found that individuals who completed or partially completed their university education at these institutions achieved returns of 10.6 and 8.91% in income, respectively. Yamada et al. [36], who measured the quality of educational institutions based on flexibility in access requirements, observed that attending a high-quality institution has a positive effect of over 17% on salary. This effect accounts for 40% of the salary gap between those who attended a high-quality university versus a lower-quality one, with the remaining 60% explained by pre-access factors, such as socioeconomic status, parents' education level, and gender, among others.

3. Determinants of university dropout due to loss of state scholarships: An analysis of the Beca 18 programme

The study population comprises beneficiaries of Peru's National Scholarship and Educational Loan Programme (PRONABEC), specifically those within the "Beca 18" scheme. Established in 2012, Beca 18 has been instrumental in funding higher education for academically outstanding and economically disadvantaged youth. The scholarship extends its support to various vulnerable groups, including orphans, individuals from communities affected by violence and drug trafficking, indigenous populations, military service veterans, and students in Intercultural Bilingual Education programmes.

Beca 18 represents a significant advancement in higher education funding in Peru. Unlike its predecessor, which primarily provided financial aid on a more limited basis, Beca 18 offers comprehensive support. This includes coverage for tuition, accommodation, and other essential living expenses, making higher education more accessible for students from vulnerable backgrounds [25, 37]. The programme has also evolved to include targeted scholarships for specific communities, such as those from Amazonian and Afro-Peruvian backgrounds, reflecting a commitment to addressing the educational needs of diverse groups [25].

A notable development in the Beca 18 programme is the introduction of a standardised entrance exam in 2016. This examination was designed to uniformly assess applicants, ensuring a fair and consistent evaluation of their academic potential and socioeconomic needs [38]. Over time, the criteria for awarding scholarships have been refined to guarantee that participating institutions meet higher standards of quality, thus enhancing the overall educational experience and outcomes for students.

The analysis focuses on beneficiaries who received the Beca 18 scholarship between 2012 and July 2019, encompassing a total of 22,150 cases. After excluding 225 cases due to reasons, such as death or document falsification, the final study population consists of 21,925 beneficiaries. This group is characterised by a common background of poverty and high academic achievement, making them ideal subjects for studying the impact of the scholarship programme. The analysis considers a range of sociodemographic, academic, and institutional variables, aiming to provide a comprehensive understanding of the programme's effects and the factors influencing scholarship retention and success.

Data analysis was performed in multiple stages. Initially, a univariate analysis was conducted to characterise the population and identify key variables associated with scholarship loss. Subsequently, a bivariate analysis was carried out using contingency tables and Pearson's chi-square test to evaluate the independence between variables. The null hypothesis (H0) stated that the observed frequencies would equal the

expected frequencies (Φij = Φi. . Φ.j), while the alternative hypothesis (H1) proposed a difference between observed and expected frequencies (Φij ≠ Φi ..Φ.j). Expected frequencies were calculated using the formula feij = (fi.·f.j)/f, and the chi-square value was determined with the equation χ^2 = Σi = 1mΣj = 1n (fij − feij)^2/feij. The null hypothesis was rejected if the chi-square value exceeded the critical value $\chi^2(\alpha,(m-1)(n-1))$ or if the p-value was less than 0.05.

Finally, a Probit model was employed to estimate the probability of scholarship loss, represented as P(y = 1/x) = G (β0 + β1x1 + ... + βkxk) = G (β0 + xβ), where G denotes the cumulative distribution function of the standard normal distribution. The marginal effect of each variable on the probability was calculated using the formula ∂p(x)/∂xj = g (β0 + xβ) βj, where g(z) ≡ dG/dz(z). The model's goodness-of-fit was assessed using a confusion matrix and the receiver operating characteristic (ROC) curve, with an area under the curve (AUC) of 68.85%, indicating a satisfactory level of data classification.

3.1 Characteristics of Beca 18 beneficiaries

Beca 18 beneficiaries are predominantly women (53.7%) and mostly those who come from outside Lima (80%). The majority of them speak Spanish (86.8%) and received the scholarship at age 17 or younger (65%). Of the 22,150 scholars from 2012 to 2019, 58% are still studying and 10% have graduated. Reasons for scholarship loss include 22.2% due to poor academic performance, 8.67% due to voluntary withdrawal, and 1% due to administrative reasons like death or serious infections. Thus, over 20% lost their scholarships due to academic issues within the first 8 years of the programme (**Table 3**).

For the purposes of this study, scholarship loss is defined as either voluntary withdrawal or academic failure, excluding cases of loss due to death or other non-academic reasons. Between 2012 and July 2019, 6849 scholars lost their scholarship, with 89.62% of these losses occurring between 2012 and 2015. A notable decrease in loss rates is observed from 2016 onwards. Additionally, 36.85% of those who lost their scholarship did so after completing at least four semesters, while 9.85% of them lost it in the first semester and 26.1% in the first two semesters.

3.2 Probit model for scholarship loss in Beca 18, 2012–2019

Table 4 presents the results of the model estimation to identify the variables influencing the loss of the Beca 18 scholarship, within the specified levels of statistical

Currently enrolled	12,817	57.86%
Graduated	2259	10.20%
Voluntary Withdrawal	1923	8.68%
Academic Withdrawal	4926	22.24%
Administrative Withdrawal	225	1.02%
Total	**22,150**	**100.00**

Source: PRONABEC. Compiled by the author.

Table 3.
Status of scholarship recipients at universities (2012–2019).

Variable	Coef.	Std. Err.	t-value	p-value	[95% Conf. Interval]	Sig
Type of university management						
Private	−0.248	0.03	−8.39	0	−0.306 to −0.19	***
Cohort by year of scholarship award						
2015–2016	−0.221	0.021	−10.36	0	−0.263 to −0.179	***
2017–2019	−1.269	0.034	−36.98	0	−1.336 to −1.201	***
Scholarship modality						
Special	0.141	0.026	5.40	0	0.09 to 0.192	***
Intercultural Bilingual Education	−1.133	0.152	−7.44	0	−1.432 to −0.834	***
Sex						
Male	0.012	0.019	0.60	0.546	−0.026 to 0.05	
Age at receipt of scholarship						
18 to 19 years	0.098	0.022	4.52	0	0.056 to 0.141	***
20 years or older	0.258	0.035	7.40	0	0.19 to 0.326	***
Place of study						
Provinces	−0.094	0.024	−4.00	0	−0.141 to −0.048	***
Another country	−0.379	0.079	−4.79	0	−0.535 to −0.224	***
Place of origin						
Rest of the country	0.203	0.028	7.15	0	0.148 to 0.259	***
Native language						
Quechua/Aymara	0.017	0.036	0.48	0.63	−0.053 to 0.087	
Amazonian	0.49	0.046	10.71	0	0.401 to 0.58	***
Field of study						
Social Sciences, Business, and Law	−0.733	0.141	−5.22	0	−1.009 to −0.458	***
Natural Sciences, Exact Sciences, and Computing	−0.601	0.141	−4.26	0	−0.878 to −0.324	***
Engineering, Industry, and Construction	−0.536	0.139	−3.85	0	−0.809 to −0.263	***
Agriculture and Veterinary	−0.716	0.145	−4.93	0	−1.001 to −0.432	***
Health Sciences	−0.675	0.146	−4.62	0	−0.961 to −0.389	***

*Constant: 0.349. Std. Err.: 0.143. t-value: 2.43. p-value: 0.015. [95% Conf. interval]: 0.068 to 0.63. Sig: **. Mean dependent var.: 0.312. SD dependent var.: 0.463. Pseudo R-squared: 0.087. Number of observations: 21,925. Chi-square: 2358.636. Prob > chi2: 0.000. Akaike Information Criterion (AIC): 24,909.959. Bayesian Information Criterion (BIC): 25,061.871.*

Table 4.
Probit model for determining scholarship loss in Beca 18, 2012–2019.

confidence. The estimated coefficients for most explanatory variables are statistically significant at the 1 and 5% levels, with the exceptions of sex, the Quechua/Aymara native language, and universities with a range of beneficiaries between 1000 and 1600 scholars. Positive coefficients indicate a higher probability of losing the scholarship, particularly for variables, such as scholarship modality (Special), age at the time of receiving

the scholarship (18–19 years and 20 years or older), native language (Amazonian native), place of study (outside Lima), and place of origin (rest of the country).

Conversely, negative coefficients in the Probit model suggest a lower probability of scholarship loss in situations, such as studying at a private university, receiving the scholarship in the 2015–2016 and 2017–2019 cohorts, participating in the Bilingual Intercultural Education modality, studying abroad, or being enrolled in fields, such as Social Sciences, Natural Sciences, Engineering, Agriculture and Veterinary Medicine, and Health Sciences.

Variable	dy/dx	Std. Err.	z	P > z	[95% Conf. Interval]
Type of university management					
Private	−0.083	0.010	−8.170	0.000	−0.103 to −0.063
Cohort by year of scholarship award					
2015–2016	−0.081	0.008	−10.350	0.000	−0.096 to −0.066
2017–2019	−0.337	0.007	−48.450	0.000	−0.351 to −0.324
Scholarship modality					
Special	0.046	0.009	5.340	0.000	0.029 to 0.063
Intercultural Bilingual Education	−0.249	0.018	−13.750	0.000	−0.285 to −0.214
Sex					
Male	0.004	0.006	0.600	0.546	−0.008 to 0.016
Age at receipt of scholarship					
18 to 19 years	0.032	0.007	4.480	0.000	0.018 to 0.046
20 years or older	0.086	0.012	7.190	0.000	0.062 to 0.109
Place of study					
Provinces	−0.030	0.008	−4.030	0.000	−0.045 to −0.016
Another country	−0.114	0.021	−5.320	0.000	−0.155 to −0.072
Place of origin					
Rest of the country	0.064	0.009	7.380	0.000	0.047 to 0.081
Native language					
Quechua/Aymara	0.006	0.011	0.480	0.631	−0.017 to 0.028
Amazonian	0.169	0.016	10.380	0.000	0.137 to 0.201
Field of study					
Social Sciences, Business, and Law	−0.248	0.049	−5.050	0.000	−0.344 to −0.152
Natural Sciences, Exact Sciences, and Computing	−0.207	0.049	−4.190	0.000	−0.304 to −0.110
Engineering, Industry, and Construction	−0.186	0.049	−3.810	0.000	−0.282 to −0.090
Agriculture and Veterinary	−0.243	0.050	−4.830	0.000	−0.342 to −0.144
Health Sciences	−0.230	0.051	−4.550	0.000	−0.330 to −0.131

Note: dy/dx for factor levels is the discrete change from the base level.

Table 5.
Relative weight of each variable (delta method).

Table 5 shows the marginal effects derived from the Probit regression. Scholars from regions outside Lima have a 6.4% higher probability of losing their scholarship compared to those from Metropolitan Lima and Callao, suggesting additional challenges related to adapting to university and a new environment. Scholars whose native language is neither Spanish, Quechua, nor Aymara face a 16.9% higher probability of losing their scholarship, possibly reflecting difficulties in integrating into a predominantly Spanish-speaking environment.

Regarding age at the time of receiving the scholarship, scholars aged 18 to 19 years have a 3.2% higher probability of losing the scholarship, and those aged 20 years or older have an 8.6% higher probability. This may be related to socioeconomic factors affecting their academic performance. Concerning the awarding cohort, scholars from 2015 to 2016 have an 8.1% lower probability of losing their scholarship, and those from 2017 to 2019 have a 33.7% lower probability, indicating improvements in the programme's processes over time.

For the scholarship modality, there is a 4.6% higher probability of loss in the Special modality compared to the Regular modality, and a 24.9% lower probability in the Bilingual Intercultural Education modality. Among the fields of study, scholars in Social Sciences, Commerce, and Law have a 24.8% lower probability of losing their scholarship; those in Agriculture and Veterinary Medicine have a 24.3% lower probability; those in Health Sciences have a 23.0% lower probability; those in Natural Sciences, Exact Sciences, and Computing have a 20.7% lower probability; and those in Engineering, Industry, and Construction have an 18.6% lower probability. Scholars studying in provinces have a 3.0% lower probability of losing their scholarship compared to those in the capital, and those studying abroad have an 11.4% lower probability of loss. Finally, students in private universities have an 8.3% lower probability of losing their scholarship compared to those in public universities, suggesting that costs and socioeconomic level might influence retention in private institutions.

4. Discussion

This study critically examines higher education financing policies in Latin America, focusing on Peru, and highlights their implications for equal opportunities. The findings confirm that individuals who complete higher education earn significantly more than those who do not, emphasising the necessity of not only obtaining a degree but also completing it. This aligns with research in other Latin American countries, such as Brazil and Colombia, where higher education completion is associated with improved economic outcomes [8–10, 28]. However, university dropout persists, particularly due to economic reasons, highlighting the need to enhance support programmes to reduce dropout rates and maximise the social return on educational investment.

In Peru, the analysis reveals that wage returns vary by sector, with the mining industry benefiting from a favourable international price cycle. However, the impact in rural areas is limited due to reliance on urban supply chains, a pattern also observed in countries like Chile, where mining benefits urban economies more than rural communities [39, 40]. Gender disparities in earnings are notable, with men earning more, particularly among those with incomplete degrees. This aligns with findings from Colombia and Chile, where similar gender pay gaps exist [29, 30].

Engineering, industry, and mining careers demonstrate the highest wage returns, with these fields consistently showing strong demand in the labour market due to

Peru's economic reliance on its natural resources and industrial sectors. Conversely, education careers exhibit the lowest returns, reflecting both the challenges in the teaching profession and the historical undervaluation of educational roles in comparison to more technical fields [34, 35].

The positive impact of educational quality on wage returns is further supported by rankings like SCIMAGO, which assess academic institutions on research output and innovation. Graduates from higher-ranked institutions tend to secure better-paying jobs, suggesting that the prestige and quality of an educational institution play a significant role in labour market outcomes [41]. This pattern reflects global trends where higher-ranking institutions provide graduates with access to better networks, resources, and opportunities, thereby increasing their income potential.

Moreover, stark regional and urban disparities in wage returns remain evident. In Peru, Lima and other major urban centres offer significantly higher wage returns compared to rural areas. Urban areas benefit from more diverse and robust economies, which provide greater job opportunities and better remuneration. In contrast, rural areas tend to be less economically developed, offering fewer high-paying jobs, which exacerbates inequality in wage outcomes for graduates in these regions [9, 32]. This disparity highlights the need for targeted regional development policies to ensure more equitable distribution of economic opportunities and to reduce the income gap between urban and rural graduates.

The Beca 18 programme has improved access to higher education for vulnerable populations but faces challenges in student retention and programme's cultural adaptation [42, 43]. While the programme demonstrates good coverage results, there is a significant loss of scholarships during the initial years of study, indicating a need for retention strategies throughout the university career [44, 45].

The Beca 18 programme has significantly improved access to higher education for vulnerable populations, offering opportunities to students from low-income backgrounds and marginalised communities. However, like similar programmes in Latin America, it faces challenges in ensuring student retention and cultural adaptation. Research on other scholarship initiatives in the region reveals comparable issues, where students often struggle to adjust to academic environments that may not cater to their specific cultural and socioeconomic contexts. For example, in Chile, the *Gratuidad* programme, which aims to provide free higher education, has encountered similar obstacles in retention, particularly among indigenous and rural students, who often lack adequate academic preparation and face significant cultural differences in urban universities [46].

In addition to retention, a major challenge across the region is the need for continuous support throughout students' university careers. In Brazil, the *Programa Universidade para Todos (ProUni)* offers scholarships to low-income students, but retention rates are significantly impacted by insufficient academic and socio-emotional support [47]. A similar trend is observed in Argentina's *Programa Nacional de Becas Universitarias (PNBU)*, where dropout rates remain high despite financial aid, pointing to the need for additional mentoring and counselling services to help students navigate university life [48].

In the case of Beca 18, while the programme demonstrates good coverage results, there is a notable loss of scholarships during the initial years of study, reflecting a broader issue in the region where access to higher education is not enough to guarantee success. This underscores the importance of implementing comprehensive retention strategies that go beyond financial assistance to address the academic, psychological, and cultural needs of students. Studies from Mexico, where the *Becas*

Benito Juárez programme supports low-income students, suggest that integrating mentorship and tutoring services significantly improves retention rates by providing ongoing academic support and fostering a sense of belonging [49].

The high dropout rates seen in Beca 18 are likely linked to a combination of academic underpreparedness, cultural dissonance, and the financial pressures that students face despite receiving scholarships. Many recipients, particularly those from rural and indigenous communities, struggle with the transition to university life in urban areas, where they often encounter social isolation and unfamiliar academic environments. These challenges are not unique to Peru but are part of a wider regional pattern. For instance, in Colombia, the *Ser Pilo Paga* programme has faced similar difficulties, with many students dropping out during the first year due to inadequate support systems [50].

To enhance the effectiveness of Beca 18 and similar programmes across Latin America, it is crucial to develop comprehensive retention policies that include academic advising, psychological support, peer mentorship, and cultural integration initiatives. Successful models from programmes like Ecuador's *Beca de Excelencia* suggest that creating academic bridges, such as preparatory courses and tutoring, can significantly reduce dropout rates and improve student outcomes [51]. Moreover, a focus on soft skills development and social integration can help students better adapt to the demands of higher education, as seen in Uruguay's *Fondo de Solidaridad* programme, which provides additional academic and emotional support to scholarship recipients [52].

An analysis of the characteristics of scholarship recipients and their impact on scholarship loss reveals key factors that influence the probability of dropout. One critical factor is the age at which the scholarship was received, with older students often facing additional personal and financial responsibilities that increase the likelihood of dropout. This pattern is not unique to Peru; similar trends have been observed in other Latin American countries where non-traditional students, particularly those who enter higher education later in life, face barriers to academic success due to balancing work, family, and studies [53].

The place of origin also plays a crucial role. Students from rural areas face unique challenges, including limited access to preparatory education, socioeconomic barriers, and the difficulty of transitioning from rural to urban life. In Peru, these students often experience social isolation and cultural dissonance in university settings, which contributes to higher dropout rates. A study in Bolivia similarly found that rural students in higher education tend to experience greater academic and social difficulties than their urban counterparts, underscoring the need for targeted support systems [54]. This suggests that programmes like Beca 18 should adopt more culturally sensitive approaches, particularly for students from indigenous and rural communities, who may have non-dominant native languages and face additional linguistic and cultural barriers.

Indeed, language plays a significant role in educational outcomes. Students whose native languages differ from the dominant language of instruction often struggle to adapt, leading to lower academic performance and higher dropout rates. In the context of Beca 18, students from indigenous communities who speak Quechua or Aymara, for example, may find it difficult to navigate the Spanish-dominant university environment. Similar challenges have been documented in Guatemala, where indigenous students with Mayan languages as their mother tongue experience higher dropout rates due to language barriers [55]. Addressing these challenges requires implementing language support programmes, bilingual education strategies, and initiatives that promote the inclusion of indigenous perspectives within university curricula.

Additionally, differences in scholarship loss probability by field of study and type of university indicate that certain disciplines and institutions may require more tailored academic and socio-emotional support. For instance, students enrolled in STEM (Science, Technology, Engineering, and Mathematics) fields often face more rigorous academic demands, which may increase the likelihood of dropout for those lacking a strong educational foundation. Similarly, students attending private universities tend to experience lower scholarship loss rates compared to those in public universities, which could reflect differences in resources, academic support, and student services between these institutions. This trend aligns with research from Mexico, where students in STEM fields and public universities encounter higher dropout rates due to the intensity of their studies and limited access to academic support [56].

Overall, these findings suggest that scholarship programmes need to be more flexible and adaptive to the diverse needs of recipients, considering factors, such as age, place of origin, language, field of study, and institutional characteristics. By providing more personalised support services—such as tutoring, counselling, and culturally relevant mentorship—programmes like Beca 18 can help reduce the risk of scholarship loss and improve retention outcomes. Lessons can be drawn from Ecuador's *Beca de Excelencia* programme, which incorporates mentorship and career guidance to support students from diverse backgrounds, leading to higher retention rates and improved academic performance [51].

5. Conclusions and recommendations

5.1 Impact of higher education and effect of work experience

An additional year of university education increases monthly income by 12.2%. However, the difference is notable between those who complete their studies and those who do not; graduates experience a 15.9% increase in their income, while those who do not complete their studies see only a 3.8% increase. Although an additional year of work experience also contributes to income growth (3.2% for graduates and 3.4% for non-graduates), its impact tends to diminish over time.

To improve the effectiveness of the Beca 18 programme and increase higher education completion rates, targeted interventions, such as academic tutoring, mentoring, and comprehensive support services (including mental health resources and career counselling), are crucial. Outreach efforts should focus on engaging underrepresented demographics to ensure equitable access. Strategic partnerships with industry can facilitate internships and job placements, providing essential practical experience. A robust monitoring and evaluation framework will assess programme impact and identify areas for improvement. Additionally, incorporating socioeconomic factors into selection criteria will better support disadvantaged students, while promoting lifelong learning initiatives will prepare graduates for the evolving job market. Leveraging data from scholarship recipients can also inform broader educational policy, empowering students to reach their potential and break the cycle of poverty.

5.2 Relationship between hours worked and income, and variables increasing wage returns

A 10% increase in work hours correlates with a 4.8% increase in income for individuals who have completed higher education, while those without formal

qualifications experience a higher return of 6.2%. This indicates that individuals lacking formal credentials are more reliant on extended working hours to enhance their income, thereby underscoring the disparity in long-term financial returns associated with educational attainment. Variables, such as gender, geographic location (specifically residing in Lima or urban areas), and sector of employment (including mining, government, construction, and services), significantly influence wage returns, whereas self-employment or wage dependency generally leads to lower income levels.

In response to these findings, several strategic recommendations are proposed for scholarship programmes such as Beca 18 to mitigate income inequality and enhance wage returns. First, it is imperative to implement measures aimed at improving retention rates within the educational system to reduce dropout rates, particularly among vulnerable populations, thereby ensuring a higher completion rate of higher education. Furthermore, facilitating integration into the labour market through comprehensive career counselling, structured internship opportunities, and strategic partnerships with industries that offer higher income potential is crucial. Scholarship programmes should also consider gender disparities, geographic factors, and sectoral employment trends, prioritising academic disciplines that align with high-return sectors, such as engineering and services. These strategies are designed to optimise the educational benefits and contribute to the long-term financial stability of graduates.

