

Interventions to Mitigate Attrition Rates in a Developing Country, South Africa

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Abstract: Education is regarded as a tool that is used to change the world. Institutions such as the United Nations Education Science Culture Organisation (UNESCO) were established on the premise of how important education is for individuals, organisations, societies, and the world. UNESCO is a specialised agency of the United Nations (UN) for promoting world peace and security through international cooperation in education, arts, sciences, and culture. The high attrition rate from higher education institutions is still a challenge and concern, especially in South Africa as one of the developing countries. Various factors for high attrition rates were identified, namely lack of motivation or desire to complete the qualification or a course, lack of time, insufficient prior knowledge, lack of support, and feelings of isolation among others. Despite the challenges, education is a huge investment, and the initial investment in education represents above a quarter (25%) of the eventual total educational cost. The high attrition rates suggest that the initial investment made in education is not fully realised as should be. Some of the consequences of high attrition rates are poor achievements of world peace and security aspirations. Various interventions for mitigating attrition rates do not necessarily achieve the desired results. Governments and other agencies committed a lot of resources to mitigate some of the challenges associated with attrition rates. Despite the commitments, attrition is high in many countries, especially in developing countries such as South Africa. The number of people not in education, employment, or training (NEET) is at a constant increase. Students who complete tertiary education are concerningly below targets and do not commensurate with the investment made in education. The aim and objectives of the study were to reignite the discussion about attrition rates in education given its huge investment. The study analysed the available literature, current reports, and some of the policy interventions that were developed and implemented to mitigate attrition rates. The study concluded that all parties to education must be committed to the available interventions, especially students.

Keywords: Attrition rates, Entrepreneurship education, Open distance and e-learning, Sustainable development goals (SDGs)

1. Introduction and Background of the Study

Education is one of the most important tools that is used to change the world by ensuring progress on the sustainability development goals (SDGs) in both developed and developing countries. It is at the center of the provision of much needed knowledge and skills that promote the achievements of the 2030 SDGs aspirations such as sustainable education development and lifestyles, human rights, gender equality, promotion of a culture of peace, and non-violence, global citizenship and appreciation of cultural diversity (UNESCO, 2023). Education is a process of building a complete human being, and one of the factors that lead people to a better standard of life. The height of human civilisation, social changes, and modern society begin with and are achieved through education (Muchlisin *et al.*, 2020). In the absence of or with poor education, all these are not possible to achieve. The importance of education has a far-reaching effect on both individuals and the rapid economic development of communities. It is a basic human right with a tremendous instrumental value which is central to unlocking human capabilities and a basis for a fair and equitable society (Moriña, 2019). It is at the center of raising human capital, productivity, income, employability, and economic growth/entrepreneurship. The benefits of education transcend beyond monetary gains by making people experience better health and autonomy over their lives. It also generates trust and creates institutions that promote inclusion and shared prosperity (Moriña, 2019; World Bank, 2018). When educational improvements are expedited among disadvantaged communities, the additional growth reduces poverty, and inequality, and promotes social mobility and parity (Sarker *et al.*, 2019). Muchlisin *et al.* (2020) describe education as a core for conscientisation, which is a process of consciousness for people to know and understand the substantial development of their abilities. Education also fosters the appreciation for diversity, including differences in capabilities, gender, social and cultural origin (Moriña, 2019). In the main, education serves as a linkage between psychological and sociological perspectives, and individual development and social structure (Blossfeld & Von Maurice, 2019). It is a top investment priority for all nations (Sarker *et al.*, 2019).

Despite the good prospects that education provides, it suffers a rapid increase in attrition rates (Kim & Kim, 2018). Attrition at tertiary education is a problematic phenomenon worldwide, with 20% of students affected in Organization of Economic Co-Operation and Development (OECD) countries (Guzmán *et al.*, 2021). Policymakers, administrators, and related authorities pay proper attention to the consequences of attrition rates, mitigating attrition rates and improving the quality of education (Sarker *et al.*, 2019), especially in

developing countries like South Africa. The attrition rate has been an extensively studied phenomenon in three disciplines, namely sociology, psychology, and economics (Aina *et al.*, 2022). The high attrition rate in the e-learning environment is one of the main problems that has been experienced for years (Nicoletti, 2019). Despite the remarkable expansion in e-learning in open distance education in recent years in terms of enrolment and graduation, statistics from the OECD member countries show that, on average, one third of students who enroll at university leave their studies without obtaining or completing a degree (Aina *et al.*, 2022). The consequences of attrition rate related problems are demonstrated by many studies, focusing on different aspects for comprehensive understanding (Nicoletti, 2019). This is an indication of how serious attrition is, to both policymakers and educational institutions.