5.3 Quality of education and financing policies

Graduates from higher-ranked universities, especially private institutions, generally achieve greater wage returns, with fields like engineering, industry, construction, and mining offering the highest financial rewards. The PRONABEC and Beca 18 programmes have successfully facilitated access to higher education for disadvantaged students in Peru, but they face challenges that need ongoing attention, such as improving student support, enhancing graduate employability, and addressing regional disparities in educational quality. To maximise their impact, these initiatives should foster partnerships with industry stakeholders to ensure relevant curricula and incorporate feedback from students and employers. Ultimately, improving the quality of education and financing policies will empower students to reach their economic potential and contribute to Peru's broader economic development.

The relationship between access to high-quality universities and the Beca 18 programme is vital for improving educational outcomes and fostering social mobility. Beca 18 provides financial assistance to disadvantaged students, enabling them to attend institutions that might otherwise be inaccessible due to financial constraints. By connecting scholarship recipients with accredited universities known for their academic excellence, the programme enhances employability and income potential. This strategic alignment maximises the return on investment for both students and the government, empowering individuals to break the cycle of poverty while contributing to a more skilled workforce. To further enhance its impact, ongoing support mechanisms, such as mentorship and career counselling, should be integrated to help students fully leverage their educational opportunities.

5.4 Status of scholarship recipients, loss of scholarship, and factors leading to dropout

From 2012 to 2019, a total of 22,150 scholarship recipients were identified, with 58% still pursuing their studies and 10% having graduated, while others left the

programme for various reasons. Notably, 54% of the recipients are women, 80% come from regions outside Lima, and 86.8% speak Spanish, illustrating the programme's broad reach and diverse beneficiary backgrounds. However, scholarship retention is a significant concern, with 6849 recipients losing their scholarships during the study period. Academic challenges were a factor in 22.2% of these losses, highlighting the need for targeted support systems. Additionally, factors, such as place of residence, native language, age at the time of receiving the scholarship, scholarship modality, and the type of university management, play critical roles in influencing the likelihood of scholarship loss.

To effectively address the challenges faced by scholarship recipients, it is essential to incorporate the determinants of scholarship loss into programme design through comprehensive support interventions. This includes implementing personalised academic tutoring, mentoring programmes, and resource centres with tailored study materials. Creating an inclusive environment via diversity training for staff and organising cultural events are crucial. Establishing a robust monitoring and evaluation framework will facilitate data-driven adjustments to enhance intervention effectiveness. Individualised support plans for at-risk recipients should address their specific challenges, and communication channels for feedback should be strengthened. Engaging stakeholders, including educational institutions and industry partners, can further enhance support by providing additional resources and opportunities like internships. Operationalising these recommendations can significantly improve study completion rates and empower students, ultimately contributing to social equity and economic development.

5.5 Scope and limitations of the study

The study provides a comprehensive insight into the impact of scholarship programmes, specifically Beca 18, on the academic and professional trajectories of recipients. It examines demographic factors, retention rates, and the effect of educational quality on income. However, limitations include reliance on quantitative data, which may not capture the complexity of individual student experiences. Additionally, the lack of longitudinal tracking of beneficiaries may restrict the understanding of the long-term impact of scholarships. It is also acknowledged that socioeconomic variables, such as family context and employment status, were not sufficiently explored, potentially affecting the interpretation of the results.

To advance the field, it is recommended to conduct qualitative studies that delve into the experiences and perceptions of scholarship recipients, providing a richer understanding of the challenges they face. Furthermore, longitudinal research should be undertaken to assess the long-term impact of scholarships on educational and professional trajectories. It is crucial to include a more thorough analysis of socioeconomic variables, such as parental education levels and household income, to identify how these factors influence academic success. Lastly, exploring the effects of different support modalities, such as academic tutoring and mentoring, could provide valuable insights into how to optimise scholarship programmes to improve student outcomes.

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Chapter 3

Gifted Students in the Educational Policy Agenda in Mexico (1980–2006)

Gustavo Enríquez and Adelina Arredondo

Abstract

The study analyzes the educational policies on gifted people[1] in Mexico from 1980 to 2006.[2] It shows five highlighted aspects of gifted people policies: (1) the way in which this concept was explained in the special education field; (2) the political agenda that was established for the same; (3) the way in which the research project and educational intervention were performed; (4) the development of the educational proposal and the strategy to update teaching designed by the Secretariat of Public Education (SEP) in Mexico and (5) the operation of the intervention proposal through the General Secretariat for Special Education (DGEE). The concept of the gifted people remains ambiguous given the complexity prevailing in the country and its lack of articulation in cases where giftedness was not visible. The identification, evaluation and intervention proposal strategy focused on formal definitions ignoring both the situations in which these skills and capacities were developed, the specific environment of each family, the educational institutions where it was performed, as well as the different social spaces in which it was promoted.

Keywords: gifted, skills, capabilities, talents educational policy, special education

1. Introduction

The analysis period covered from 1980 to 2006 attempting to weigh disruptions, discordances and interstices in the policies on gifted people. In 1980, the gifted students were characterized by a group of researchers from the Secretariat of Special Education (DEE). Later in 2006, the Secretariat of Public Education (SEP), through

[1] The term "gifted" in English language and superdotado in Spanish is used internationally to designate capabilities, abilities and skills of an above-average person, in Mexico, they are called gifted people. In the Mexican case, the gifted people include the ability to stand out in one or more of the following fields: scientific-technical, humanistic-social, artistic and motor function.

[2] This text is a translation of the article: "Los alumnos superdotados en la agenda politico educativa de Mexico" (1980–2006) publicado en la revista electronica Foro Educacion; Salamanca, Espana v.16, num. 24 (enero de 2018). doi: http://dx.doi.org/10.14516/fde.515. Available from: https://www.forodeeducacion.com/ojs/index.php/fde.

this institution, designed the proposal for educational intervention at the national level, as well as a proposal for updating basic education teachers. Both dates mark the political trajectory of these policies in four significant parts. First, the characterization of gifted students in 1980. Second, the political agenda of the Mexican government and the conceptualization of the gifted students in 1989. Third, research on this population in 1993. Fourth, the design of an intervention and update proposal for basic education teachers in 2006. The policies trajectory on the gifted students took into account both the way in which researchers at the Secretariat of Special Education conceptualized the gifted Mexican child and the way in which the Mexican government regulated, formulated, addressed and designed an educational proposal.

The Mexican government generated legal and academic norms for the gifted students, indicating the compulsory nature of educational work in order to increase their potential without considering the personal, family, institutional, cultural and economic difficulties of the gifted students. The specialists placed the gifted students in the educational political agenda but focused their assessments from an urban perspective and with the psychoeducational tools of the moment. This political trajectory wove the fabric of the gifted students between the elaboration of academic ideas, educational policies and the psych-pedagogical operation.

The gifted students' field in Mexico shows the institutional developments of public education aimed at this population and the scarce information about its history [1–5]. The review of the state of knowledge about the gifted students, from the perspective of the Mexican Council of Educational Research (COMIE) through Sánchez [4] and a group of special education specialists [6–10], shows how this field is being built. From our perspective, it is necessary to reconstruct its history and reflect on the interpretation frameworks, the culture in which they are found and the proposed educational policies. In this way, we analyze part of the history of the gifted students and indicate the importance of the political-educational agenda of this period.

We organize the work in four sections: (1) The conceptualization around students with "much higher" capabilities from 1980 to 1985, (2) The construction of the policy agenda on "students with outstanding capabilities and abilities" between 1986 and 1991, (3) The research and educational intervention project regarding the outstanding capabilities and abilities between 1992 and 2006 and (4) The proposal of educational intervention: outstanding skills and specific talents from 2002 to 2001.

2. Conceptualization around students with "far superior" capacities from 1980 to 1985

At the end of the government of José López Portillo (1976–1982) and during the 6-year term of Miguel de la Madrid Hurtado (1982–1988), the development in the field of gifted children began in Mexico. During this period, the figure of Margarita Gómez Palacio, director of the DGEE, an educational psychologist and learning problems and child development researcher, stood out. Under her direction, the concept and work with gifted students was outlined from educational research and the special education framework. In this phase, the concept of gifted goes through a series of changes: first, the giftedness of gifted children measured through a test; second, the "far superior" intellectual capacities as the ability to obtain information, memory and understanding; third, the intellectual potential that allowed to develop their rational capacities; fourth, the talented with outstanding performance in an activity; and

fifth, the outstanding capacities and aptitudes such as ability, capacity, creativity and motivation of a person in a specific field known in special education in Mexico for their excellence as Outstanding Capabilities and Aptitudes (OCA).

Special education characterized gifted students as part of their functions by their different ways of learning and their intellectual capacity above the average students [11]. The gifted and the mentally impaired students were the two extremes that, at different times, were part of the formal conception of school intelligence. The gifted students were different within the school group and their educational intervention required a different approach.

Education and special education were defined as a process of development of human faculties, autonomy and productivity. In 1980, the DGEE adopted these principles and published: "Basis for a Special Education Policy," where the characterization and attention to gifted students were expressed for the first time:

> *Avoiding classifications, either because they respond to different criteria or because they are of little interest to the education system, this document lists the groups of students by the dominant nature of the problem, which allows to recognize some homogeneity in them. In this way, students can be grouped by:*
>
> *Mental deficiency.*
>
> *Learning difficulties.*
>
> *Hearing and language disorders*
>
> *Visual impairments.*
>
> *Motor impediments.*
>
> *Behavioral problems.*
>
> *Commonly, in each group, the majority presents, associated with the dominant problem, some of the difficulties that characterize the other groups. In addition, there are students with other characteristics, such as gifted and autistic students, who in the future will also receive education through this Secretariat [11].*

The SEP and the DGEE pointed out the academic-normative importance when incorporating the subject of the gifted students in the work of this directorate recovering the Renzulli [12] conception. At the same time, guidelines were established for the psych-pedagogical evaluation [11] from a clinical and psychometric approach to establish the normality or abnormality of children.

Margarita Gómez Palacio and collaborators in 1982 carried out research on the "Standardization of the SOMPA test battery (Multicultural and Pluralistic Evaluation System) reports and results" in Mexico City. The purpose of these tests was their standardization from a "multicultural" and "pluralistic" model that took into account the intelligence traits of the Mexican child, his health history, adaptive behavior, the environment and school performance. The standardization intended: "...to provide instruments adapted to the Mexican culture and to provide qualification criteria that would allow to compare the subject of the study, with criteria of a group of individuals representing the same cultural context" [13]. The evaluation took into account the

medical, social and learning aspects. The intelligence was measurable, the subject was adaptable to the social environment and the results had a high degree of normality. The validity rested on the "WISC-R Intelligence Scale" and its statistical examination. The idea of intelligence was implicitly explained as "universal, innate and measurable" [14], however, this definition ignored the prevailing reality in the country and of the Mexican children involved in complex cultural and social situations.

The information analyzed by the research of Margarita Gómez Palacio and collaborators demonstrated, supported by psychometry, the existence of a population with gifted characteristics. This population was made visible and in doing so demanded the design of an educational proposal that favored their potential and capabilities. Associated with the above, DEE specialists pointed out the need to investigate their characteristics, location and school context.

In order to take into account the traits of the Mexican child, a theoretical "multicultural" model was assumed through the SOMPA test, which recognized the "social context" as important in the "measurement of intelligence," but left out non-measurable aspects such as beliefs, values, customs, emotions and the own culture of the community and the school. In other words, the tests were applied in Mexico City leaving aside the diversity of intelligence and a fundamental aspect, the capital of the country was not the multiple reality of the gifted Mexican children in the rest of the country.

Another noteworthy aspect was the support received by DGEE from the Organization of American States (OAS), the SEP and the Technical Secretariat (DT) of the DGEE and from other Secretariats such as the Secretariat of Elementary Education, the General Secretariat of Elementary Education, the General Secretariat of Secondary Education, the General Secretariat of Technical Secondary Education, the General Secretariat of Statistics of the SEP and staff of the Research Department of the DGEE. The subject of the gifted children was placed in the political and social sphere with the support of international and national organizations and the institutional structure of Elementary, Secondary and Special Education of Mexico. The technical staff of the DGEE in Mexico City achieved the academic-legal indication in its normative documents and the research carried out by specialists made the gifted children visible as a population that needs to be attended by SEP.

The government of Miguel de la Madrid Hurtado in 1983 published the "National Development Plan." The plan gave rise to the "National Program of Education, Culture, Recreation and Sports." The program referred to the gifted children in the following terms: "The purpose of expanding access to educational services to all Mexicans will also include the expansion of special education. In addition, a support scheme should be initiated for children with outstanding capabilities and abilities" [15]. In this way, the outstanding capabilities and abilities (OCA) appeared, however, the psych-pedagogical frame of reference supported by Renzulli [12] continued. The Mexican government established care policies supported by the research conducted by the DGEE and its Technical Secretariat.

Margarita Gómez-Palacio, Elena Rangel Hinojosa and collaborators carried out the research project in 1984: "Identification of a 'far superior' intellectual capacity by the standardized WISC-RM intelligence scale in public school students in Mexico." The project was based on: "The WISC-RM intelligence scale measures intellectual capacity and currently has standardized standards for the population described here" ([16], p. 11). The "far superior" capacity range ranged from 130 to 150 IQ points or more on the WISC-RM scale [16]. The research was carried out in 50 public schools in Mexico City (coeducational, morning and evening shifts) with a total of 26,500

children from 6 to 9 years enrolled in second and third grade of elementary school in the 82–83 school year where 331 were randomly selected [16]. The IQ measurement and scores in the Mexican population were sustained by their high validity and statistical reliability. Three aspects stand out from these results: first, psychometry reinforced the intelligence measurement; second, the urban image and some public schools in Mexico City were presented as evidence of the intelligence of children from all over the country and third, the concept of gifted students capabilities and abilities was equated with that of "far superior" intellectual capacity generating ambivalence in its definition.

From the findings of the investigation: "Identification of 'far superior' intellectual capacity by the standardized WISC-RM intelligence scale in public school students in Mexico," we recall three statements. First: "There is a population of children with 'far superior' intellectual potential within the official elementary second and third grade schools" [16]. Second: "The Mexican children participating in this sample with a 'far superior' IQ are subject in school to the same stimuli and rewards as other children with 'average' IQ. This environment does not guarantee the development of their full intellectual potential" [16]. Third: "THE SPECIAL EDUCATION DIRECTORATE PROPOSES THE ESTABLISHMENT OF A SERVICE FOR TALENTED CHILDREN AS PART OF THEIR FUNCTIONS... (capital letters in the original document)" [16]. The data confirmed the existence of OCA but generated confusion by adding other concepts as synonyms: Much Superior Capabilities, High Intellectual Potential and Talented, terms with different nuances about the intelligence of the gifted students that made an ambiguous definition. The data from the psychometric research raised the need to seek pedagogical aid and a suitable program in order to educationally support this population. The intelligence perspective that was imposed was "universal, innate and measurable" through psychometric tests; however, this situation generated a conceptual vacuum on diverse populations such as indigenous people, women and students with abilities and skills from other fields of human work outside the school world emphasizing the urban context, western culture and the socio-educational typecasting of the gifted students in educational institutions.

Despite these difficulties, there was a conceptual, academic, institutional and political framework that, in 1985, allowed the SEP and the DGEE to implement the "Educational Program for the Care of Children with Outstanding Capabilities and Abilities (OCA)." This program highlighted the following points [17]:

1. The certainty of a variety of types of capabilities and abilities.

2. The IQ definition limited the identification of school intelligence and excluded talents from other areas.

3. The gifted students' capability or aptitude was highly relative; therefore, it is better to talk about outstanding skills or performances.

4. That gifted students' capability was developed by education and without stimulation was nullified.

5. A single criterion was not sufficient to define the term "gifted students." Three qualities were necessary: (a) above-average IQ ability (not necessarily "superior"), (b) motivation and (c) creativity.

6. The interaction of these three qualities was necessary for the creative and productive performances in the gifted students' capacity.

7. Outstanding performances were performed by some people, at certain times and under certain circumstances.

8. While traditional concepts of single criterion were based exclusively on IQ in a population of 1% and 3%, outstanding ability covered approximately 20%. The door was opened for more children to enter the special care program at any time during the school year.

We highlight the following: the outstanding ability questioned the academic capacity measured through an IQ and its relative biological origin; the talent was recognized, the work of other children in other areas, but their identification was maintained through a psychometric test that weighed verbal, perceptive and attention skills favored by schooling. The school intelligence concept was questioned as measurable data through the different talents of people in art, sports, humanities and science. Outstanding skills or performances were thought to be educable and developed by the work of the school, an argument supported by the comprehensive school focused on equal learning opportunities and a common space with students [18]. It was thought that, at certain times and under certain circumstances, the social context was a conditioning element of the intelligence of the gifted students. The gifted students' population was presented in art, science and culture not only in the academic area; however, academic-school activity was a priority in their identification.

From 1985, special education covered students with mental impairment, learning difficulties, hearing and language disorders, visual impairments, motor impairments, behavioral problems, autism and the gifted students. The argument was: "different people require a different education." This "different education" demanded formal and material conditions that were not implemented in order to design individual and school scenarios according to their capabilities and abilities. The circumstances were not taken into account, it is sufficient to point out that 20% of the educational population was not covered (statistically suggested data of gifted students' population in school) and the OCA concept focused on specific products did not help to understand talent, for example, Albert Einstein was shy, insecure and spoke little, which led him to be considered retarded and not a gifted student.

The intervention model adopted in OCA (Outstanding Capabilities and Abilities) responded to the academic context of performance theories, leaving aside two questions: how much of a person's intelligence can be observed outside the school context? and, can the capability measured by a psychometric test identify an intelligent person in other areas outside of school? The measurement gives formal indications about intelligence in terms of measurable capabilities by defined categories to the detriment of social and cultural factors that establish clearly marked differences between students [19]. Both performance and capacity were determined from a policy of individual respect that did not contemplate inequality and differences in the country. Despite these aspects, gifted, talented students with far superior capabilities or outstanding performances, and finally, with outstanding capabilities and abilities, were placed in the political educational scene from the academic interest of a group of researchers in the special education field based on the results of their research in Mexico City. This group actively participated in its conceptualization and demanded the design of an intervention proposal by SEP. The educational and attention interests

were grouped into "students with outstanding capabilities"; this group gave the basis of the educational agenda of the Mexican government in this field.

3. The construction of the political agenda on "students with outstanding capabilities and abilities" between 1986 and 1991

The economic and political context in the 1980s determined the inclusion of the country in the global economy through macroeconomic stabilization and the opening of the international market [20]. The government's educational agenda and policies on students with outstanding capabilities and abilities were influenced by the political and economic context. The agenda elaborated the work with students of elementary school level and generated the need for a new object of educational intervention: "students with outstanding capabilities and abilities."

In the 1985–1986 school year, according to Pineda [21], the experimental phase of the OCA model was initiated in the Federal District in four public elementary schools and in the 10 children's home of the National System for the Integral Development of the Family (SNDIF) with the "Project for the Care of Children with Outstanding Capabilities and Abilities (OCA)." The Far Superior Capacity, talent and giftedness concepts were left out (centered on measuring intelligence) and OCA was placed as central in the definition of the gifted persons. The model sought to develop general and/or specific outstanding capabilities in addition to increasing motivation and developing creativity in students [17]. In 1986, the DGEE initiated an experimental study of this population, developed an attention model or OCA model and followed up on a proposal for attention to gifted Mexican children, which specified its definition, evaluation and a teacher training strategy.

The outstanding definition was based on two models: the "Enrichment Triad Model" by Renzulli [12] and "Multiple Talents" by Taylor [22]. From Renzulli, the IQ, motivation and creativity were recovered. In Taylor's case: productive thinking, planning, communication, prediction, decision-making and human relationships. Students with outstanding capabilities and abilities were characterized by their high scores on psychometric tests, their interest in the observed tasks and their creativity when facing previously designed activities [12]. When solving problems elaborated by the tester, productive thinking, activity planning, information communication and decision-making are identified [22].

The evaluation of students with outstanding capabilities and abilities was based on four types of information: psychometric, evolutionary, school performance and sociometrics. The information was derived from evidence scores, children's productions, anecdotal records, observation reports, teacher nominations, peer nominations, self-nominations, parent nominations, unstructured expressions and classroom performance [17].

The emphasis of the work with the gifted students was not only placed on the measurement of tests but also on the opinion of peers, parents, students, teachers and tangible products; however, the fundamental feature was to look and appear gifted students without attention to other aspects not perceived by the group and in many cases not expressed as ethnic minorities, children and young people whose talents were not valued by the school for their different capabilities, abilities, skills, and their low scores in psychometric tests.

The training of teachers according to Pineda intended: "An educational strategy that sought to increase the potential of gifted students through materials, supports

and resources" [15]; i.e., a strategy was generated focused on the preparation of teachers through activities, materials and appropriate ways of working for the development and superior potential of the gifted students. The training started from the Three-dimensional Model of School Improvement Activities or OCA Model which had three types of activities: (I) General exploratory activities aimed at exposing students to a variety of school disciplines; (II) Group training activities aimed at promoting affective and thought processes; and finally, (III) Research activities on real problems: individual or small groups that sought to promote research and artistic productions [17]. In this way, a normative framework was established, a research project was carried out and a work and training of teachers' strategy was launched.

In 1989, during the 6-year term of Carlos Salinas de Gortari (1988–1994), through the Federal Executive Branch, the "Program for Educational Modernization (PME) 1989–1994" [23] was elaborated. In this regard, the PME noted the following on gifted students:

> *Special education is an essential service to support basic education, since it promotes the development of the potential of individuals with problems as well as overcoming their difficulties in adapting to school and social life. It also covers the care of children with outstanding capabilities whose maximum development is of interest to society as a whole [23].*

The PME recognized students with outstanding capabilities as students with superior potential when learning and with school adaptation needs, it also added: "Despite the size of the children and young people population with outstanding capabilities and the benefits that the development of their talents can bring to the country, in the 1988-1989 years the program for their stimulation attended only 2,357 children" [23]. It should be remembered that Margarita Gómez-Palacios, in 1984, talks of 20% of the population as potentially gifted, these figures, therefore, are below the demand. Faced with this problem, the PME highlighted:

> *The operation of two new care models: one for rural areas... and another to stimulate the capacities of gifted children and young people. The latter involves the implementation of procedures throughout the country to identify and monitor them, and also includes the design and provision of the corresponding methodological and didactic resources, as well as the organization of social participation, mainly of associations of professionals in the field [23].*

In this way, the rural population was compared to the gifted students as vulnerable groups with different capabilities; in one case, caused by their marginal economic and social status; in the other, the limited educational support received to increase their intellectual potential. The problem of the gifted students affected the possibility of generating proposals for intervention by professionals in this field and allowed the participation of non-governmental organizations. The government moved from an experimental model to the design of an educational care program in the country. The object of research and intervention indicated by specialists and researchers of the DGEE was placed on the political agenda of educational officials, auditors, teachers, parents, professionals and interested parties in the subject. The political-educational agenda sought the identification, design, elaboration and operation of pedagogical actions with the participation of specialists. The program established an educational that regulated actions and suggested strategies to:

> *To adapt its educational contents, pedagogical methods and teaching resources according to the educational integration models proposed to bring this service closer to the community; to reduce the specialized attention time and to prevent failing and dropout of elementary education ... to cultivate the talent of gifted children and young people deserves special attention and care of society [23]*

The PME showed the need to form an OCA care service for children and young people supported by research carried out in the DGEE and the demands of different social groups. The political agenda recommended educational intervention with the gifted students in elementary education, suggesting their integration and cultivation to eliminate the waste of their intellectual potential due to lack of support. The gifted students were part of the special education also contained the germ of social talent and required their educational integration in the school.

In 1991, the DGEE and its Technical Secretariat elaborated the pedagogical foundation for the OCA Elementary School Project [24]. In this document, seven aspects of the teacher's psycho-pedagogical work were pointed out. The first three were the gifted person concept, knowledge construction and pedagogical implications. The last four, level of study, teacher training, material chosen and homogeneity of the group, were treated implicitly. Seven pedagogical principles were highlighted in this material: (1) Enhancing cognitive structures; (2) Knowing external manifestations of development; (3) Understanding data; (4) Wonderful ideas generate thinking skills; (5) Conditions for thinking for oneself and with critical sense; (6) The teacher promotes active exploration in class; and (7) Promoting scientific activities. The gifted concept was explained as a specific skill and a necessary ability to know in order to enhance it in schoolchildren, recognizing their previous knowledge and interests through scientific activities. The vision of the operative pedagogy of Piaget's theory penetrated the implementation of school activities coupled with the vision of disciplinary intelligence.

This expansion of models and theories revealed an educational field open to academic discussion and political interest. The different conceptions at play allowed to recognize the interests, as well as the influence of society and culture on the gifted students' capacities. In general, the international academic discussion discussed the concepts of gifted, talented or outstanding; at the private level, special education in Mexico explained the capacity, ability, skill or aptitude. This political and academic discussion highlighted the different ideologies about the concept of intelligence of the gifted people in the social, political and cultural reality expressed in psychoeducational trends and implemented in educational institutions. In this way, the gifted people were placed as a content of educational interest on which it was essential to act and recognize the multiplicity of realities in the country. The educational policy used the results of the research in the design of an attention model that sought to respond to the social demand of that moment.

4. The educational intervention project in relation to outstanding capacities and aptitudes between 1992 and 2001

In 1991, the DGEE and the DT developed the "Elementary Outstanding Capabilities and Abilities (OCA) Project" [24]. The project was based on a pedagogical base centered on three qualities [17]: (1) Above-average capability (IQ), identified through a test; (2) Motivation, interest demonstrated in performing tasks and (3) Creativity, relationships between known elements and inventing new problems [12,

24]. In the identification of both motivation and creativity, no type of evaluation instrument or test was used, and its basis was based on Rezulli [12], Taylor [22] and Piaget's theories of cognitive development: [24]. The OCA proposal sought to promote a development environment with an inductive learning strategy in order to build concepts, generalizations, principles and rules [25]. The OCA model promoted high levels of commitment, creativity and capacity through special groups [24]. The model sought to promote scientific attitudes and increase cognitive skills. The educational policies of the model were translated into norms, work activities and sequences with the gifted students. The operation of the proposal separated the OCA children, generating a separate group as indicated by the teachers who carried it out in the schools.

In 1993, in the Salinas de Gortari 6-year period, the "Federal Education Law" was replaced with the "General Education Law," in its Article 41 Chapter IV. Sect. 1 established:

> *Special education is intended for individuals with temporary or definitive disabilities, as well as those with outstanding capabilities. It shall endeavor to provide care for students in a manner appropriate to their own conditions, with social equity.*
>
> *In the case of minors with disabilities, this education will facilitate their integration into regular basic education establishments. For those who do not achieve this integration, this education will seek to satisfy basic learning needs for autonomous social and productive coexistence.*
>
> *This education includes guidance for parents or guardians, as well as teachers and staff of regular basic education schools who integrate students with special educational needs [26].*

The educational bodies of the Mexican government recognized outstanding capabilities as special needs and designed a proposal for educational integration where their attention was raised in order to guide parents and teachers on their educational integration. Thus, the gifted students were "normalized" under the principle of equal opportunities and social integration [2], but their potential was left in their hands, giving rise to the discourse of opportunities for a few and the vast majority without adequate conditions under the assumption of the "protection of their superior intelligence."

In 1999, the International Finance Corporation (IFC), a subsidiary of the World Bank, organized the international congress: "Investment Opportunities in Private Education in Developing Countries" [20]. In the opinion of Bonal [20], the ideas of the congress generated policies on "educational quality," i.e., education can be objectively measurable in a close relationship with productivity and competitiveness. Basic education was justified by its support for the economy and the quality of its service [27]. In this way, the gifted students required little investment and the help offered by the government was to raise the educational quality of school institutions in order to provide an intelligent population to society and businesses.

Regarding outstanding capacity, at the time, there was a proliferation of theories and models about giftedness [19]. Intelligence was evaluated by psychometry from its hierarchy and classification as lower, middle and higher. In this discussion, the position of intelligence as "innate, general and heritable" continued, however, social, cultural and multiple theories on the concept of intelligence are emerging that challenge these absolute and monolithic ideas. The models in play according to Castrejón

et al. [19] were: performance (focused on measurement), cognitive (construction and processing of knowledge) and sociocultural (recognition of context). The educational proposal recovered the cognitive model and internationally adopted educational policies of school integration.

In the case of Mexico, these policies modified the special education services with the creation, in 1992, of the Regular Education Services (USAER), which established the principle of normalization of people, the right to lead a normal life and the identification of their Exceptional Educational Needs (EEN) [28]. In 1996, the Salamanca statement was made through the "World Conference on Exceptional Educational Needs: access and quality" that originated the approach of educational integration in Mexico. The EEN and educational integration sought to eliminate legal classifications of impairments and place "learning difficulties" as special aids [29]. The EENs of the gifted students were recognized as basic aids to develop their capacities and abilities in order to normalize them socially, educationally and legally.

From 1999 to 2000, the Directorate General for Educational Research of the Under-Secretariat for Basic and Normal Education carried out an intervention research project to promote the educational integration of children and young people with EEN [28]. In the national context, the National Education Program 2001–2006 (NEP) [30] mentioned the following objective of basic education: "...to ensure that the children and young people of the country have the same opportunities to pursue and successfully complete basic education and that they achieve the learning that is established for each grade and level" [31]. Regarding gifted students, in the third part of the program, he mentioned: "Establish guidelines for the care of children and young people with outstanding capabilities." The goal of this subprogram was: "To design, in 2002, a care model for children and young people with outstanding capabilities," supported by the "Strengthening of Special Education and Educational Integration Program (SSEEIP)." The economic, political, educational and regulatory framework was set up in order to operate the OCA project, integrate students and recognize their EEN.

UNESCO made the educational policy guidelines on diversity explicit with the "UNESCO Universal Declaration on Cultural Diversity" of 2001 and Talent in 2004 with the document: "Education of Talented Children in Iberoamerica." These documents emphasized the need to address the diversity of gifted children, promote their potential and foster their talents. Talent in the international discussion was a response to diversity, individual growth and specialization. The gifted people were part of social, political and cultural growth; their intellectual potential allowed the advancement of science, culture, sports, technology, the arts and humanities. The concept of intelligence of gifted people opened up in different fields, spaces and activities as part of social growth.

The UNESCO Universal Declaration on Cultural Diversity established an international regulatory framework on diversity. The gifted people were integrated into plurality and impacted policy design. In the document: "Education of Talented Children in Iberoamerica" [32], the multiplicity was the answer to the individual and group needs of the gifted people and their talent was: "...extraordinary and specialized skill in a specific field of human activity, for example: art, music, sports, science, theater..." and he adds: "...reference was made to aspects that stand out in the person; when they are more than one, he called specialized literature giftedness and not talent" [32]. Further, it is suggested: "There is an alternative to the unitary vision of the gifted, which considers that young people possess special intelligences, i.e., talents of various kinds. It is an analytical view of human capacities which, furthermore, he

considers that they can be trained and developed" [32]. A perspective prevailed that conceived different skills and capabilities together with talent as an extraordinary ability. The social potential of the gifted and talented was found in a social sector of 5–20% of the population that was necessary to identify and support as part of the cultural, scientific, social and human capital of the nation.

The educational orientation at the international level emphasized diversity and talent as necessary aspects of working with gifted students, but the school culture [33] and the logic from which the work with this population was benefited escaped these international and national political norms. The regulations were necessary, but not enough. Attention to the gifted required multiple economic, political, social and cultural support as well as personal perseverance and systematic work in each case, but at that time, the poor, migrants, women, the disabled, workers and gifted indigenous people were not attended. Intelligence has an "innate" component but it is necessary to consider the intentional experiences and learning that do not occur naturally and that integrate a set of particular and specific variables of the person. Capacity and talent are enhanced both by social and cultural contact systematically and methodically from traces that were not deepened at that time. Social, personal and cultural aspects were not investigated as Pineda and Padilla [34] and Peters [35] pointed out.

International and national trends in educational integration were based on the rights of children, persons with disabilities, minorities, gender, diversity and the talented in a formal way, but the content and operation of these rights were not analyzed in their material, economic and cultural conditions in each country. It was necessary to recognize the effective conditions that made it possible to develop talent and equal opportunities within the framework of fourth-generation human rights, the third article of the Mexican Constitution and the Federal Education Law. An open and clear reflection on the articulation of talent in the social, political and economic development of nations, as well as the educational integration of this group and the pedagogical work with diversity, was desirable.

5. The educational intervention proposal: Outstanding capabilities and specific talents from 2002 to 2006

At the end of the 6-year term of Carlos Salinas de Gortari, two actions were carried out in order to make the intervention policies explicit with gifted children and young people through the "Outstanding Capabilities and Abilities Project (OCA) [36]" and the modification of Article 41 of the "General Education Law." The World Bank (WB) suggested designing policies in basic education at the expense of high school and college. From the WB, the social benefits of investment in basic education were higher than those of higher education. The WB technically argued "investment in basic education" as a fight against "poverty" and "inequality" of opportunities. These policies were sustained by the education economy and made sense in the "National Program for Educational Modernization NPEM." In this way, there was an economic framework (predominance policies of basic education), regulatory framework (General Education Law) and a political-educational framework (NPEM and OCA project) that led to the design of an educational intervention proposal.

The "Boys and girls with outstanding capabilities project," was developed in 2002, according to Calatayud Mora et al. [37], was intended to: "Design, implement and

evaluate an educational intervention proposal that would meet the educational needs of students with outstanding capabilities attending elementary schools." It was until the period 2003 to 2006 that the "Research and Innovation Project" was carried out. An educational intervention proposal for students with outstanding capabilities (PSOC) [38].

The results of this research were the "Intervention Proposal: Educational Attention to Outstanding Students (IPEAOS)" [36] and the "Update Proposal: Educational Attention to Students with Outstanding Capabilities (UPEASOC)" [35]. The intervention proposal is organized into seven aspects: (1) Background and current situation, (2) Intervention proposal, (3) Process of attention, (4) Update proposal, (5) School enrichment, (6) Enrichment of the classroom context and (7) Extracurricular enrichment. The update proposed sensitization, basic concepts, the definition of gifted students, detection and pedagogical intervention [36]. On this date, the 26-year work in the special education field was formalized, expressed by researchers, educational officials, teachers and specialists to make possible the identification, attention, evaluation and design of an educational intervention strategy.

The IPEAOS [36] understood the OCA children as those who clearly stand out within their social and educational group. Children are actively involved and when motivated they create relevant work. They do not always stand out in all fields of human activity [36]. They can stand out in the scientific-technological field, humanistic-social field, artistic field or motor function field. The concept of outstanding was not clear and continued to be restrictive by not showing the capabilities, abilities and skills that are not observable in plain sight by gender, ethnicity, disability, work or age. The concept of aptitude, according to IPEAOS [36] and UPEASOC [38], was understood as:

> *...the natural capacities of individuals, which are developed as a result of educational experiences in the family, in school or in the community and which, under appropriate conditions, allow them to function with proficiency and efficiency to meet the demands of the social and educational reference group, in at least one field of human activity [38]*

Outstanding capacities are natural, but they develop in a family, school and community context appropriate to social demands. The capabilities were presented in four areas: intellectual, socio-affective, artistic and psychomotor; in exceptional cases, a child may be proficient in the four areas [36]. OCA students excelled in at least one field of human endeavor. Outstanding capabilities were seen as an identifiable element and with adequate support, it could be achieved in any of the four areas of human endeavor. Intelligence is a potential that one has, but without educational support, it does not develop and without an open theoretical framework, it is not possible to recognize its wide range. In this way, the ideas expressed by Renzulli in the 1980s of last century were recovered and the family, educational and social context was recognized as determinants. Diversity and external, internal and historical conditioning shaped their intelligence and the meaning of concept took on new imaginary meanings that it is necessary to investigate [39].

Torres Rodríguez [40] and Lorenzo García [41] pointed out that the concepts of gifted (exceptional competence in some field—above all intellectual and creative), talented (high degree of skill in a field), genius (great contribution and transcendence), prodigy (perfection of their works since childhood) and precocious (professional execution in a field despite their young age) were found in the academic discussion. The gifted withdrew to high levels of creative execution in adulthood

in the intellectual, emotional, physical, sensitive or esthetic areas; however, in Mexico, the position of gifted children and young people is assumed. In general, there remained a hierarchical model of intelligence from which reason was formally weighed and left aside the enormous variety of types of intelligence from rural, artistic, scientific and sports communities where absolute ideas had little to say about human diversity.

The outstanding capabilities in the Mexican educational proposals were defined from one or more fields of human endeavor and not from a general approach, however, psychometric and objective measurement prevailed in the evaluation. At the international level, the discussion of specific talent in an area of human endeavor was placed. IPEAOS [36] and UPEASOC [38] established formal mechanisms, concepts and ways of working with gifted students for their identification, evaluation, attention and enrichment with activities in the classroom, school and the community.

Intelligence was conceptualized from a sociocultural approach and the operation of policies through educational proposals sought to enrich the activities of work with students, however, in the educational institutions where work was carried out with these children and young people, there was a different reality that was necessary to investigate in order to understand the meaning and implementation of these policies. The gifted children and young people were supported by an intervention proposal through the development of a collective school project, however, although both aspects were an important advance, an in-depth analysis of the specific situation in which the educational work was carried out with gifted children and young people in each of the schools was necessary.[3]

6. Conclusions

In this chapter, we argue that the concept of outstanding and the policies that were generated from its conceptualization to its educational operation were not clear when they were implemented in Mexican educational institutions. The identification, evaluation and actions of the educational work proposed did not respond to the needs of the Mexican gifted children and young people, especially those who did not appear in these educational policies.[4] The DEE investigated, regulated and proposed attention actions, but did not fully understand the different contexts in which the gifted were developed.

[3] The work of Covarrubias gives an account of the situation that prevails today on the attention gifted students receive from special education services. In this manner, he points out: "Everything indicates that this population's attention is subject to the political will, the resource endowment, and is subscribed to those schools that have USAER (Regular Education Services Unit) when the population is immersed in every basic education school" [42].

[4] At this moment, the attention toward gifted students has been constantly decreasing. The work of Covarrubias [42] makes a historical count and indicates that in 2007, there were 1921 gifted students detected, and toward 2011, the number increased to 165,655. In 2015, it reached 32,149. In 2016, their detection increased to 34,709, and from 2017, it diminished to 26,138. In 2018, it amounts to 21,518, in 2019 to 22,163, and in 2021 to only 15,828. The data makes it evident, as pointed out by Covarrubias [42], that the gifted population is not a priority in public education supported by the Mexican State, and that it has been placed in a vulnerable position due to the little support for their attention within the scholar institutions in the country.

The way in which the gifted students were identified, the ways in which their skills were valued, the proposed actions weighed intellectual and urban development without understanding social, cultural and particular differences. The reality of the schools and the lives of the gifted students were broader than the proposals and the planned activities. It is enough to study cases of prominent artists, scientists, athletes, businessmen or politicians in Mexico such as Cuevas in Painting, Arreola in literature, Ana Guevara in sports, Slim as an entrepreneur or Cárdenas in politics where the school and educational policies did not directly intervene in the development of their talents. The political agenda in those years advocated specific talents and outstanding capabilities from enriching activities in the classroom, school and the community without explaining the relative concept of intelligence. The complexity of intelligence in each person is conditioned by its immediate context and the particular history in which it unfolds.

The concept of intelligence that was made explicit in the definitions of the normative documents on excellence was broad and general, which did not allow to discern their particular and institutional demands in each of the social and cultural environments where it was developed daily. The outstanding and their specific talents were abstract concepts that weighed the analysis of certain traits and left others that appear as potentials in poorly visible groups such as indigenous people, women, the elderly or the disabled.

The intervention project was based on the development of intelligence, educational quality and at an international level talent and diversity; however, it did not recover school culture, i.e., the experiences and practices of teachers, the work skills of teachers and the sense they attribute to their work in such a way that the formality of the concept was narrow in relation to the extent of the prevailing reality. The proposal for intervention and training of teachers was a necessary but insufficient strategy by not taking into account the environment of the country and the particularities of each school.

This work allowed us to consider the concept of excellence outside the school environment, its hierarchies and traditional areas of explanation in order to include the specificities of the cases in which talent and outstanding capabilities are presented as elements that help to reflect on human diversity and the peculiarities of people. The concept of general intelligence of the gifted students, first, pointed out in the working documents for teachers and then separated in talents was imprecise by not contemplating the traits of people outside the urban, school or formal institutions. In this way, gifted children and young people develop their lives, their interests and learning the activities that they love outside of school institutions or informal education; situation that will allow them to enhance their imagination, autonomy and creativity, necessary aspects to consider in educational institutions in order to allow the gifted students to be recognized in their diversity and uniqueness.[5]

[5] The reality of the Mexican students of 2023 who attend special education and receive special attention from regular schools continues with hardships, as pointed out by Álvarez, Álvarez and Escalante [43], and they indicate how the work of regular and special education teachers is constrained by both the conditions of educational institutions and the lack of capacitation for the teachers in inclusive practice.

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Chapter 4

Turkey's Policies of International Students and Scholarships Practices

Huseyin Tutar

Abstract

Turkey has a long history of sending students abroad, dating back to the early nineteenth century of the Ottoman Empire. The Ottoman authorities sent students abroad to transfer culture and technology from Western countries. The instrument of this transformation was the students sent within the scope of scholarship programs. The students were expected to equip themselves with new culture and technology to modernize the country's institutions. The founders of the Republic shared this perspective and sent more students to Western countries. To institutionalize the scholarship program, they regulated it under Law No. 1416, which has persisted for nearly a century with its core principles intact. The program is a vital opportunity for students, especially from middle-income families; however, it also imposes certain responsibilities on students. Turkey also started to implement student acceptance policies from abroad within the scope of Türkiye Scholarships after the 1990s. This program has contributed significantly to promoting the Turkish higher education system. The planned chapter of the book will deal with the meaning of the scholarship in the Turkish context. Within this context, the scholarship policies of the government, the opportunities that the scholarships create for the students, and the responsibilities brought onto students will be analyzed and discussed.

Keywords: scholarship liability, Türkiye scholarships, international students, scholarship practices, scholarship responsibilities, study abroad, Turkish higher education

1. Introduction

The existence of people with a high sense of curiosity, a love of knowledge, and a search for the truth dates back to early human societies. Pursuing knowledge and truth led the scholars to travel to different cultures and geographies and endure many hardships. Historical accounts of these scholars are available in ancient Chinese, Indian, Greek, Roman, Islamic, and Western civilizations [1].

These individual initiatives have gained an institutional character with the nation-states. International student mobility has become the official policy of the states, and countries such as England, France, Germany, and Russia have supported students from other cultures for political, religious, and commercial reasons. These countries have always supported international education as an instrument of foreign policy [2].

In the first half of the twentieth century, international student mobility and exchange programs almost stopped due to the First World War, the 1929 World

Economic Crisis, and the Second World War. The emergence of the United States as a superpower during these crisis periods caused international student mobility to be directed toward this country. After the Second World War, the Fulbright Program played a crucial role in enhancing the global reputation of US universities [1]. American higher education institutions have emerged as the top choice for international students, solidifying their position from World War II to the present day.

Globalization is another important phenomenon affecting international student mobility. It refers to "worldwide interconnectedness and the global movements of natural resources, trade goods, human labor, finance capital, information, and infectious diseases [3]. Technological innovations, faster knowledge transfers, breakdown of international trade barriers, and financial integration among countries are the powerful forces driving globalization. These forces of globalization have transformed the world into a global community. This transformation has created a significant demand for individuals with international education and experience, which has led to the spread of international students' mobility on a global scale. As the impact of the globalization process increases, it is estimated that the need for international education will also increase. Global and national companies rely heavily on employees with international educational backgrounds. Therefore, higher-income families increasingly invest in international education for their children's success. This factor and supportive government policies contribute to an annual rise in international student mobility.

Global student mobility reached 3 million in 2005, 4.2 million in 2010, and 6.4 million in 2020. International student mobility was expected to reach 8 million by 2025. However, this trend, which was interrupted due to the pandemic, is expected to continue after the pandemic, and its economic size is expected to increase. International student mobility is now perceived as a market, and there is serious competition from international actors for this market. The countries that benefit the most from international student mobility are English-speaking countries. In this context, the US hosts 20%, the UK 10%, Canada 9%, Australia 8%, and New Zealand approximately 1% [4] of international students.

Turkey has a long history of sending students abroad, dating back to the last period of the Ottoman Empire. The country's student-sending policies have been influenced by various factors such as modernization, westernization, the Second World War, and globalization. The Turkish scholarship program has been regulated under Law No. 1416 and has persisted for nearly a century with its core principles intact. This study aims to assess Turkey's student-sending policies, the scholarship program's core tenets, and the implications of the contractual agreements on the students. In addition, Turkey started to implement student acceptance policies from abroad after the collapse of the Soviet Union. Within the scope of Türkiye Scholarships, bilateral cooperation protocols were signed with more than 60 countries, and students from abroad were accepted. Türkiye Scholarships have contributed significantly to promoting the Turkish higher education system. Therefore, Turkey has become an essential destination for international students and the tenth country in the world to host international students.

This study will explain Turkish scholarship programs. To understand the system or model of the scholarship programs, it is necessary to understand the historical context and the legal basis of sending students abroad and accepting students from abroad. The study will also analyze and discuss how the scholarship program creates opportunities for students and imposes responsibilities on them. By explaining the Turkish scholarship model and experience, the study will contribute to the literature, as there is very few (Tutar, 2023) research focusing on the scholarship program in the Turkish context.

2. Methodology

In the early period of the Republic, the administrators enacted Law No. 1416 in 1929, also known as the Law on Students to be sent to Foreign Countries, which still forms the basis for sending students abroad. To understand the Turkish scholarship model, it is essential to know the legal basis of the scholarship program, government policies, and the students' perspective on the program. To know the legal basis of the program, Law 1416, regulations, directives, communiques, guides, surety agreements, and undertaking letters were examined. Government bilateral agreements for cultural and educational exchange programs are also essential documents to discover the policies that affect inbound and outbound students' mobility. Lastly, the literature on Turkish international students was reviewed to get a better perspective of the model. In this case, qualitative studies are essential to understand this perspective and will be used in this study when required. The student's testimonies in this study are taken from published qualitative studies. In conclusion, this study is based on both research and a literature review to understand the Turkish scholarship program.

3. Türkiye's policies of sending students abroad

3.1 Policies of sending students abroad in the late ottoman period

The tradition of sending students abroad in Turkey can be traced back to the Ottoman modernization policies. In the eighteenth century, the Ottoman State acknowledged the superiority of Western institutions and initiated reform movements to bridge the gap. The state aimed to closely track the advancements in political, economic, and technological spheres in Western countries, especially France, Germany, and England, and import them when necessary. To facilitate this, the state established new institutions and prioritized the adoption of Western-style educational curricula. This involved recruiting instructors from abroad and sending students overseas. Historical records indicate that the Ottoman State made its first institutional effort to send students abroad (France) in 1830 [5].

The education abroad program initially focused on fields like military and medicine, including naval, engineering, and surgery. However, it later expanded to include various subjects such as mathematics, physics, chemistry, engineering, history, geography, language, agriculture, mining, and architecture. Graduates from this program often went on to hold key positions in the government. Most students selected for education abroad came from influential bureaucratic families and had completed their education in modern schools. The program also provided opportunities for children from affluent backgrounds, talented orphans, and those with recommendations from other states [5].

The embassies covered the students' living expenses, monthly scholarships, education, and health expenses. Since the students were considered potential civil servants, every stage of their education and social life was monitored. Therefore, the students who failed to meet academic standards, did not attend school, did not comply with school rules, or behaved inappropriately in social life were cut off from the scholarship [5].

The procedures for sending students abroad, implemented during the Ottoman Empire, have developed over time and have become standard legislation. This legislation includes selecting and sending students for international education, regulating

the expenses and educational experiences abroad, and the employment policies for their return to the country. This formative experience endured throughout the Ottoman period for approximately 100 years until the enactment of Law No. 1416 in 1929 (The Law on Sending Students Abroad) during the Republic's early period.

3.2 Policies of sending students abroad in the early period of the republic

After the First World War, the Ottoman Empire effectively ceased to exist, and the Republic of Turkey was established. Unlike the Ottoman Empire, which established its legitimacy based on the Ottoman Dynasty and the Islamic Religion, the Republic of Turkey derived its legitimacy from a concept of nationhood [6]. The new state rebuilt all its institutions on this basis and aimed for social development [7]. The new Republic set out to reorganize its institutions to implement the Western nation-state model and achieve social development. The state needed trained human resources in every field to achieve this goal. At that time, the Minister of National Education stated that they needed trained human resources in every field and would send as many students as possible to Europe for education [8].

Therefore, education abroad was supported more comprehensively during the Republic period than during the Ottoman period. The policy of sending students abroad was not interrupted and continued to be institutionalized. Thus, Law No. 1416, which regulates students going abroad, was legalized in 1929 during the early period of the Republic, and the program gained a strong legal basis. This law is still in force and constitutes the legal basis used by the Republic of Turkey to send students abroad, even though some updates have been made to the law over time. Below, all the details of the scholarship program based on the law in question will be explained.

3.3 World war II and policies for sending students abroad

The post-World War II era marked a significant shift in the global student movement, attributed mainly to the Fulbright Program introduced by the USA. This program aims to foster international cooperation and understanding through educational and cultural exchange initiatives, making it a key driver of international student mobility [1].

Turkish-American relations started to develop in the military field after the 1940s. During World War II, the US enacted the Lend-Lease Bill to provide military equipment assistance to its allies, which laid the foundation for the Fulbright Program after the war. Turkey benefited from this law [9], and Turkey was one of the first three countries to establish the Turkish Fulbright Commission in 1949 [1].

The threat from the Soviet Union strengthened Turkish-American relations. Joining NATO in 1952, after participating in the Korean War, further solidified Turkey's alliance with the United States. This shift significantly impacted Turkey's international student policy, and the United States became the primary destination for Turkish students. Before the 1950s, Europe, especially France, Germany, and England, was the top destination for Turkish students [6].

The Fulbright Program awarded scholarships to 1073 Turkish students between 1957 and 1981. These non-refundable scholarships ignite interest in US education in Turkey. Similarly, the UNDP provided scholarships to 876 students between 1977 and 1981 [6]. The availability of these scholarships for Turkish students led to a significant

interest in pursuing US scholarships among Turkish students. This impact persists to this day. A study [10] indicates that 82% of Turkish students are interested in studying in the US if given the opportunity.

The state largely directed Turkey's international student mobility abroad until the 1990s. However, with globalization, companies and wealthy families have also started to take a leading role in sending international students abroad.

3.4 Globalization and policies of sending students abroad

The breakdown of international trade barriers and advancements in technology and communication due to globalization have led to a global expansion in international student mobility [11]. As globalization's impact continues to grow in prevalence and intensity, the demand for international education is expected to rise. Crucially, the need for human resources with international education experience in global and national companies is a key factor driving this demand. Furthermore, families with upper-middle and upper incomes invest significantly in this area for their children's future. When combined with government policies, these factors contribute to the annual increase in international student mobility. Notably, the number of international students rose from 2.3 million in the 2000s to 6.4 million in 2021, according to IIE's Open Doors report [12].

International education fosters global cultural interaction and widespread knowledge sharing. It enables students to learn a foreign language, develop their talents, self-confidence, and creativity, and broaden their worldview [11]. The motivation for studying abroad stems from the belief that the experience and skills gained abroad are crucial for students' future, enhancing their qualifications and contributing to their careers. The research conducted by Farrugia and Sanger [13] found that studying abroad provides students with cognitive, personal, and interpersonal skills. It also offers invaluable cultural experiences, fosters curiosity, enhances adaptability and flexibility, builds confidence and self-awareness, and improves language and communication skills. Employers highly value these skills in today's global workforce, making studying abroad a strategic advantage in the job market. According to Yılmaz and Güçlü [14], experience gained abroad creates an advantage because the skills gained abroad are the same as those that employers expect from employees. As a result, families with means are increasingly choosing to send their children abroad for education to prepare a promising future for them.

It is crucial to understand that education abroad benefits not only international students but also the host countries. The process is based on mutual benefit. International students bring unique perspectives and identities that enrich the educational atmosphere of the institutions they attend. Their presence plays a vital role in shaping an inclusive, innovative, and interconnected global society across academic, research, experience, and cultural dimensions [15]. International students are also valuable in foreign policy, business, culture, and politics, ultimately benefiting the host country.

International education is now seen as a market due to its cultural and financial benefits, leading to serious competition from various countries. The number of countries wanting to host international students is increasing each year. In addition to traditional host countries like the USA, England, Canada, Germany, and France, other countries like Japan, Russia, Turkey, China, and India are also vying for a share of the international education sector and student population [1].

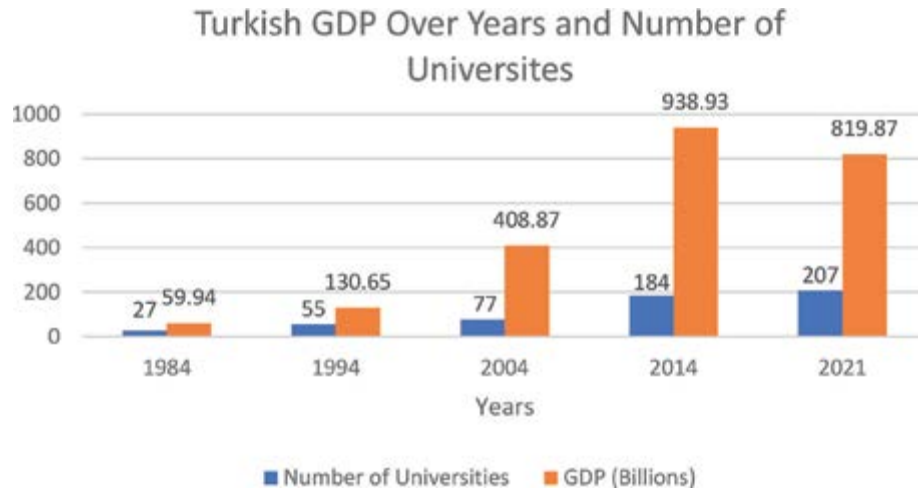

Figure 1.
World Bank Data Indicator: https://data.worldbank.org; Higher Education Statistics: https://istatistik.yok.gov.tr

3.4.1 Turkish higher education and Turkish international students

The data clearly shows Turkey's consistent GDP growth since the 1990s (**Figure 1**). The GDP was $130 billion in 1994 and reached $938 billion in 2014. This remarkable economic expansion has led to increased investments in the education sector. For instance, the number of universities in Turkey was 55 in 1994, 73 in 2000, and 207 in 2022 [16, 17].

As the number of higher education institutions has increased, programs to send students abroad have been implemented within the scope of Law No. 1416 to meet the employment needs of personnel who have studied and received their diplomas abroad. The government has announced the target of "5000 PhD students in 5 years" to demonstrate its commitment to education abroad [18].

According to the Guide (2016) for Selection And Placement of Students for Postgraduate Studies Abroad (YLSY) [19], Turkey has students pursuing master's and doctorates in over 50 countries, mostly English-speaking. From 1929 to 2005, 9689

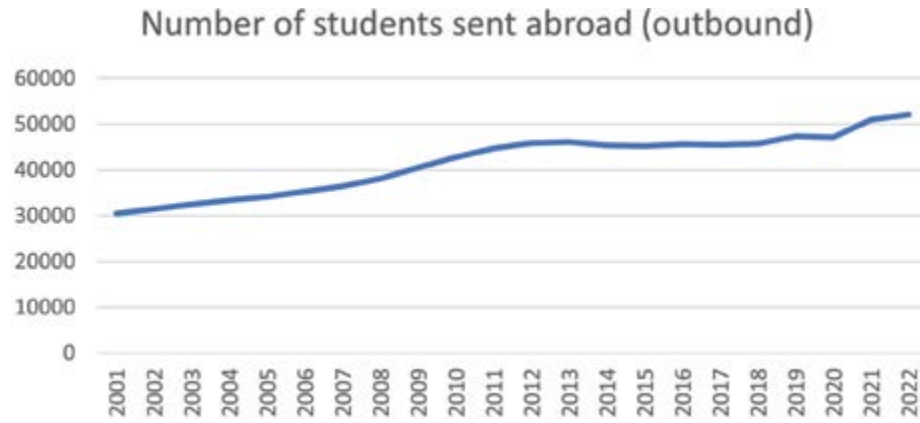

Figure 2.
UNESCO, 2024: https://data.uis.unesco.org/#

students benefited from the Scholarship Program under Law No. 1416. Between 2002 and 2022, 11,749 students benefited from this program, demonstrating a substantial investment in the scholarship program for studying abroad. Moreover, it is important to recognize that high-income families have also been able to provide their children with the opportunity to study abroad due to the growing national income. As seen in **Figure 2**, according to data from UNESCO [20], the number of students studying abroad has increased from 30,000 in 2000 to over 52,000 in 2022, underscoring the growing trend of international education. The consistent numbers over the years demonstrate that Turkey is among the leading countries in sending students abroad. Substantial investments in education have also led to a major increase in the number of universities. Additionally, universities in Turkey have begun to host a significant number of international students and scholars, leading to the internationalization of Turkish universities.

3.4.2 Policy of admission of international students to Turkish higher education institutions

Until the 1990s, Turkish universities had a limited student body, mostly from Middle Eastern countries. However, after the collapse of the Soviet Union, Turkey launched the Great Student Project in 1992, which brought 10,000 students from the Turkic Republics and related communities to various universities in the country. This project aimed to strengthen Turkey's ties with Turkic Republics and related communities, which share linguistic, religious, historical, and cultural connections with Turkey. As a result, Turkish universities gained valuable experience in accommodating international students [21].

According to the Council of Higher Education (YÖK) Internationalization Document [22], Turkish higher education institutions have outlined goals for internationalization and hosting international students since 2010. The document defines internationalization as the principles of "solidarity, cooperation, and working together." Its main objective is to promote Turkish universities and attract international students to prefer them. The 10th Development Plan [23] aimed to diversify higher education institutions and attract international students and faculty. The plan projected that Turkey would attract 1.5% of the international student market by 2018. These goals were further emphasized in the 11th Development Plans [24], focusing on increasing Turkish universities' internationalization capacities, offering foreign language programs, and growing international students.

As part of the development plans, the Council of Higher Education has established partnerships with 54 countries in higher education. As a result, a growing number of international students have attended Turkish universities each year. Statistics reveal that 30.3% of international students come from low-income countries, 13.5% from lower-middle-income countries, 46.6% from upper-middle-income countries, and 7.7% from high-income countries [25]. The top countries sending students to Turkey are Syria, Azerbaijan, Turkmenistan, Iraq, Iran, Afghanistan, Somalia, Egypt, Yemen, and Jordan [16].

4. Purpose, scope, and content of law no. 1416

The legal basis for state scholarships in Turkey is Law No. 1416, enacted in 1929. This law's primary objective is to fulfill the human resource requirements of universities and public institutions. As a result, the Ministry of National Education

has been authorized to handle all official processes for scholarship students going abroad. The law has established a comprehensive system for sending students abroad for education, entrusting the Ministry of National Education with the authority to manage the specifics.

The Ministry follows the procedure outlined below for this process:

a. *Application requirements*: All educational institutions in Turkey must inform the Ministry of National Education about the number of students they intend to send abroad, the student's field and level of education, and the country where they plan to study. Following these requests, the Ministry will publish an advertisement specifying the fields of study and countries where students can study abroad. Students who wish to study overseas must apply per this advertisement.

b. *Student selection*: Students chosen to study abroad must undergo written and oral exams per legal requirements. The Ministry invites the top four students with the highest written scores from the National Measurement and Evaluation Center for an interview exam in each field—an academic committee interviews to identify the most qualified candidates.

c. *Signing the contract*: A contract is signed by successful students in both written and oral exams. Upon signing the contract, the candidate's scholarship status is activated. The student's obligations under the Undertaking Letter are outlined below:

    1. The student agrees to return to the country upon completing their education as outlined in the study plan and to commence employment at the higher education institution or public institution to which they were assigned.

    2. Students must perform compulsory service for the institution they are sent to twice the length of their stay abroad. Those who leave before completing this service period must pay back the scholarship they received with interest.

    3. Students must adhere to specified timeframes for foreign language, master's, and doctoral studies. The study periods are 3 years for a master's degree (two and a half years with a scholarship, 6 months without a scholarship) and 6 years for doctoral studies (5 years with a scholarship, 1 year without a scholarship). Failure to comply with these timeframes will result in the compensation process.

    4. The scholarship status of students who voluntarily quit their education, fail to complete their studies on time due to absenteeism or negligence, are expelled from school due to indiscipline, or do not comply with the laws of the relevant country will be canceled.

    5. Those who leave their jobs before completing their compulsory service period must pay compensation.

One of the most challenging aspects of this contract for students is obtaining promissory notes from two other individuals who will guarantee them. As explained later, this matter is among the most stressful for students.

d. *Scope of the scholarship*: The scholarship includes monthly payments to cover living expenses, tuition fees, health care, and transportation expenses. It also covers treatment expenses for students, their spouses, and children. Additionally, the scholarship includes airfare for students abroad for language, master's, or doctoral studies and the return trip after completing their education. Visa expenses and foreign language exam fees are also covered. The scholarship is designed to fully support students' basic needs throughout their education [26]. These payments are made by the embassies and consulates in the countries where the education takes place.

e. *Dismissal from the scholarship*: Dismissal from the scholarship may occur if a student acts in a manner that does not befit the Republic of Turkey or the dignity of being a student, engages in illegal activities, fails to comply with the rules of the institution where they are studying, participates in income-generating activities not allowed by their student visa, or receives a prison sentence for violating the laws of the country where the student is located [27].

f. *Employment status*: After completing their education, students must return to their home country and start their new jobs within 2 months. The Ministry of National Education's exam announcements indicate which institution the students will be sent to study abroad on behalf of. Therefore, the process is predictable because it is clear from the student's perspective which institution they will work at after completing their education.

4.1 The scholarship's opportunities

The scholarship program mentioned above clearly provides significant opportunities for students. One of the most noteworthy benefits of the scholarship is the assurance of a profession. Before students travel abroad, the state informs them about the institution and position where they will work. This guaranteed employment is a crucial advantage for students. Moreover, studying abroad is expensive. Evidently, the students who pass the exams successfully are talented and highly motivated. Considering their socio-economic status, these students cannot afford to study abroad on their own. Research [6, 28] indicates that these students predominantly come from middle and lower-income families who do not have the financial means to pursue education abroad.

The scholarship has significantly contributed to students' academic careers, foreign language proficiency, work discipline, technical achievements, self-confidence, and communication skills. Students have also mentioned that thanks to the scholarship, they have made friends from different cultures, learned about many countries, built friendships, and had the opportunity to look at their own country from an outside perspective, expanding their vision. This high level of preparation and exposure to different perspectives make students a sought-after human resource in their own countries [18].

The research has shown that students who have studied abroad make significant contributions to their institutions, especially in foreign languages and international collaborations. Additionally, they are known to enhance institutional culture by engaging in research and development projects, working in a disciplined manner, and being well-versed in the relevant literature [18].

4.2 The scholarship's responsibilities

The scholarship provides students with valuable opportunities and places them under challenging responsibilities. One of the primary conditions of the scholarship is the requirement for compulsory service for the state. Under the terms of the scholarship contract, the student must engage in compulsory service on behalf of the institution where they are placed for a period equivalent to the scholarship period in Turkey and twice this period abroad. Those who leave before fulfilling this service obligation must repay the scholarship they received with interest (Contract No: 3/4). Compulsory service offers the advantage of a guaranteed job opportunity for the student. However, due to the high qualifications of students who have completed their education abroad, retaining them in the assigned job for an extended period can be challenging.

Another important issue is related to compensation. The scholarship carries the essential responsibility of being subject to compensation. If the student fails to return to the country, all expenses paid by the state are demanded from them or their guarantors, along with interest. This compensation can burden a person or a family in a middle-income country like Turkey. The student and two guarantors sign the scholarship contract. Usually, the families of the students act as guarantors. In case of a student's failure, the expenses are demanded from the student and their guarantors. The contract includes an Undertaking Note (Commitment) and a Surety Bond. The Undertaking Note outlines the students' responsibilities and violations, which result in losing their contract rights and accepting to return the expenses paid with interest. The Surety Bond entails two people guaranteeing the student's compliance with the contract. When the student breaches the agreement, the expenses are also collected from the guarantors.

Turkish society is known for its strong family ties. Students are worried that their families' assets could be confiscated if they cannot meet certain obligations. In a way, students prioritize their families' situation over their own. The burden of potential compensation weighs heavily on students, particularly when they encounter challenges in their academic pursuits. This is because their first concern is the surety bond they and their guarantors have signed, understanding that their families may not have the financial means to cover any compensation. Research conducted by Tutar [29] shows that the fear of facing compensation issues due to the surety bond deters students from pursuing challenging subjects. Instead, they opt for easier subjects where they feel more likely to succeed rather than pursuing more innovative or challenging paths in their academic careers.

A phenomenological study conducted by Tutar in 2023, focusing on Turkish international students studying at US universities, found that language incompetency, scholarship liability, loneliness, time restrictions, and academic advisors are essential themes that cause stress for the students. In terms of this study, scholarship liability and time restriction are critical themes for understanding the students' perspectives and feelings. The following quotes demonstrate how the students experience stress due to the surety agreement and time restriction [29].

> *"The surety agreement was the most stressful factor for me. Scholarship students are not wealthy. Compensation is the first thing student thinks about when they feel like they cannot do it. In other words, the fear of being dismissed from the program, the fear of compensation, and the embarrassment to the family are important factors that the students think about. The fear of being unsuccessful even though I studied hard is*

> *difficult. Frankly, this thought compelled me at first. The fear of failure affected me at first (P7)."*

> *"The stress of the surety agreement never goes away; it starts from the moment your guarantors sign it. Your owe is always at the back of your head. That's why going with his/her father's money and going as a scholarship student are very different. Being a scholarship student means being under more challenging conditions and pressure. I received psychological support (P8)."*

> *"The stress of the surety agreement was on my shoulders before I went to the U.S. My sister and brother-in-law did not initially want to sign the surety agreement. When the guarantors were hardly convinced, this put a huge responsibility on me and created massive stress. When I came to my department, I started to experience the stress of lessons, the feeling that I would fail, and the fear that I would fall into compensation began to dominate. Paying the money back (Tazminat) is our biggest stress. Even if you pass the course, you start to worry about whether you will be able to write your thesis. Even a dream of the compensation is a nightmare (P1, P2)."*

> *"Students experience the stress of surety agreement when they first arrive. There was a shock effect at that time. Only one thing comes to mind in this process: What will I do if I fall into the compensation process? The surety agreement is a great burden than can be imagined. It's a terrible source of stress. It creates a huge stress load for those in the first period and those who think they will not be able to do it in the future (P3)."*

The third challenge for students is the time limit. Students have a set amount of time to complete their studies: 2.5 years for a master's degree and 5 years for a doctorate. A 6-month extension is allowed for a master's degree and a 1-year extension for a doctorate, but students must adhere to these timeframes. The time limit has a pressure effect on the students' psychology (Tutar, 2023).

> *Toward the end, things may go wrong with the thesis. For example, you are experimenting, and things may go wrong in the experiment. We can go back to the beginning. This time, we are having difficulties regarding the time the Scholarship Program gave. There is an inconsistency between the work that needs to be completed, and the amount of time left. Then there is a feeling that if the speed is not reached, I will fall into compensation (P6).*

In the surety bond, the student's illness or other reasons beyond the student's control are considered valid excuses. They are exempt from the time restrictions mentioned because the contract is based on the standard procedure.

5. Türkiye scholarships: Inbound internationally mobile students

In 2012, various institutions in Turkey, including ministries, the Turkish Religious Foundation, and universities, combined their scholarship programs under the name Turkey Scholarships. A regulation was issued in 2014 to formalize this process, and the program operates based on this legal framework. The main goals of Turkey

Scholarships, as outlined in the 2014 regulation, are to support Turkey's public diplomacy efforts, aid in the internationalization of the country's higher education, and raise awareness of international students in the public [30].

The Regulation (2014) explains in detail all processes of Türkiye Scholarships: planning, promotion, application, selection and placement, arrival in Turkey, and university registration.

Students' education processes in Turkey begin with signing the Scholarship Commitment. The regulations, guidelines, and scholarship commitment explain students' rights and responsibilities. Türkiye Scholarships cover students' education, accommodation, transportation, health expenses, and monthly scholarship payments. Dismissal from the scholarship may occur if a student acts in a manner that engages in illegal activities, fails to comply with the rules of the university where they are studying, or violates the laws in the country. In other words, success, attendance, and following the rules are essential for the sustainability of the scholarship [30].

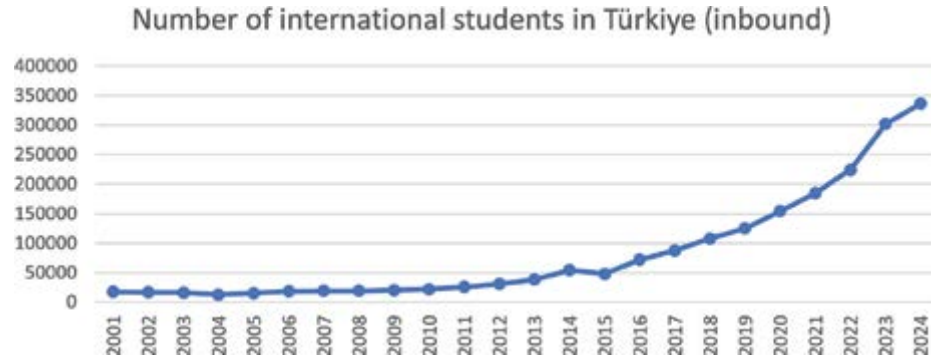

Figure 3.
UNESCO, 2024: https://data.uis.unesco.org/#.

Turkey has signed memorandum of understanding protocols with more than 60 countries to "organize academic and scientific exchanges between the higher education institutions of both countries" [16]. Turkish universities have gained recognition through these protocols and attracted many international students. The data [20] shows that Turkey ranks as the 10th country in the world, hosting 224,000 international students in 2021 (**Figure 3**).

6. Conclusion

In Turkish history, the policy of sending students abroad goes back to the nineteenth century of the Ottoman Empire. The main objective of sending students abroad was to transfer culture and technology from Western countries. The authorities sent many students to study in Europe to modernize the country's institutions. After the collapse of the Ottoman Empire in the early twentieth century, the Republic elite continued this policy, which proved that The Ottoman and Republic elites shared the same paradigm for developing the country. Sending students to Western countries continued until the 1950s. However, after World War II, the US emerged as

a significant power in the world. The Fulbright Program made the country's higher education a significant destination for Turkish students.

Globalization is another essential era for international students. As globalization breaks down the trade barriers among nations, national and international countries demand a workforce with international education experience. This trend leads high-income families to send their children for education abroad. For this reason, the number of international students reached 6.4 million and is estimated to continue in the coming years.

Türkiye transitioned to a liberal economy after the 1980s and experienced tremendous growth in its national income after the 2000s. Fueled by this expansion, the country allocated a significant resource for higher education, increasing the number of Turkish universities from 55 in 1994 to 208 in 2024. The positive economic performance also increased the number of students sent abroad. On the other hand, the expansion of the education sector started to attract international students. By utilizing Türkiye Scholarships and bilateral protocols, the country became the 10th (224.000 students) in the world to host international students in 2020. By 2024, international students in Turkey increased to more than 300.000.

The Turkish scholarship program provides essential advantages for students. One benefit is the assurance of a profession for the students. Considering the socio-economic status of the students, the scholarship provides them with an essential financial means to pursue their studies abroad. As the students and the institutional supervisors report, the scholarship contributed to the students' academic careers, foreign language proficiency, work discipline, technical achievements, and self-confidence. In sum, via the scholarship, the students broaden their vision, which makes the students a sought-after human resource in the country. Besides the personal advantages, the students make a significant contribution to their institutions in terms of building international collaborations, engaging in research and development projects, and working in a disciplined manner. It is evident that students who study abroad often find employment at esteemed research institutions, such as the Scientific and Technological Research Council of Turkey and Turkish Aerospace Industries. Furthermore, the biographies of many university administrators and political figures reveal that they were once international students. These examples demonstrate the effectiveness and purpose of the study abroad program (Law 1416).

The scholarship program also places the students under challenging responsibilities, one of which is compulsory service for the state. Before going abroad, it seems very reasonable to return home and serve the institution that sends them. However, after completing their education and becoming sought-after human resources, the position they served started to be unsatisfactory for the students. For this reason, completing the compulsory service period has now become an unbearable situation. Another challenging issue for the students is the compensation. If the student fails in the academic studies, does not complete the study on time, or does not return back to the country, then all the expenses are taken from the student, from the family, or guarantors, together with interest. Considering that most of the students are from low or middle-income families, it is very challenging to pay this amount. Therefore, research (Tutar, 2023) reveals that this is the biggest stressor for students during their academic studies. In fact, this study found that the fear of compensation prevents students from studying challenging subjects, which might result in innovation.

It is evident that the program authorities did not intend for this outcome. Consequently, the compensation clauses of the contract should be reassessed. If the Turkish scholarship program authorities only apply the compensation provisions to

students who have completed their academic studies but have not returned to the country, then thousands of students will be relieved from the psychological pressure of this requirement. It is known that factors beyond the control of the students sometimes influence their academic success. For example, during the academic study process, when planned experiments do not materialize, the study has to be revised, which leads to an extension of the planned study time. Therefore, it is important to review the provisions of the Surety Bond, taking these factors into consideration in terms of students' creativity, productive academic study, and the psychology of the students.

Conflict of interest

The authors declare no conflict of interest.

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Chapter 5

Perspective Chapter: Inclusive Scholarship Strategies in Africa – Harnessing Diversity for Educational Advancement

Sam Ramaila

Abstract

This chapter explores inclusive scholarship strategies in Africa aimed at harnessing the continent's diversity to promote educational advancement. Africa's educational landscape is characterized by diverse cultures, languages, and historical contexts, presenting both challenges and opportunities for equitable access to higher education. The chapter begins by examining the historical evolution of scholarship programs in Africa, highlighting the impact of colonial legacies and post-independence educational reforms. It then delves into the current scholarship landscape, identifying barriers faced by marginalized groups such as gender disparities, socio-economic constraints, and geographical inequalities. Central to the discussion are strategies to enhance inclusivity in scholarship programs, including targeted initiatives for underrepresented groups, innovative application processes, and community-based approaches. The chapter emphasizes the benefits of diversity in scholarship recipients, fostering a dynamic learning environment that promotes cross-cultural understanding and social cohesion. Case studies of successful scholarship initiatives across the continent illustrate best practices and outcomes, showcasing models that can be scaled and adapted to different contexts. Policy recommendations are presented to support the development and implementation of inclusive scholarship strategies, emphasizing the roles of governments, non-governmental organizations, and international partners in fostering educational equity. By addressing these issues comprehensively, the chapter aims to provide insights and guidelines for stakeholders committed to advancing inclusion.

Keywords: inclusive scholarship, educational advancement, access to education, socio-economic barriers, cultural diversity, innovation in education

1. Introduction

Africa's educational landscape is a vibrant tapestry woven from the threads of its diverse cultures, languages, and historical experiences. This diversity, while

presenting unique challenges, offers unparalleled opportunities for fostering educational advancement and socio-economic development across the continent. Central to this advancement are inclusive scholarship strategies that harness the rich diversity of African societies to create equitable and transformative educational opportunities for all. Historically, African scholarship models have been shaped by a range of influences, from indigenous educational practices to the impacts of colonialism and post-colonial development policies [1]. These historical contexts have left a complex legacy that continues to influence contemporary educational systems and scholarship programs. Understanding this legacy is crucial for developing scholarship strategies that address the unique needs of African students today.

Currently, scholarship programs in Africa are provided by a variety of stakeholders, including governments, non-governmental organizations (NGOs), private sector entities, and international organizations. These programs vary widely in their goals, structures, and target populations. While many have made significant strides in increasing access to education, challenges remain, particularly in ensuring that marginalized and underrepresented groups are adequately supported [2]. Issues such as gender inequality, socio-economic disparities, and geographic barriers continue to hinder the full realization of educational equity [3]. Inclusive scholarship strategies are designed to overcome these challenges by prioritizing the needs of the most vulnerable populations. These strategies include targeted scholarships for underrepresented groups, outreach, and awareness campaigns to ensure that information about scholarship opportunities reaches all potential applicants and flexible application criteria that accommodate diverse life circumstances [4]. By addressing the specific barriers faced by marginalized groups, inclusive scholarships can help level the playing field and provide all students with the chance to succeed.

Leveraging diversity in scholarship programs not only promotes equity but also enriches the educational experience for all students. Diverse scholarship recipients bring a wide range of perspectives, experiences, and talents to academic institutions, fostering a more dynamic and inclusive learning environment [5]. Programs that celebrate and promote cultural diversity can also help to build mutual understanding and respect among students from different backgrounds, laying the groundwork for more cohesive and resilient societies. Innovative scholarship models are emerging across Africa, driven by advancements in technology, community-based approaches, and public-private partnerships [6]. These models offer promising solutions for making scholarship programs more accessible, sustainable, and scalable. For instance, digital platforms can streamline application processes and reach a broader audience, while community-based programs can provide tailored support that addresses local needs and contexts [7]. To realize the full potential of inclusive scholarship strategies, coordinated efforts are needed from all stakeholders. Governments can play a critical role by enacting policies that support inclusive education and allocate sufficient resources to scholarship programs. Scholarship providers, both local and international, can adopt best practices to enhance inclusivity and diversity in their programs. International organizations can facilitate knowledge sharing and collaboration, helping to build a global movement toward educational equity.

In this chapter, I will explore the historical evolution and current state of scholarship programs in Africa, highlighting successful initiatives and innovative models that prioritize inclusivity and diversity. I will examine the barriers that prevent certain groups from accessing educational opportunities and propose strategies to overcome these challenges. Through a combination of historical context, case studies, and policy recommendations, this chapter aims to provide a comprehensive understanding

of how inclusive scholarship strategies can drive educational advancement in Africa. By harnessing the continent's rich diversity and addressing the unique needs of its students, inclusive scholarship strategies have the potential to transform education in Africa. These strategies can help cultivate a generation of leaders equipped to address the complex issues facing their societies and contribute to sustainable development and social cohesion across the continent.

2. Background

The chapter is situated within the broader context of educational development and equity across the African continent. It aims to address the multifaceted challenges and opportunities inherent in scholarship programs designed to foster inclusivity and support educational advancement in diverse communities. Africa, with its rich cultural diversity and historical legacies, faces significant educational disparities influenced by colonial histories, socio-economic inequalities, and regional variations in infrastructure and resources [8]. Access to quality education remains uneven, with marginalized groups such as women, rural populations, and persons with disabilities often facing barriers to educational opportunities [9].

Against this backdrop, scholarship programs play a crucial role in democratizing access to education and leveling the playing field for talented individuals from underrepresented backgrounds. These programs not only provide financial support but also mentorship, leadership development, and networking opportunities that are essential for academic and professional success [10]. The chapter explores how embracing diversity within scholarship strategies can enrich educational environments and foster innovation. By actively recruiting and supporting students from diverse backgrounds, including different socio-economic statuses, genders, ethnicities, and geographical locations, scholarship programs contribute to a more inclusive and equitable educational ecosystem.

Furthermore, the chapter critically examines the challenges faced by scholarship initiatives in Africa, such as funding constraints, administrative hurdles, and the need for sustainable models of support. At the same time, it highlights opportunities for collaboration between governments, educational institutions, private sectors, and international organizations to enhance the impact and reach of scholarship programs. The chapter delves into the importance of robust policy frameworks and institutional commitments to promote inclusivity in scholarship provision. Additionally, it discusses best practices and innovative approaches adopted by various stakeholders to address systemic barriers and promote diversity within educational settings. Ultimately, the chapter aims to provide insights and recommendations that can inform policy makers, educators, and stakeholders on effective strategies for harnessing diversity through inclusive scholarship programs. By nurturing diverse talents and promoting educational advancement, these initiatives contribute to sustainable development goals and create pathways for a brighter future across Africa.

3. Issues, controversies, and problems

Despite significant advancements in educational access and scholarship programs across Africa, substantial barriers persist that prevent equitable access to higher education for many students, particularly those from marginalized and underrepresented

groups [11]. These barriers include financial constraints, socio-cultural biases, geographic isolation, and a lack of awareness about available scholarship opportunities [12]. Additionally, existing scholarship programs often fail to adequately address the diverse needs and contexts of African students, resulting in continued educational disparities [13]. The research problem for this chapter focuses on identifying and addressing the gaps and challenges in current scholarship models to develop and implement more inclusive strategies that effectively harness Africa's rich diversity. Specifically, the chapter seeks to answer the following key questions:

- What are the primary barriers to accessing scholarship opportunities for marginalized and underrepresented groups in Africa?
- How can scholarship programs be designed and implemented to be more inclusive and responsive to the diverse needs of African students?
- What are the impacts of diverse scholarship recipients on educational environments and broader societal outcomes?
- What policy recommendations can be made to support the development and implementation of inclusive scholarship strategies in Africa?

By addressing these research questions, the chapter aims to provide a comprehensive understanding of the current state of scholarship programs in Africa, identify effective strategies for enhancing inclusivity, and offer actionable recommendations for stakeholders. The goal is to ensure that all African students, regardless of their background, have equitable access to higher education and the opportunity to contribute to their communities and societies.

4. Historical context

The chapter is situated within a rich historical context that spans traditional scholarship models, the evolution of educational policies, and the profound impact of colonialism and subsequent post-colonial developments on education across the continent.

4.1 Traditional scholarship models in African education

Historically, education in Africa often revolved around communal learning and oral traditions, where knowledge was passed down through apprenticeships, storytelling, and community-based practices [14]. Formal scholarship models were less common in pre-colonial Africa, with knowledge and skills being passed down within families and communities and through initiation rites. Traditional scholarship models in African education often encompass several key characteristics and practices. Merit-based scholarships are typically awarded based on academic performance. Students who excel in their studies receive financial support to continue their education. This model promotes competition and encourages students to achieve high academic standards. Scholarships based on financial need aim to support students from low-income families. These scholarships help to bridge the gap between socio-economic disparities and provide opportunities for those who might otherwise be unable to afford education.

Many African governments offer scholarships to students as part of their commitment to improving education. These scholarships can be for study within the country or abroad and often cover tuition, accommodation, and sometimes even living expenses.

Universities and colleges in Africa often have their own scholarship programs. These can be based on merit, need, or specific criteria set by the institution. Institutional scholarships are designed to attract talented students and enhance the institution's academic profile [15]. Private organizations, corporations, and non-profits also offer scholarships. These scholarships can be part of corporate social responsibility (CSR) initiatives or specific programs aimed at developing skills or professions. Some scholarships are provided by community organizations, local businesses, or religious groups. These scholarships are usually aimed at supporting students from the local community and ensuring that education opportunities are available to all [16].

In some regions, scholarships are provided to support students from specific cultural or ethnic backgrounds [17]. These scholarships aim to preserve cultural heritage and promote diversity within the educational system. Scholarships from international organizations or foreign governments are available to African students. These scholarships provide opportunities to study abroad and gain exposure to different educational systems and cultures. In addition to academic performance, some scholarships are awarded based on performance in sports, arts, or other extracurricular activities [18]. These scholarships support the holistic development of students.

Information about available scholarships is not always accessible to all students, particularly those in rural areas. Many students are unaware of the opportunities or how to apply for them. Merit-based scholarships often favor students from well-resourced schools, leaving out talented students from underprivileged backgrounds [15]. Need-based scholarships, though aimed at promoting equity, may not always reach the most deserving candidates due to administrative inefficiencies or corruption. Many scholarship programs face funding challenges and are not sustainable in the long term [19]. Economic downturns or changes in government policy can lead to cuts in scholarship funding. Scholarships may not cover all the costs associated with education, such as transportation, study materials, and living expenses, leading to high dropout rates. Ensuring that scholarship recipients can complete their education remains a challenge. There is often a lack of mechanisms to measure the long-term impact of scholarships on recipients and their communities [20]. Without proper assessment, it is difficult to improve and tailor scholarship programs to better meet students' needs.

To address these challenges, innovative scholarship models are emerging. These models emphasize inclusivity, sustainability, and impact. They leverage technology to improve accessibility and ensure that scholarships are reaching the most deserving candidates. Collaborative efforts between governments, educational institutions, private sector, and non-profits are crucial in developing and implementing these new models. These traditional models provide a foundation, but continuous evaluation and adaptation are necessary to ensure they effectively contribute to educational advancement in Africa.

4.2 Evolution of educational policies and scholarship programs

The introduction of formal education systems in Africa came with colonialism, where European powers established schools primarily to serve their administrative and economic interests [21]. This period saw the imposition of Western educational

models, languages, and curricula, often marginalizing indigenous knowledge systems and local languages [22]. Post-colonial governments initially inherited these systems but gradually began to assert national educational policies aimed at decolonizing and Africanizing education. Scholarship programs evolved alongside these policy shifts, initially focused on training a small elite for administrative roles but later expanding to include broader access initiatives aimed at fostering national development [23]. These programs often mirrored the priorities and biases of ruling regimes, and their effectiveness varied widely across different countries.

4.3 Impact of colonialism and post-colonial developments on education

The impact of colonialism and post-colonial developments on education in Africa has been profound and multifaceted, shaping the educational landscape in significant ways. Colonial powers introduced Western-style education systems, which were different from indigenous educational practices [24]. This often involved establishing schools that taught European languages, history, and culture, sidelining local knowledge and traditions [25]. A dual system of education emerged, with a small elite receiving high-quality education aimed at creating a class of intermediaries to assist in colonial administration, while the majority received basic education or none [26]. This created disparities that persist to this day. The curriculum was heavily influenced by the colonial powers' languages and perspectives, marginalizing African languages and cultures [27]. Education focused on producing clerks, interpreters, and other roles needed for the colonial administration rather than promoting critical thinking or skills relevant to local needs [22].

Access to education was limited, and schools were often concentrated in urban areas [28]. Rural areas, where most of the population lived, were neglected, leading to significant educational inequality. Christian missionaries played a significant role in providing education, often with a focus on religious instruction [29]. While they established many schools, their approach sometimes undermined local cultures and religious beliefs. After gaining independence, many African countries prioritized expanding access to education [30]. Governments invested in building schools and increasing enrollment rates, particularly at the primary level. Efforts were made to decolonize the curriculum by incorporating African history, languages, and cultures [31]. However, the legacy of colonial education systems and materials has been difficult to completely overhaul.

The language of instruction remains a contentious issue. While many countries continue to use colonial languages (English, French, and Portuguese) as the medium of instruction, there is a growing movement to incorporate indigenous languages in early education [32]. Post-colonial governments faced challenges in developing the necessary infrastructure for education, including classrooms, teaching materials, and trained teachers [33]. Resource constraints and economic challenges have often hindered progress. Efforts have been made to address educational inequities by focusing on marginalized groups, including girls, rural populations, and ethnic minorities. Despite progress, significant disparities remain [34]. Expansion of higher education institutions has been a priority, with new universities and technical colleges established to meet the demand for higher education and skills development [35]. However, many institutions struggle with inadequate funding, brain drain, and the need for modernization.

Post-colonial governments have developed various educational policies aimed at improving quality and access [30]. However, implementation has often been

inconsistent, and corruption and mismanagement have undermined these efforts. Globalization and international development organizations have played a significant role in shaping educational policies and practices. Programs and initiatives funded by organizations such as UNESCO, UNICEF, and the World Bank have aimed to improve educational outcomes but have sometimes been criticized for not fully considering local contexts [36]. Ensuring quality education remains a significant challenge, with issues such as large class sizes, lack of trained teachers, and insufficient teaching materials affecting learning outcomes [37]. Aligning education with local economic and social needs is crucial. This involves promoting vocational training and technical education, and integrating local knowledge systems into the curriculum.

Sustainable funding for education is critical. Many African countries rely heavily on external aid, which can be unpredictable [38]. Developing robust domestic funding mechanisms is essential for long-term stability. Leveraging technology and innovative teaching methods can help overcome some of the infrastructural and resource limitations. E-learning, mobile education platforms, and community-based learning initiatives are promising areas for development [39]. Ensuring that educational policies are inclusive and address the needs of all segments of society, including marginalized and vulnerable groups, is essential for achieving equitable educational outcomes.

In summary, the impact of colonialism on African education has been deep and enduring, shaping the challenges and opportunities faced by post-colonial governments. While significant progress has been made in expanding access and reforming curricula, many challenges remain. Continued efforts to decolonize education, improve quality, and ensure inclusivity are crucial for the educational advancement of African countries.

4.4 Contemporary context and challenges

In the contemporary era, Africa continues to grapple with the legacies of colonialism in its educational systems. Issues such as inadequate funding, infrastructure deficits, teacher shortages, and disparities in rural versus urban education persist [40]. However, there has been significant progress in developing indigenous educational frameworks, promoting inclusive policies, and expanding scholarship opportunities to marginalized groups [2]. The chapter thus examines these historical trajectories and contemporary realities, aiming to highlight effective strategies for leveraging scholarships to harness diversity and advance educational equity across the continent. It underscores the importance of context-specific approaches that acknowledge Africa's diverse cultural landscapes and promote sustainable development through inclusive education initiatives.

5. Current scholarship landscape in Africa

The current scholarship landscape in Africa reflects a diverse array of programs and initiatives aimed at fostering educational advancement and inclusivity across the continent. An overview based on existing scholarship programs, key stakeholders involved, and notable case studies of successful initiatives is provided below.

5.1 Overview of existing scholarship programs across the continent

Many African governments offer scholarships at various levels of education, from primary to tertiary. These scholarships often target disadvantaged groups,

academically talented students, and specific fields crucial for national development. Non-governmental organizations (NGOs) and foundations play a significant role in providing scholarships across Africa [41]. These programs often focus on marginalized communities, girls' education, vocational training, and leadership development. Private companies and businesses sponsor scholarships as part of their corporate social responsibility (CSR) initiatives [42]. These scholarships may support technical and vocational training, STEM education, and entrepreneurship. Entities like the United Nations (UN), the World Bank, and regional bodies (e.g., the African Union) collaborate with African governments and NGOs to fund scholarships [43]. These programs emphasize sustainable development goals, human rights education, and capacity building in critical sectors.

5.2 Key stakeholders

African governments are pivotal stakeholders, responsible for shaping educational policies, funding scholarships, and ensuring equitable access to education across their populations. Organizations like the Mastercard Foundation, African Leadership Academy, and various local NGOs play crucial roles in providing scholarships, mentoring students, and advocating for educational reform. Companies such as MTN, Shell, and Chevron sponsor scholarships to invest in future talent, foster innovation, and contribute to workforce development across Africa. The UN agencies, the World Bank, the European Union, and bilateral donors collaborate with African governments to fund scholarships, support educational infrastructure, and promote sustainable development through education.

5.3 Case studies of successful scholarship initiatives

Mastercard Foundation Scholars Program supports academically talented but economically disadvantaged young people from Africa to access quality education and leadership development opportunities. Funded by the UK government, Chevening Scholarships provide opportunities for outstanding individuals from various African countries to pursue postgraduate studies in the UK. African Women in Agricultural Research and Development (AWARD) offers fellowships to African women scientists to conduct research in agriculture, promoting gender equity and food security. The Alliance for a Green Revolution in Africa (AGRA) provides scholarships to students pursuing agricultural-related studies, aiming to enhance agricultural productivity and food security across the continent. These case studies illustrate diverse approaches to scholarship provision in Africa, highlighting successful strategies that promote inclusivity, address educational disparities, and contribute to sustainable development goals. There is a need to exploring these initiatives further, analyzing their impact, identifying best practices, and recommending strategies to enhance the effectiveness of scholarship programs across the continent.

6. Inclusivity in scholarship programs

6.1 Definition and importance of inclusivity in scholarships

Inclusivity in scholarship programs refers to ensuring equitable access and opportunities for all individuals, regardless of their background, socio-economic status, gender,

ethnicity, or other characteristics [44]. It emphasizes breaking down barriers to education and promoting diversity within academic and professional spheres. The importance of inclusivity lies in fostering a fair and supportive environment where all talented individuals can thrive, contributing to broader societal development and equity.

6.2 Challenges faced by marginalized groups

Marginalized groups in Africa face various challenges that hinder their access to education and scholarship opportunities [45]. Women and girls often encounter cultural and socio-economic barriers that limit their educational opportunities, including early marriage, lack of financial resources, and cultural biases against female education [46]. Ethnic minorities may face discrimination, unequal access to educational resources, and limited representation in scholarship programs that favor majority groups. Students from low-income backgrounds struggle with financial constraints, lack of access to quality education, and limited information about scholarship opportunities [17].

6.3 Strategies to enhance inclusivity

1. Designing scholarships specifically aimed at marginalized groups, such as women in STEM fields, ethnic minorities, or students from disadvantaged socio-economic backgrounds: These targeted scholarships can provide financial support and mentorship tailored to the unique challenges these groups face.

2. Implementing outreach programs to raise awareness about scholarship opportunities among underrepresented communities: this includes partnerships with local organizations, schools, and community leaders to disseminate information and encourage applications.

3. Simplifying and diversifying application processes to accommodate varying educational backgrounds, languages, and access to technology: this may include offering alternative application methods, providing language support, and ensuring accessibility for applicants with disabilities.

4. Establishing mentorship initiatives that pair scholarship recipients with mentors who can provide guidance, academic support, and career advice: mentorship programs can help foster a sense of belonging and empower scholars to navigate challenges throughout their academic journey.

5. Advocating for inclusive policies within educational institutions and scholarship providers: this includes promoting diversity in selection committees, setting diversity goals, and regularly evaluating the impact of scholarship programs on underrepresented groups.

By implementing these strategies, scholarship programs in Africa can effectively enhance inclusivity, broaden access to education, and empower marginalized individuals to pursue their academic and career aspirations. The chapter can delve deeper into these approaches, provide case studies of successful initiatives, and offer recommendations for policymakers, educators, and stakeholders committed to advancing educational equity across the continent.

7. Leveraging diversity

7.1 Benefits of diversity in scholarship programs

Diversity brings together individuals with varied perspectives, experiences, and backgrounds. This diversity of thought fosters innovation and creativity, leading to new ideas and solutions in research, academia, and professional fields [47]. Scholarship programs that embrace diversity enrich educational environments by exposing students to different cultures, languages, and traditions [48]. This exposure cultivates global awareness and empathy, preparing scholars to engage in international collaborations and contribute to global challenges. Diverse scholarship recipients serve as role models and advocates within their communities. They inspire others from similar backgrounds to pursue education and professional opportunities, promoting inclusivity and representation in academia and leadership roles. Diversity encourages the consideration of multiple viewpoints when addressing complex issues [49]. Scholars from diverse backgrounds bring unique insights and strategies, enhancing the effectiveness of problem-solving and decision-making processes.

7.2 Examples of diverse scholarship recipients and their impact

Scholarships targeting women in STEM fields have empowered recipients to break gender barriers and contribute significantly to scientific research, technology innovation, and engineering advancements across Africa. For example, organizations like the African Women in Science and Engineering (AWSE) provide scholarships and mentorship to support women pursuing STEM careers. Scholarships that prioritize ethnic diversity have enabled minority groups to access higher education and excel in fields traditionally underrepresented by their communities [19]. These scholars often become advocates for diversity and equity, promoting inclusive practices in academia and beyond. Programs supporting indigenous scholars preserve cultural heritage and knowledge while equipping them with skills to address community-specific challenges, such as sustainable resource management and cultural revitalization [50].

7.3 Programs that celebrate and promote cultural diversity

Initiatives that facilitate cultural exchange through scholarships enable students to study abroad or engage in cross-cultural learning within their own countries [51]. These programs promote mutual understanding, respect, and appreciation for diverse cultural identities. Scholarships focusing on languages, literature, and the arts celebrate cultural diversity by preserving linguistic heritage, promoting creative expression, and supporting artists and writers from diverse backgrounds [52]. Local organizations and NGOs often establish scholarships that celebrate cultural diversity by recognizing and supporting students who demonstrate a commitment to preserving and promoting their cultural heritage through education and community service [53]. By leveraging diversity in scholarship programs, Africa can harness the full potential of its rich cultural tapestry to foster educational advancement, social inclusion, and sustainable development across the continent. These efforts not only benefit individual scholars but also contribute to building resilient and inclusive societies capable of addressing global challenges.

8. Innovative scholarship models

8.1 Use of technology in scholarship administration and outreach

Utilizing digital platforms for scholarship administration simplifies the application process, increases accessibility, and reaches a broader audience [54]. For example, platforms like ScholarX and Scholarship Portal Africa centralize scholarship opportunities, provide guidance to applicants, and facilitate seamless communication between scholars and providers. Mobile apps offer convenience and accessibility, particularly in remote and underserved areas where internet access is limited [55]. These apps can deliver scholarship notifications, application updates, and educational resources directly to users' smartphones, enhancing outreach and engagement. Applying data analytics and artificial intelligence (AI) algorithms can streamline candidate selection processes based on predefined criteria, ensuring transparency and fairness in scholarship awards. AI-powered chatbots can also provide instant support to applicants, answering queries and guiding them through the application process.

8.2 Community-based scholarship programs

Collaborating with community organizations, non-governmental organizations (NGOs), and local businesses fosters community ownership and support for scholarship programs [56]. These partnerships tailor scholarships to address local needs, such as promoting indigenous knowledge systems or supporting rural education initiatives. Integrating mentorship programs into scholarships enhances student success by providing guidance, academic support, and career advice [57]. Peer support networks also create a sense of belonging and encourage collaboration among scholars from similar backgrounds [58]. Incorporating service-learning components into scholarships encourages scholars to apply their knowledge and skills to community projects [59]. This approach not only enriches their educational experience but also fosters a spirit of social responsibility and civic engagement.

8.3 Public-private partnerships and collaborative initiatives

Engaging private sector companies in scholarship funding promotes skill development aligned with industry needs [60]. Companies may offer internships, job placements, or mentorship opportunities to scholarship recipients, enhancing their employability and career prospects. Collaborative initiatives between government agencies and non-governmental organizations (NGOs) leverage resources and expertise to expand scholarship opportunities and support educational reforms [56]. These partnerships can advocate for policy changes that prioritize inclusive education and equitable access to scholarships. Regional bodies and international organizations collaborate to establish scholarship programs that promote cross-border collaboration and knowledge exchange [61]. Initiatives like the African Union's Pan-African University and regional scholarship funds facilitate mobility and academic integration across African countries.

8.4 Sustainability and scalability of innovative models

Establishing endowments, creating sustainable funding models, and diversifying funding sources ensure the longevity of scholarship programs. Sustainability planning considers economic fluctuations and donor priorities to maintain financial

stability over time. Implementing robust monitoring and evaluation frameworks assess the impact of scholarship programs on educational outcomes, student retention rates, and community development [62]. Continuous feedback and data-driven insights inform program adjustments and scalability efforts. Identifying successful scholarship models and scaling them across regions or countries maximizes impact and efficiency [63]. Knowledge-sharing platforms and regional networks facilitate the exchange of best practices, lessons learned, and innovative approaches to scholarship administration and management [64]. These innovative scholarship models not only enhance inclusivity and diversity in education but also contribute to building resilient, knowledge-based societies across Africa. By leveraging technology, community partnerships, and collaborative initiatives, stakeholders can create sustainable pathways for educational advancement and socio-economic development in the region.

9. Policy recommendations

9.1 Government policies to support inclusive and diverse scholarship programs

Governments should formulate and implement policies that prioritize inclusive education, ensuring equitable access to quality education for all, regardless of socio-economic background, gender, ethnicity, or disability status. These policies should explicitly address the need for inclusive scholarship programs and support mechanisms. Governments can allocate dedicated funding for scholarships targeting marginalized and underrepresented groups, including girls, rural students, persons with disabilities, and ethnic minorities. Financial incentives and tax exemptions for corporate sponsors of scholarships can also encourage private-sector participation. Enacting legislation that prohibits discrimination in scholarship selection processes based on gender, ethnicity, religion, or disability status is crucial. Legal frameworks should ensure transparency, fairness, and accountability in scholarship administration to uphold inclusive practices. Collaboration with civil society organizations, NGOs, academia, and private sector entities strengthens the implementation of inclusive scholarship policies. Governments can establish partnerships to leverage resources, expertise, and networks for expanding scholarship opportunities and enhancing educational outcomes.

9.2 Best practices for scholarship providers

Scholarship providers should adopt transparent selection criteria that prioritize academic merit, financial need, and diversity considerations. Clear guidelines and criteria ensure fairness and inclusivity in the selection process, promoting equal opportunities for all applicants. Offering comprehensive support services such as mentorship, tutoring, career counseling, and psychosocial support enhances the academic success and retention of scholarship recipients. Tailored support acknowledges diverse needs and challenges faced by students from marginalized backgrounds. Implementing robust monitoring and evaluation mechanisms allows scholarship providers to assess the impact of their programs on educational outcomes and equity goals. Continuous feedback loops enable program adjustments and improvements based on empirical evidence and stakeholder feedback. Investing in capacity-building initiatives for scholarship administrators, mentors, and educators strengthens their

ability to support diverse student populations effectively. Training programs on inclusive practices, cultural competence, and disability awareness promote a supportive learning environment.

9.3 Role of international organizations in fostering inclusive education

International organizations can provide technical assistance and capacity-building support to national governments and local stakeholders in designing and implementing inclusive scholarship programs. This includes sharing best practices, conducting workshops, and facilitating knowledge exchange forums. International organizations play a critical role in advocating for policy reforms that prioritize inclusive education and scholarship opportunities in their development agendas. Advocacy efforts raise awareness, mobilize resources, and promote political commitment to addressing educational inequalities. International organizations can mobilize financial resources and establish partnerships with donor agencies, foundations, and corporate entities to fund inclusive scholarship initiatives in Africa. Strategic partnerships facilitate resource mobilization and enhance program sustainability. International organizations contribute to monitoring progress toward achieving inclusive education goals through data collection, research, and reporting. Regular assessments of scholarship impact and educational outcomes inform evidence-based policy decisions and programmatic interventions.

By integrating these policy recommendations and best practices into scholarship programs across Africa, stakeholders can advance inclusive education agendas, promote diversity, and empower marginalized groups through equitable access to educational opportunities. These efforts contribute to building inclusive societies and fostering sustainable development in the region.

10. Related terms and definitions

The following terms and definitions help establish a clear understanding of the key concepts and issues discussed in the chapter on inclusive scholarship strategies in Africa.

Inclusive education: an educational approach that seeks to ensure all students, regardless of their diverse backgrounds and abilities, have equal access to quality education and opportunities for academic success.

Diversity: the presence of differences within a given setting, encompassing race, ethnicity, gender, age, religion, disability, socio-economic status, and other attributes that contribute to individual uniqueness.

Equity: the principle of fairness in education, where all students are provided with the resources and opportunities they need to succeed, considering their individual circumstances and challenges.

Scholarship models: frameworks and practices used to provide financial aid, support, and opportunities for students to pursue education, often focusing on specific criteria such as academic merit, financial need, or demographic characteristics.

Cultural competence: the ability of educators and institutions to understand, respect, and effectively respond to the cultural differences and needs of students, promoting an inclusive and supportive learning environment.

Educational advancement: the process of improving educational outcomes and opportunities for students, particularly those from marginalized or underrepresented groups, through targeted policies, programs, and practices.

Affirmative action: policies and practices aimed at increasing the representation of historically marginalized groups in education, employment, and other areas by providing targeted support and opportunities.

Social inclusion: the process of improving the terms of participation in society, particularly for people who are disadvantaged, through enhanced opportunities, access to resources, and respect for rights.

Inclusive pedagogy: teaching methods and strategies designed to accommodate diverse learning styles, backgrounds, and abilities, ensuring all students can engage and succeed in the classroom.

Intersectionality: the concept that individuals experience multiple, overlapping social identities (e.g., race, gender, and class) and related systems of oppression or advantage, which must be considered in inclusive educational strategies.

Underrepresented groups: populations that have historically had limited access to educational opportunities and resources, often including ethnic minorities, women, people with disabilities, and low-income individuals.

Access to education: the availability and affordability of educational opportunities for all students, regardless of their socio-economic status, geographic location, or other barriers.

Capacity building: efforts to strengthen the skills, competencies, and abilities of individuals, institutions, and communities to achieve sustainable development goals, including in the field of education.

Policy framework: a set of principles and guidelines that shape the development and implementation of policies aimed at achieving specific objectives, such as inclusive education.

Educational equity policies: policies designed to address disparities in educational access, participation, and outcomes among different student groups, ensuring fair treatment and opportunities for all.

Marginalization: the process by which certain groups are pushed to the edges of society, often experiencing reduced access to resources, opportunities, and decision-making power.

Educational access barriers: factors that hinder individuals from enrolling, attending, or completing their education, including financial constraints, discrimination, inadequate infrastructure, and lack of support services.

Inclusive curriculum: a curriculum that reflects the diverse backgrounds, cultures, and experiences of all students, promoting understanding, respect, and engagement.

Student support services: resources and programs provided by educational institutions to assist students in overcoming academic, personal, and financial challenges, ensuring their success and well-being.

Learning environment: the physical, social, and academic settings in which learning takes place, including the classroom, school, and broader community context.

11. Conclusion

In this chapter, I have explored the transformative potential of inclusive scholarship strategies in Africa, focusing on harnessing diversity for educational advancement. I began by defining inclusivity in scholarship programs and highlighting its importance in promoting equitable access to education. Through an examination of current scholarship landscapes, I identified key stakeholders—governments, NGOs, the private sector, and international organizations—involved in shaping and

implementing inclusive scholarship initiatives across the continent. I discussed the challenges faced by marginalized groups in accessing education, including gender disparities, socio-economic inequalities, and cultural barriers. Strategies such as targeted scholarships, outreach campaigns, and flexible application processes were examined as effective means to enhance inclusivity and diversity in scholarship programs.

Moreover, I explored the benefits of diversity in scholarship programs, showcasing examples of diverse scholarship recipients whose achievements have made significant impacts in their communities and beyond. Programs that celebrate and promote cultural diversity were highlighted as crucial for nurturing inclusive learning environments and fostering cross-cultural understanding. Innovative scholarship models utilizing technology, community-based approaches, and public-private partnerships were identified as pathways to ensure the sustainability and scalability of inclusive scholarship initiatives. These models not only broaden access to education but also empower individuals from diverse backgrounds to contribute meaningfully to society.

Looking ahead, the prospects for inclusive scholarship strategies in Africa are promising, if stakeholders continue to prioritize diversity and inclusivity in educational policies and practices. There is a clear opportunity for governments to enact supportive policies, for scholarship providers to adopt inclusive practices, and for international organizations to provide technical support and advocacy. The future of inclusive scholarship strategies in Africa hinges on collective efforts to dismantle barriers to education and foster inclusive learning environments. By expanding access to educational opportunities, especially for marginalized groups, African nations can unlock the full potential of their diverse populations. Investing in inclusive education not only promotes social justice but also catalyzes economic development and strengthens democratic institutions.

To realize the vision of inclusive scholarship strategies in Africa, stakeholders at all levels must take concerted action. Governments should prioritize inclusive education policies, allocate resources for scholarship programs targeting marginalized groups, and ensure transparent and equitable access to educational opportunities. Scholarship providers should adopt inclusive selection criteria, provide tailored support services, and foster partnerships to enhance program impact and sustainability. International organizations should advocate for policy reforms, mobilize financial resources, and provide technical assistance to support inclusive education initiatives across Africa. Civil society organizations and community leaders play a crucial role in advocating for educational equity, raising awareness about the benefits of diversity, and promoting inclusive practices within local communities. By working together, stakeholders can create a future where every individual in Africa, regardless of background or circumstance, can access quality education and contribute to a more inclusive and prosperous society.

In conclusion, inclusive scholarship strategies are not only a means to advance educational equity but also a pathway to harnessing the diverse talents and perspectives that drive sustainable development in Africa. Embracing diversity in education is not just a moral imperative but a strategic investment in the continent's future prosperity and well-being.

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Conflict of interest

The author declares no conflict of interest.

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Chapter 6

Human Development Then and Now: A Brief View on the Challenge for Education in the Digital Era

Diosnel Centurión

Abstract

The concept of human development has shifted from an economic focus to a broader approach prioritizing well-being and opportunities. This understanding integrates health, education, equity, environment, and cultural identity. Sustainable human development aims to expand individual capabilities, promote social equity, and ensure quality of life. It emphasizes cultural diversity, gender equality, human rights, and environmental sustainability. In Paraguay, it includes social equity, inclusive education, judicial fairness, wealth redistribution, and prioritizing science, technology, and higher education to meet local market needs. The human development paradigm emphasizes expanding opportunities, enhancing human capabilities, and empowering individuals to shape their futures. It advocates for structural changes integrating social, cultural, political, and environmental dimensions for sustainable progress. Education is essential for human and community development. It is seen as a lifelong process influenced by family, community, and diverse experiences, and it is crucial for economic productivity and social liberation. Drawing on Paulo Freire's pedagogy, education is viewed as a tool for emancipation and societal transformation, emphasizing critical consciousness and humanizing education in multicultural contexts. Technology's role in education is to enhance personalized learning, skill development, and inclusivity. Technologies like AI support personalized education, adapting to individual needs and cognitive and personal growth. However, challenges such as digital inequality, technological dependence, and cybersecurity concerns must be managed to ensure technology's positive impact. It has to be integrated for digital literacy, creativity, collaboration, and lifelong learning, using it equitably to avoid inequalities and ensure benefits for learners.

Keywords: human development, education, new technology, Internet, artificial intelligence

1. Introduction

When the topic of human development is addressed, it can have various denotative and connotative meanings. The development suggests growth, advancement, progress, updating, aggiornamento, and modernization, among others. Developing implies an effort towards an improved quality of life as a human being; a more decent life, living in a healthy environment, and having constructive social relationships. For some time, it was mainly used for economic growth, but it has been changing as the human being is considered the center of any progress or change, especially thinking of the underrepresented and postponed populations, many of whom live in extremely poor and inhuman conditions.

Currently, it can be thought of as a process of expanding people's options and capabilities, which results in an improvement in life expectancy, health, education, and access to the resources necessary for a decent standard of living [1].

Human development is about expanding the richness of human life, rather than expanding the richness of the economy in which human beings live. It is an approach that focuses on people and their opportunities [2].

At present, there is a concern for sustainable human development, which depends greatly on what we produce and plan for health, education, family life, security, and the environment. Global, national, and local wealth must aim at a single goal: to advance human well-being and improve the quality of life of each person to achieve their best potential.

Parodi [3] talks about how well-being should include seven dimensions: physical, emotional, professional, spiritual, intellectual, environmental, and social. Each dimension contributes to our sense of well-being or quality of life, and each affects and overlaps with the others.

In this first section, we take a brief look at what the term means, according to some authors.

2. Methodology

The present paper is a literature review that covers the works of contemporaneous and recent research studies.

Fred N. Kerlinger, a renowned researcher in the field of behavioral science, emphasized the literature review as a critical step in the research process. In his book *Foundations of Behavioral Research* [4], Kerlinger defines the literature review as a systematic examination of existing knowledge in a field; its purpose is to identify gaps, clarify concepts, and inform research questions and methodologies.

It is an organized summary of research conducted on a specific topic or problem; it helps define the problem, frame hypotheses, and guide the research design.

Its functions are contextualizing the problem by situating the research within the broader academic and practical landscape; identifying gaps; and featuring areas where knowledge is incomplete or inconsistent. Secondly, building theoretical frameworks through synthesizing previous findings to support the development of hypotheses and avoid duplication, thus ensuring the proposed research is novel.

The steps in conducting this literature review followed Kerlinger's suggestions. Firstly, search and retrieval, locating relevant research using scholarly databases, journals, and books. Second, critical evaluation, to assess the credibility, relevance, and validity of sources, and third, synthesis, which calls for the identification of trends, contradictions, and patterns in the literature.

According to Kerlinger [4], a good review must be comprehensive and focused, organized thematically or chronologically, and have the support of critical analysis rather than simple summaries.

This work's methodology is based on a literature review. It aims to define the scope, establishing the boundaries of the research topic (e.g., human development, education, and technology integration). Secondly, it identifies gaps, highlighting areas needing further research. Lastly, it contextualizes research by situating the study within the broader academic conversation (Hart [5]; Ridley [6]).

In the case of this study, the content of the literature reviewed included, firstly, the organization of the theme. Thus, it presented research on themes like human development theories, educational approaches, and technology integration. These themes included human development theories. Sen [7] explores the expansion of capabilities as the core of development; Freire [8] emphasizes the role of education in societal transformation; Vygotsky [9] emphasizes the role of education in societal transformation and education, and inclusion. The UNESCO [10] report on education for sustainable development links education to broader social goals.

In second place, the review included technology integration. Here, Luckin et al. [11] discuss how AI enhances personalized learning; Holmes and Orayska-Pomsta [12] examine AI's potential and ethical implications in education.

Thirdly, the study sequentially developed ideas, highlighting key studies over time to show the evolution of ideas, presenting different perspectives on critical issues like equity or inclusion.

The methodological steps followed in this work were as follows. Source identification, searching databases such as JSTOR, PubMed, and Google Scholar, among others, and using keywords (e.g., "AI in education," "human development theories"). Second, inclusion criteria, considering the research topic's relevance (published within the last 20 years, unless foundational); peer-reviewed journals, books, and reports by international organizations. Third, critical analysis, in which arguments, methodologies, and findings were presented, identified limitations, bias, and ethical issues.

3. Background of the topics

Before the conclusion, this section aims to recapitulate the topics through various works carried out by well-known sources in the field contained here. These references cover a broad range of perspectives on human development, educational theory, and technology integration, particularly AI. These are considered previous reference studies on the issues of the topic.

Some sources discuss foundational theories, while others focus on contemporary issues like equity in education and the role of technology in learning environments.

Sen [7], in his book on Development as Freedom, offers a foundational exploration of human development, focusing on the expansion of human freedoms and capabilities. It critiques traditional economic measures of development and offers a multidimensional perspective on human well-being.

In its report titled "Education for Sustainable Development Goals: Learning Objectives, UNESCO [10] emphasizes the role of education in achieving sustainable development, aligning with the SDGs, and exploring the interconnectedness of education with human development.

The well-known Brazilian author, Freire [8], highlights that education is a tool for social liberation and empowerment, stating that it is central to the development

of educational frameworks that promote critical consciousness and transformative learning.

Garrison and Vaughan [13] worked on blended learning, which has become a valid option for the digital society. In their book, titled *Blended Learning in Higher Education: Framework, Principles, and Guidelines*, they examine the role of technology in education, particularly in hybrid and blended learning environments. It discusses how collaborative platforms foster critical skills like teamwork and creativity.

Bates and Selwyn [14], in their work *Teaching in a Digital Age: Guidelines for Designing Teaching and Learning for a Digital Age*, discuss how digital tools and technologies, including AI, can enhance teaching and learning. This work explores the integration of technology into educational settings and its potential to reshape human development.

Luckin, R. (editor) [11], published a paper on *Enhancing Learning and Teaching with Technology: What the Research Says*. In the chapter, they investigate the impact of emerging technologies, including AI and augmented reality, on education, highlighting the importance of equitable access and the potential benefits of technology in human development. It discusses how technology can be designed and used for learning and teaching to best effect. It addresses what the research says about how and why learning happens and how different technologies can enhance it; engaging a variety of learners through technology and helping them benefit from it; and how technology can support teaching.

The Organization for Economic Cooperation and Development (OECD) [15] report in the publication *The Future of Education and Skills: Education 2030,* provides insights into how education must evolve to prepare individuals for the twenty-first century, including the integration of digital literacy and collaborative learning platforms.

Another author who has contributed to the field of this chapter is Piaget [16]. In his book titled *Psychology and Pedagogy*, he states that cognitive development and its implications for education have influenced educational practices that emphasize active learning and the development of critical thinking skills [16].

In *Frames of Mind: The Theory of Multiple Intelligences,* Gardner [17] developed a theory that rescued thoughts and theories about human intelligence. His theory is about multiple intelligences, which challenges traditional notions of intelligence and offers insights into creating inclusive educational environments that accommodate diverse learning needs.

It is also the publication by UNICEF [18], *The State of the World's Children 2019: Children, Education, and the Climate Crisis.* This report examines the link between education, human development, and climate change and how global challenges like environmental sustainability intersect with human education goals.

Holmes et al. [12] published research on *AI in Education: Challenges and Opportunities*. UNESCO Publishing. Here, they talked about the integration of AI in education, exploring its potential to enhance personalized learning, but also addressing challenges like digital inequality.

Canclini [19] wrote a book on the issue of technology in education. His work titled *Hybrid Cultures: Strategies for Entering and Leaving Modernity* deals with multiculturalism and the effects of globalization on identity and is crucial for understanding the intersection of education and cultural diversity in the context of human development.

In a work titled *Mind in Society: The Development of Higher Psychological Processes*, Vygotsky [9] deals with an important theory. His sociocultural theory emphasizes the

role of social interaction and cultural tools, which is relevant for understanding the integration of technology in education and its influence on cognitive development.

The World Bank [20] published a report on *World Development Report 2020: The Changing Nature of Work.* In it, the World Bank discusses the evolving role of technology, particularly AI, in the workforce and its implications for education and human development, highlighting the need for adaptive skills.

In a publication by Zhao [21] titled *World Class Learners: Educating Creative and Entrepreneurial Students*, he examines the role of education in developing creative and entrepreneurial students, advocating for a shift toward personalized learning models enhanced by digital tools.

4. Development: Concept

For the first time, the term was used, especially by President Woodrow Wilson of the USA, suggesting that development can be understood as the need to become aware of, confront, and resolve the situation of inequality between countries; some of them were in much better conditions of well-being than others, who, on the contrary, were beginning to succumb to misery. In short, he referred to the need to "develop" these countries (based on the model of the "already developed") as a requirement to achieve peace [22].

Later, according to Mattelart [23], the origin of the term would be summarized in two strong ideas: 1) the efforts of work to achieve conditions of equity among the countries of the world, as a condition for coexistence on the planet; and 2) the search for paths that lead to ideals that include internal and external transformations, as well as a determined will for international cooperation.

Orduna and Naval [24]. define the term development as the ability to overcome "a current human reality, taking it to higher levels of improvement and quality of life," while "growth" means to increase in size by addition of material through assimilation or accretion. Developing means expanding or realizing the potential that one has gradually access to a fuller, greater, or better state. In a word, growth is a quantitative increase in the physical scale and development, the qualitative improvement or deployment of potentialities" [25].

The first conceptualizations were rooted in the capitalist and later neoliberal economic models of the early twentieth century, which understood the development as the need for the poorest countries to apply measures to reach the levels of economic growth and productivity of the rich: measures based on productivity indicators.

Until the debates at the end of the century, in which these conceptualizations were turned around, too limited to the economic field, forgetting that society is above all cultural and that this factor is determining in any transformation scheme [22].

Over time, the axis of the gaze changed. Today the so-called third world countries "pretend" to be themselves the ones who decide what model they want to reach and in what ways they can do it. Of course, at the end of the twentieth century, the philosophy of globalization has permeated almost all countries in the world. However, even in this imposed context, the operation of "where to define what development is sought" is about an inversion of the polarity with which the twentieth century began.

It is Latin American societies that "have begun to propose, debate and defend the models of society that we ambition and dream of, and from there we have generated" [26].

The author maintains that at the end of the century, what remained was an approach of diversity, where the understanding of development moved away from

the concepts of progress, economic growth, and imposed models. Although the topic would be discussed for a long time, Cadavid affirms that the spirit definitively changed, causing the approach to development to acquire fundamental elements to think about the future of the globe in equity: full exercise of human rights, achievement of environmental balance, respect for ethnic and cultural diversity, gender equality, justice, participation, democracy, tolerance, practice of the rules of coexistence, protection of vulnerable communities, and others.

It is on this basis that human development must be understood today, and it is on this understanding that the debates that take place must be raised. Previous understandings of development largely remain for history, to be studied and understood for their contribution to the path traveled and overcome.

In the Paraguayan context, human development would add elements of reality such as the need to emphasize social equity, strong support for total and inclusive education, gender equality, a fairer judicial process, overcoming impunity, compliance with the obligation of fiscal VAT, better distribution of wealth, and the creation of sources of work. In higher education, greater chance and openness to the inclusion and promotion of science, technology, and research drastically increase the percentage of young people in professional studies, in careers relevant to the expectations of the local and national market.

4.1 Development: Humanization of the concept

Orduna and Naval [24]. have worked on the topic. For them, there are many ways to understand and define the development. We are going to focus on the one advocated by the United Nations: The Human Development model. This model is presented as a development paradigm that places individuals (and not their mere economic progress) at the center of its concerns. It is a process of expanding the options available to human beings, to all individuals, and not just part of the community, to create an environment in which these people enjoy a long and healthy life, can acquire knowledge, and have access to the resources necessary to enjoy a decent standard of living. That is to say, human development, understood in this way, has two facets: On the one hand, the promotion of human capacity, such as better health and greater theoretical and practical knowledge—education—and, on the other hand, the use of the capacity acquired by people, which would lead to, according to Malassis [27], innovation. People are organized in their communities to achieve their development by implementing innovative social and economic changes.

This concept of Human Development, according to Orduna and Naval [24], contains four essential features. Firstly, it is understood as productive development: People must increase their productivity and fully participate in the process of generating income and paid employment. Equity appears as the second feature of Human Development: People must enjoy equal opportunities, eliminating all barriers that hinder economic, social, and political opportunities, so that these individuals can have access to these opportunities and benefit from them. Furthermore, Human Development must be sustainable: It is important to ensure access to opportunities not only for the current but also for future generations, promoting actions that allow the replacement of all types of spent physical, human, or environmental capital. And, finally, empowerment is the fourth characteristic: development must be carried out by people and not only for them; they must have the opportunity to participate fully in the decisions and processes that make up their lives.

Human Development, defined as productive, equitable, sustainable, and empowering, is not present in any of the models that precede it: economic growth, social well-being, and basic needs; it includes them but exceeds them [28].

The radical difference between previous models and the current Human Development model proposed by the United Nations is in the consideration made of human beings themselves and their leading role in the development process: "The true wealth of a nation is in its people. The basic objective of development is to create a conducive environment for human beings to enjoy a long, healthy, and creative life. This may seem like an obvious truth, although it is often forgotten due to the immediate concern of accumulating consumer goods and financial wealth" [29].

4.2 Development of what and for what?

In general terms, development implies a gradual growth from one state to another in which the person, group, or society improve their conditions and quality of life [30]. This quality, according to this author, includes their family life in terms of the acquisition and satisfaction of their basic, felt, and even unknown needs, as well as greater participation in community decisions, the enjoyment of their rights, and the conquest of their dignity.

The concept is not limited to economic growth but encompasses all dimensions of the human being, such as its social, cultural, political, family, community, and personal dimensions.

The literature is extremely vast on the definition and approach of the topic since it permeates all sociocultural strata.

In general, the term development indicates progression, a tendency to grow and improve a given situation. In human terms, it points out a path to follow in changing a situation from less to more human in the sense of creating a more decent, dignified, and fair environment in which each human being occupies his space, plays his role, and reaches his potential. The visualized goal is the happiness and self-realization of the person in society.

When we talk about social development, we talk about a dynamic process that leads to the transformation of social structures so that society is prepared to realize its aspirations. Society must know what it wants in such a way that it is aware of it and gets involved in obtaining it. The process that is subconscious in society emerges as conscious awareness in individual pioneers. Conceived in this way, development is a process, not a program. Its power comes more from its subtle aspects than from its material objects. A process involves dynamism, action, interaction, and multilateral relations.

Development implies change, transformation, and improvement. Some philosophers debate the topic from different points of view. Those who wanted to see social changes of inclusion and participation of civil society stand out. Discussions in the social and political sciences talk about democratic construction, conceived as representative and participatory.

Here, we can bring the ideas of Antonio Gramsci [31]. For him, contrary to the thinking of his predecessors, who maintained that by changing an existing social and political structure, the superstructure would change itself (i.e., the culture, the institutions, the conception of the world, among others). He asserts that thinking this way would be mechanical determinism that would imply that each social group forgets its history with just a change in the economic system.

The structure would be the state and politics. The superstructure of civil society. In its context, today as yesterday, it is in civil society, understood in the Gramscian sense, where the political expression of all the living forces of a given society tends to concentrate, in an always variable relationship with the State in a restricted sense.

Now, changing structures does not always mean automatic development. Well, not all social and political changes constitute development. It is composed of four delineated stages—survival, growth, development, and evolution, each of which contains the other three in itself. The quantitative expansion of existing activities generates growth and horizontal expansion. Development implies a qualitative change in the way society carries out its activities, such as through more progressive attitudes and behaviors by the population, the adoption of more effective social organizations, or more advanced technology that could have been developed elsewhere. The term evolution refers to the original formulation and adoption of qualitative and structural advances in the form of new social attitudes, values, behaviors, and organizations [32].

While the term is usually applied to changes that are beneficial to society, it can result in negative side effects or consequences that dismiss or eliminate existing ways of life that are considered positive.

5. Population and development: Attention to human needs

At the International Conference on Population and Development [33], its Program of Action for the next 20 years achieved the international consensus of 179 states that supported a strategy in which the links between population and development were highlighted, and the satisfaction of the needs of particular human beings was emphasized rather than the achievement of demographic objectives.

The consensus reached highlighted the growing awareness that population, poverty, patterns of production and consumption, and the environment are so closely interrelated that none of these factors can be considered in isolation [33].

In such a Program of Action, it was assumed that "the right to development is a universal and inalienable right, which is an integral part of fundamental human rights, and the human person is the central subject of development" [33]. It also established that "human beings are the central element of sustainable development (Principle 2)," which entails, among other things, "the long-term viability of production and consumption about all economic activities to use resources in the most ecologically rational way and to minimize waste" [33].

For this program, "population objectives and policies are an integral part of social, economic, and cultural development, whose main objective is to improve the quality of life of all people." Hence, it is considered that "the problem of development consists of meeting the needs of current generations without endangering the ability of future generations to meet their own needs" [33].

5.1 Human development for a better quality of life

According to a World Bank report [34], development is made up of different aspects, which cannot be accurately measured through statistics. Among them are the attitudes, feelings, values, ideas, freedoms, and cultural achievements of people. Therefore, statistical data reveal only a part, albeit an important one, of the history of development.

The report states that it is too simplistic to say which countries are richer or poorer. Well, wealth indicators, which reflect the number of resources a society has, do not provide information about the distribution of those resources; for example, "they do not indicate whether the distribution of income between social groups is more or less equitable, nor do they show what percentage of resources is used to provide free education and health care services; they say nothing, either, about the effects of production and consumption on the environment." [34].

The report states that "it is not surprising that there are profound differences in the quality of life of people between countries with similar average incomes, depending on access to education and health care; employment opportunities; the possibility of breathing fresh air and having drinking water; the possibility of living without the threat of crime, among other factors." Taking all this into account, how do we determine which countries are more developed than others?

The World Bank Report indicates that several United Nations documents place special emphasis on "human development." It is measured according to life expectancy, adult literacy, access to the three levels of education, as well as the average income of the population, a necessary condition for their freedom of choice. In a broader sense, the concept of human development incorporates all aspects of individual well-being, from health status to political and economic freedom. According to the Human Development Report, 1996, published by the United Nations Development Program, "human development is the end; economic growth is a means" (p. 1) [32].

5.2 Human development and social inclusion

Human development refers, then, to the achievement of a better quality of life for citizens, considering it as an individual and social right. In that sense, society must develop that awareness to be able to dynamically claim that right in all areas. When reflecting on democratic projects in unequal contexts, Cortés [35] asserts that if the quality of life is a form of social consciousness, according to the time and the predominant values, the pertinent question is what development, beyond the lucidity of the official documents, can be obtained today amid a culture of exclusion.

For Cortés [35], it is a fact that classist discourses are no longer enough in defense of the rights of workers and the unemployed. For most young people, for example, there is no room in their lives for traditional political discourse, no matter how progressive it may appear. On the other hand, he states that the new political culture operates more in the media than in direct citizen participation, and the entire society is being reorganized from the new strategic sector of communication and information.

Hence the idea that in a society with saturation of information, we speak of a mass culture, where the supposed development passes through a culture of acquisition without limits, where the needs are not only the basic ones, felt and induced, but also, we live in the face of a creation of non-existent needs, fostered by advertising whose purpose goes beyond information and persuasion, and rather to convince the purchase at any cost and all costs. Such a culture distances itself from the ideals of thought, knowledge, and science. Among the ideologues of these approaches are Adorno [36], Toffler [37–39], and Gross, [40], among others.

5.3 Sustainable human development

It is not difficult to perceive that economic growth in itself is not sufficient for human development. Indeed, the World Bank report [34] recalls that increasing the

total wealth of a nation also improves the possibilities of reducing poverty and solving other social problems. But history shows examples in which economic growth was not accompanied by similar progress in human development, but rather development had a high social cost, causing greater inequality, more unemployment, the weakening of democracy, the loss of cultural identity, or excessive consumption of resources necessary for future generations. The report suggests that "as the links between economic growth and social and environmental problems become better understood, specialists, including economists, seem to agree that such growth is inevitably unsustainable, that is, not "It can be maintained for a long time."

> *To be sustainable, economic growth must continually draw on the fruits of human development, such as improved knowledge and skills of workers, as well as opportunities to use them efficiently: more and better jobs, better conditions for the flourishing of new businesses, and greater democracy at all levels of decision-making.*

Conversely, if slow, human development can put an end to sustained economic growth. According to the Human Development Report [32].

> *"In the period 1960–1992, of the countries that were in a situation of unbalanced development with slow human development and rapid economic growth, none managed to make the transition toward a virtuous circle in which human development and growth could mutually reinforce each other." Since the slowdown in human development has invariably been followed by the slowdown in economic growth, this mode of growth is described as "dead end."*

In social justice, defined as equal opportunities to achieve well-being, both for present and future generations, at least three aspects can be observed: economic, social, and environmental. According to the World Bank report, only development that manages to balance these three groups of objectives will be sustainable. Conversely, ignorance of any of these aspects can endanger economic growth and the development process as a whole.

The latest documents on the issue were published by the UN in 2024.

5.3.1 UN 17 goals

1. No poverty (end poverty in all its forms everywhere) [41]
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth

9. Industry, innovation and infrastructure

10. Reduced inequalities

11. Sustainable cities and communities

12. Responsible consumption and production

13. Climate action

14. Life below water

15. Life on land

16. Peace, justice, and strong institutions

17. Partnership for the goals.

5.3.2 History

The 2030 Agenda for Sustainable Development, adopted by all United Nations member states in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries—developed and developing—in a global partnership. They recognize that ending poverty and other deprivations must go hand in hand with strategies that improve health and education, reduce inequality, and spur economic growth—all while tackling climate change and working to preserve our oceans and forests [41].

The SDGs build on decades of work by countries and the UN, including the UN Department of Economic and Social Affairs.

- In June 1992, at the Earth Summit in Rio de Janeiro, Brazil, more than 178 countries adopted Agenda 21, a comprehensive plan of action to build a global partnership for sustainable development to improve human lives and protect the environment.

- Member states unanimously adopted the Millennium Declaration at the Millennium Summit in September 2000 at UN Headquarters in New York. The Summit led to the elaboration of eight Millennium Development Goals (MDGs) to reduce extreme poverty by 2015.

- The Johannesburg Declaration on Sustainable Development and the Plan of Implementation, adopted at the World Summit on Sustainable Development in South Africa in 2002, reaffirmed the global community's commitments to poverty eradication and the environment and built on Agenda 21 and the Millennium Declaration by including more emphasis on multilateral partnerships.

- At the United Nations Conference on Sustainable Development (Rio + 20) in Rio de Janeiro, Brazil, in June 2012, Member States adopted the outcome document "The Future We Want," in which they decided, inter alia, to launch a process to develop a set of SDGs to build upon the MDGs and to establish the UN High-level Political Forum on Sustainable Development. The Rio +20 outcome also

contained other measures for implementing sustainable development, including mandates for future programs of work in development financing, small island developing states, and more.

- In 2013, the General Assembly set up a 30-member Open Working Group to develop a proposal on the SDGs.

- In January 2015, the General Assembly began the negotiation process on the post-2015 development agenda. The process culminated in the subsequent adoption of the 2030 Agenda for Sustainable Development, with 17 SDGs at its core, at the UN Sustainable Development Summit in September 2015.

- 2015 was a landmark year for multilateralism and international policy shaping, with the adoption of several major agreements:

  - Sendai Framework for Disaster Risk Reduction (March 2015)

  - Addis Ababa Action Agenda on Financing for Development (July 2015)

  - Transforming our world: The 2030 Agenda for Sustainable Development with its 17 SDGs was adopted at the UN Sustainable Development Summit in New York in September 2015.

  - Paris Agreement on Climate Change (December 2015)

Now, the annual High-level Political Forum on Sustainable Development serves as the central UN platform for the follow-up and review of the SDGs [41].

Today, the Division for Sustainable Development Goals (DSDG) in the United Nations Department of Economic and Social Affairs (UNDESA) provides substantive support and capacity-building for the SDGs and their related thematic issues, including water, energy, climate, oceans, urbanization, transport, science and technology, the Global Sustainable Development Report (GSDR), partnerships, and small island developing states. DSDG plays a key role in the evaluation of the UN systemwide implementation of the 2030 Agenda and in advocacy and outreach activities relating to the SDGs. To make the 2030 Agenda a reality, broad ownership of the SDGs must translate into a strong commitment by all stakeholders to implement the global goals. DSDG aims to help facilitate this engagement [41].

5.3.3 Implementation progress

Every year, the UN Secretary-General presents an annual SDG Progress report, which is developed in cooperation with the UN System and based on the global indicator framework and data produced by national statistical systems and information collected at the regional level [41].

6. Education for development

According to Orduna and Naval [24], the proposal is unanimously defended by all sectors: politicians, international organizations, NGOs, and social agents from any

corner of the planet. Only education for development is an adequate means to ensure that people progress. In this sense, it is necessary to make some clarifications. Firstly, every person has the capacity and right to participate in their development and that of their community. Secondly, the fight against poverty, or what is the same, the participation of people in their development process, is done in their most immediate context, in their community environment. And, thirdly, development is generally assumed—it is the responsibility of adults, both at the community and local levels; however, to guarantee its continuity over time, these adults must train children as actors of the future. Or, in the words of UNICEF:

> *"Education does not begin when the child crosses the threshold of primary school nor does it end when the bell rings and classes end. Learning begins at birth; it happens in the family, in neighborhoods, in communities, and during play. The teachers in life are fathers, mothers, brothers, sisters, colleagues, workplaces, and the media." [42].*

The same development process, as a social change, is presented as an educational transformation that involves, among other things, learning new techniques and different ways of doing things; devising novel solutions; acquiring new knowledge and trying different behaviors than usual; establishing social relationships; designing an action strategy; putting into operation social ways for group work, etc.

6.1 Education and human capital

Most human capital is formed through education or training, which increases a person's economic productivity, allowing them to obtain higher incomes. Governments, workers, and employers invest in human capital by dedicating money and time to education and training (accumulation of knowledge and skills). Like any other investment, investing in human capital requires sacrifices. People agree to do them if they consider that, in return, they will obtain greater income in the future.

According to the Organization for Economic Cooperation and Development (OECD) [43], human capital can be broadly defined as the stock of knowledge, skills, and other personal characteristics embodied in people that help them to be productive. Pursuing formal education (early childhood, formal school system, adult training programs) but also informal and on-the-job learning and work experience all represent an investment in human capital.

The OECD [43] regularly recommends that countries reform their education and training systems. Economists often refer to this as improving "human capital." Yet, at the macroeconomic level, quantifying the effects of human capital on growth and productivity has often proven frustratingly elusive, both in the academic literature and in OECD work.

In all countries, governments spend public funds on education because they believe that a better-educated population will contribute to faster development. Employers pay for employee training because they expect to cover the cost and earn additional profits by increasing productivity. Many people are willing to spend time and money on education and training because, in most countries, those with better education and skills earn more. Educated and specialized people are usually in a position to produce more or generate more valuable production in the market; employers generally recognize this by paying them higher wages [44].

In the case of vocational education, employers often play an important role, providing practical training to employees on the job and funding training in technical

schools. Governments try to encourage employer participation in order to save public funds and link vocational education with labor market needs. Specific competencies are best acquired and honed through in-service training, especially in jobs that involve notable technological advancement.

Public financing of vocational training is generally considered justified when the training capacity of employers is deficient (in the case of small- and medium-sized companies, e.g.) or non-existent (as occurs with the retraining of workers). A very good quality general education is the best guarantee of a person's ability to acquire new skills throughout their career and of the willingness of employers to invest in that person's professional training. Most importantly, employees can communicate clearly in writing and use math and science knowledge to diagnose and solve problems.

6.2 Education and gender

According to the report from the site "América Latina Genera" [45], human development is the "process through which the expansion of people's opportunities is sought, increasing their rights and capabilities." In this vision,

> *One of the measurement indicators that constitute the Human Development Index (HDI) is knowledge, measured by the adult illiteracy rate and the combined total primary, secondary, and tertiary enrollment rate. The Gender Human Development Index (GDI), created in 1995, incorporates the gender dimension by disaggregating these indicators to make visible the existing gaps between women and men in access to education.*

Education has unlimited potential when it comes to building human capital, and it is more than known that we will never be able to achieve true human development until we achieve equality between women and men. It is time, therefore, for educational and academic institutions to stop transmitting and perpetuating gender stereotypes and become a space that transforms and enhances equality through the transmission of values in favor of diversity, equity, solidarity, and inclusive participation.

6.3 Education and liberation

Education has been the most effective instrument in establishing the development of human beings through the teaching-learning process to encourage knowledge, social and civic construction, and the promotion of human rights in all its forms.

Education can contribute to the emancipation of human beings from an unjust and inhuman order. Above all, education gives the knowledge, skills, and attitude that a person needs to enter the world of work and the community. The socialization process begins in the classroom, from literacy to the construction of knowledge that gives students the skills to develop as a person and as a social entity.

In this sense, Freire [46] developed an innovative (and necessary) literacy method that was linked to the interests of the homeless and that he developed in his hometown. This model was based on an education built on dialog, allowing each person to contribute to their personal development. Freire achieved that education abandoned its domesticating function to become a path toward freedom, whose first objective was the awareness of people as individuals, to avoid massification.

Freire's ideas [46–48] seek to immediately change the existing society through a transformation of structures in a way that allows the construction of a more humane and egalitarian society. The author proposes developing critical attitudes that stimulate practices of social commitment, especially with marginalized groups. An ideal future is sought that gives meaning to the action of the present. The objective of education is to motivate the transformation of society toward a model where human potential is emancipated beyond what the current structure allows. The school must help students recognize the need for social change to act accordingly. Students are considered as individuals whose fulfillment depends on their critical integration into their community so that they have a perspective that transcends dominant alienation through liberating practices. The teacher is a model of social commitment to the weakest and most unprotected; he is an expert in developing critical attitudes.

Education for Freire is giving the learner awareness to assume their role; education manifests itself in the liberation of oppression; education is a way of perceiving social reality, and by doing so, the subject is making history; he is the protagonist of his story.

Therefore, for Freire, education is a dynamic process, a process of action on the part of the subjects, and he concludes that education is a process of praxis; it is not only reflection but an activity aimed at transforming through human action.

Education is humanization, which implies liberation from the structures of domination and objectification of man; to create a free and supportive society, to create a man who emerges as a cultural subject and historical being. Freire's proposal is aimed at "the development of critical consciousness, which arises from confrontation with social reality itself. He called this conscientization." Freire set out to raise awareness to liberate.

Freire believes that we must accept that the main function of education is to make people free and autonomous, capable of analyzing the reality that surrounds them, participating in it, and transforming it, which is why it assumes a pedagogy that is renewed with practice and that encourages reflection for action.

6.4 Humanizing education in multicultural contexts

The perspective of popular cultures, according to Canclini [49], is one of the points that must be taken into account in sociocultural spaces, and it is important to rethink the identity inserted in the context of globalization and multicultural society.

> *[...] rethink it as a multicultural identity that is nourished by various repertoires, that can be multilingual, nomadic, transit, move, reproduce as an identity in places distant from the territory where that culture or that identifying form was born [50].*

Therefore, educating different people with a multicultural identity, as Canclini [50] states, requires a differentiated pedagogy and differentiated repertoires, which are based on knowledge of needs, ways of learning, and psychological and material dimensions of identity. Multicultural as new ways of discussing differences.

The pillar that supports differentiated education is identification with diversity, multiculturalism, and interculturality, that is, a feeling of being diverse that understands itself as part of that culture. When the educator understands this condition, beyond varying the didactic resources, he manages to make the diversity among his students a learning resource.

Humanizing education teaches what the culture and condition of life of man fail to teach him: understanding the world, nature, and people and the relationship between them; mastering the most varied languages to communicate and handle competently

the quantitative dimensions of life. Freire [51] emphasizes that man is a social and historical being, a thinking, communicating, transforming, creative, dream-fulfilling being capable of loving; that is, from these Freire's characteristics, the perspectives in forming humanized learners and more accessible.

6.5 Education and family: Theorists

To understand the relationship between education and family, we must understand the theoretical approaches that support it. Constructivism has created a window for such a relationship, especially looking in the context of the student, in his contour and environment, according to Ortega y Gasset [52].

In recent years, the socio-interactionism approach, created by Vygotsky [9], has been developed. According to the author, it occurs in a dialectical relationship between the subject and the society in his environment; that is, man transforms the environment, and it transforms man. For him, what is interesting is an interaction that each person establishes with a certain environment, what is known as a personally significant experience. In the socio-interactionist theory that had its greatest exponent in Vygostky [9], a new approach is evident. Its assumptions are based on the idea of man as body and mind, as a biological and social being, and as a participant in a historical-cultural process.

6.5.1 Relationship between the ideas of several authors on education

Here is a compilation of the main theorists on education for development.

- Vygotsky. Relationship between thought and language [9]
- Jean Piaget. Every day in the classroom and in knowledge-building relationships [53].
- Paulo Freire. Proposal for the construction and realization of the man who, in adversity, interferes in his history [48].
- Henry Wallon. Affection and intelligence constitute an inseparable pair in psychic evolution [54].
- Gardner. Understanding of the student as a unique being, with their specific abilities, talents, and intelligence, to which they must have access and develop them through education [55].
- Isabel Parolim. Family and school as allied institutions in the development of self-esteem [56].
- Sara Paín. Psychopedagogy contributes to the family relationship process as well as the learning process [57].
- Gikovate. School and family establish a lively and intense dialog [58].
- Musashi and Wilson. Strategy is the way to apply the available means to achieve specific objectives and overcome problems [59].

The Humanities Curriculum project, developed by Stenhouse [60], proposed the study of human problems of general interest to adolescents, within areas of experience in which individuals can show their disagreements. This is to develop an understanding of social situations, human acts, and the controversial problems they raise.

For Stenhouse, research is the learner's potential, his concern, his collaboration, and the improvement of his potential, while action is the activity carried out by theory to develop the learner's potential.

The family is the ideal place to make learning happen, through accompaniment, support, and motivation. This goes from financial to academic, emotional, and affective.

6.6 Challenge of technology in education today

There is a close relationship between education and human development. This relationship has intensified with the use of technology, becoming an essential element in promoting personal, social, and cognitive growth in the current context. Indeed, new technological tools have opened new opportunities for learning, inclusion, and the development of fundamental skills to meet work and service expectations and current sociocultural needs. This section highlights some points to understand its scope.

6.6.1 Education-technology relationship

A very important aspect today is the personalization of learning. Luckin [61] suggests that the use of artificial intelligence (AI) supports the creation of educational programs that adapt and adjust to the needs and learning styles of each student. The same author states that these days "AI offers an unprecedented opportunity to personalize learning so that students receive the content they need at the right time."

In the context of education, technology has transformed the way many teachers teach their classes and how students learn and develop. On this point, it has been possible to verify that this phenomenon has been impacting not only the academic field but also personal and professional growth.

The topic itself has become very relevant since technological education is not only a means to acquire knowledge but also a tool for the integral development of the human being. On the subject, Bates [62] points out that learning is not only a cognitive process but also a way for the integral development of the human being, uniting education with technology.

In this framework, educational technology contributes to the development of skills, competencies, and personal well-being. On the matter, Selwyn [63] highlights that educational technology opens new possibilities for lifelong learning, allowing people to develop fundamental skills for current needs.

6.6.2 Technology as a facilitator of human development

In this area, several points can be noted. Firstly, *equitable access to knowledge*. A great contribution of technology is the democratization of access to education, allowing people from different social and economic levels to be trained. As Holmes and Porayska Pomsta [64] state, "The use of technology not only expands learning possibilities but also facilitates access for marginalized groups, promoting more equitable human development."

Secondly, the *development of skills*. There is no doubt that digital tools have impacted the development of specific skills such as problem-solving, critical thinking, and collaboration. Holmes and Porayska Pomsta [64] state that "the use of interactive technologies and simulations allows students to practice and improve their problem-solving skills in controlled and realistic environments." With technology, inverted education and hybrid classes have increased, where the student finds an excellent channel to enhance various skills in self-management, research, and self-learning.

Finally, *inclusive education*. Inclusion is highly facilitated by technology because it promotes democratization and the possibility of anyone accessing information *via* the Internet. Indeed, some technologies support students with disabilities or special needs, promoting equity and inclusion.

There is no doubt that technology supports educational inclusion. For example:

In the first place, it allows *access to information*. Assistive technologies, such as screen readers, text-to-speech software, and accessibility tools on digital platforms, enable students with visual, hearing, or mobility disabilities to access educational content. According to Salinas [65], "Information and communication technology (ICT) has facilitated the creation of new learning environments that allow students with different abilities to participate in the educational process more inclusively."

Second, *technology adapts the teaching material* to the social context and personal reality. Technological resources allow content to be adapted to the individual needs of students, facilitating, for example, the use of subtitled videos, descriptive images, or the integration of interactive educational games to improve understanding. Echeia [66] states that "Inclusive technologies allow students with special educational needs to access a flexible curriculum that meets their needs and provides them with real opportunities for participation."

Third, the *availability of online learning platforms* has increased. These allow students to access educational content at their own pace, favoring self-directed learning. Platforms such as Moodle, Google Classroom, Zoom, or Blackboard have options that allow the customization of resources according to the needs of the students. UNESCO [67] has highlighted that "The appropriate use of educational technologies can break down barriers for students who were previously excluded from conventional education due to physical or cognitive limitations."

Fourthly, technology generates *collaborative tools*. Here are applications such as Microsoft Teams or Google Docs, which encourage teamwork and allow the participation of students with disabilities, who might otherwise feel excluded from group activities in physical environments. Area [68], for example, speaking about ICT, recognizes that its potential lies in its "ability to provide pedagogical resources that are adaptable and flexible, adapting to the diverse ways in which students learn."

Finally, emerging technologies promote augmented and *virtual reality* (AR and VR). These emerging technologies offer immersive experiences and can help students with learning difficulties visualize abstract concepts, making them easier to understand.

6.6.3 Technology and emotional well-being in the educational process

On the topic, we consider several points. First, *interaction and social networks*. One of the advances that positively erupted among users was the introduction of online collaboration platforms and educational social networks that have reliably demonstrated that they foster a sense of community and belonging. Many works highlight the ability of social networks, in particular, to give a place to any person, where they

find a sense of belonging and social cohesion is consolidated [69]. In a study carried out by a group of researchers in Paraguay, it was found that during the pandemic, many goods, production, and service companies found that new technologies and social networks accelerated the process of adopting new practices [70, 71].

Secondly, *mental health and digital learning*. The impact of technology on emotional well-being, both positive (through support platforms) and negative (digital fatigue, isolation). "Technology can be an ally in the development of emotional well-being, as long as it is used in a conscious and balanced way." [71].

Third, *socio-emotional development*. It is perceived that technological tools have a high capacity to promote emotional intelligence, empathy, and self-regulation. "The socio-emotional well-being of students is affected by technology, being both a source of support and challenges." [71]. Likewise, Dede and Richards [72] add, "Digital technologies, when used with an appropriate educational approach, can improve socio-emotional development, fostering empathy and self-regulation."

6.6.4 Challenges and risks of the use of technology in human development

Here are several indicators that are worthwhile to be highlighted. Firstly, we talk about *digital inequality*. Without doubting its advantages, the lack of access to adequate technologies in remote places continues to be an obstacle to human development. According to Williamson [73], "The impact of technology on human development is unquestionable, but it must be appropriately managed to ensure it does not widen inequalities."

Following, the existence of *technological dependence* should be considered. When the use of technology is excessive, this can cause difficulties in the acquisition of interpersonal skills and useful time management. In many cases, it is observed, especially among students, a great dependence on technology to carry out their work, not necessarily to learn [73]. As Selwyn [63] says, although technology offers great benefits for human development, its misuse can have detrimental effects, especially in terms of inequality and over-dependence. In that sense, as Williamson [73] comments, "Despite technological advancement, the digital divide continues to deepen inequalities between those with access to technology and those who lack it."

Another important area is the issue of *cybersecurity and privacy*. Currently, there is a growing concern about the protection of personal data in the educational environments. "The digital divide is not only a problem of access to devices, but also of digital skills that allow effective use of technology" [74].

6.6.5 Twenty-first-century skills and the role of technology

Technology today depends on *digital skills*. Digital literacy is a fundamental competence in the current context. Alexander [75] states that "Collaborative technologies are changing the way students interact, allowing them to develop social and teamwork skills in a digital environment." In short, it is perceived that "In an increasingly connected world, digital skills are not optional, but essential for human development and participation in society" [75].

Furthermore, technology is *learned throughout life*. In this framework, technology is a means to maintain personal and professional development throughout life. Thus, Alexander [75] establishes that in an increasingly digital world, digital skills are essential for human development, allowing people to actively participate in society. Garrison and Vaughan [13] state that technology fosters the development of critical soft skills for the twenty-first century, such as creativity and collaboration, through interactive and

collaborative platforms. Thus, according to Bates [75], "Online platforms democratize access to learning, allowing people to continue developing at all stages of life."

6.6.6 Future perspectives: Technology as a driver of human development

Here we can first refer to *emerging innovations*. Artificial intelligence and virtual and augmented reality have great potential for human development. The influence of technology on education is unavoidable, as Bates [75] considers, educational technology will continue to transform human development by providing tools that enhance creativity, critical thinking, and global collaboration. In this sense, Luckin [61] points out that emerging technologies allow individuals to develop the necessary skills for an increasingly digital and complex world.

Secondly, there is *global education*. Technology connects students and educators worldwide, promoting greater collaboration and cultural understanding. Luckin [61] suggests that technology education is a learning tool and a means for human empowerment. Williamson [73] adds that there is enormous potential for technology for human development, although it must be managed properly to avoid widening existing inequalities. In effect, Luckin [61] states that "The future of education will be deeply influenced by the advancement of AI, which will transform not only how we learn, but how we develop as human beings.

In effect, the efforts of communicating the messages of development have delineated a whole field of study and training with a clear focus, constituting a line of research, about how communication can aid the development of people, with a purposive view, adhering to the principles of education for development and the variables that aim to take the human person as an end, looking at its well-being in all facets of life [61].

7. Conclusions

As seen in this chapter, which includes the main issues discussed, development is increasing one's ability to follow the line of growth in all dimensions of life, involving education, health, environment, economy, and sociocultural aspects. On the whole, the concept has been adjusted to each decade and year, having the human person as the focus and central concern. Development has to do with the real progress of each human person, trying to eradicate marginalization and postponement. As it is raised in this chapter, education is the basis for human development, aiming to empower people to reach their best potential, as well as attain their rights and dignity. As new technological tools and the Internet brought out the digital society, with skillful innovation and crafting a wide range of devices and applications to serve different information and communication purposes, education has gained important territories in advancing the techniques and methods of teaching and learning. The traditional practices were highly overcome by hybrid and inverted education, reverting to unidirectional practices and adopting more democratic approaches. Indeed, technology has revolutionized the job of education and other fields such as business, government, the economy, and all kinds of transactions, interactions, agreements, and cooperations. In all these advances, the human person has been the focus of legal and practical frameworks. Hence, all efforts must empower the less advantaged and underrepresented people, enhancing the fulfillment of their full potential. Consequently, the hope is the emergence of a more democratic, participatory, open, and interactive society for the realization of the highest aspirations of its members.

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