Cabus and De Witte (2016) affirm that the problem of attrition, which is described as the early leaving of educational institutions does not have only one origin, but multiple factors are in play when such a decision is taken. As a result, different models were proposed and developed to mitigate challenges associated with attrition rates, these include Tinto's model; Spady's Model; Pascarella's Model; and Bean's Model among others (Nicoletti, 2019). The modeling of the attrition rates problems should take into account highly dependent on various factors that are interwoven, including geographical, social, cultural, temporal, economic, course/qualification, institutional, as well as personal factors (Nicoletti, 2019). Student attrition has various underlying factors and is more likely for students who have one or more years of retention in a grade; or due to teenage pregnancy; or shocks resulting from bad health; or reduction of interest in schooling, gradually resulting in truancy behavior; the influence of the lack student's commitment to the education institution, peers and teachers; and a poor learner's motivation; and the economic cycle influence attrition (Cabus & De Witte, 2016). Millions of learners around the globe leave education institutions early, with increasing attrition rates on the rise in tertiary education (UNESCO, 2024). The UNESCO global happy education institution framework proposes four pillars, namely people, process, place, and principles, offering happiness into education policies and cultivating it in the institution through system change (UNESCO, 2024). All these factors were somehow put together to model theoretical frameworks for attrition. The frameworks were designed to model the attrition decision by students to time preferences, motivation, aspirations, opportunity costs, and policy measures (Cabus & De Witte, 2016). The stronger the integration of the learner in all the academic and social spheres, the greater the commitment to the institution and the goal of persistence and completion of the course/qualification (Nicoletti, 2019).

In South Africa, the percentage of individuals who attended educational institutions shows high attendance in the age group between 7 and 14 years, after which attrition increases sharply. By the age of 24 years, approximately 10% were still attending, showing some noticeable representation of learners who are older than the ideal grade age. Individuals without any formal education were most common in Limpopo (7,1%) and Mpumalanga (6,3%), and least common in Western Cape (0,7%) and Gauteng (1,0%) (StatsSA, 2022). A major global challenge is the phenomenon of young people who are not in education, employment, or training (NEET). Globally, 30% of young women and 13% of young men were classified as NEET in 2018. The unemployment rate for women (5.4%) is slightly higher than for men (4.7%). The gender gap in unemployment rates is widest in lower-middle-income countries (StatsSA, 2022). Critical educational programs are affected by attrition rates, this also includes among others entrepreneurial education (Nurmalitasari *et al.*, 2023). Other reasons for high attrition rates are that both students believe that educational institutions insufficiently stimulate learners (Arend, 2019). The study focused on the available literature, some of the common policy interventions, and reports/statistics on attrition rates.

2. Factors for Attrition Rate From Education Institutions

Similarly, high attrition rates in Sub-Saharan Africa are attributable to multiple factors (Yakubu & Salisu, 2018). Factors that predict high attrition rates are categorised into three major themes, namely sociocultural, environmental, and economic factors (Cabus & De Witte, 2016; Gubbels *et al.*, 2019; Guzmán *et al.*, 2021; Kim & Kim, 2018; Mishra, 2020; Muchlisin *et al.*, 2020; Yakubu & Salisu, 2018). Other factors are lack of or poor parental counseling and guidance, parental neglect, the absence of affordable or free education, lack of comprehensive sexuality education, renegade and misconceptions of some fundamental responsibilities, and inappropriate forms of recreation. Individual factors (with variables such as excessive use of alcohol, substance abuse, educational status, low self-esteem, inability to resist sexual temptation, curiosity, and cell phone usage) (Cabus & De Witte, 2016; Gubbels *et al.*, 2019; Guzmán *et al.*, 2021; Kim & Kim, 2018; Mishra, 2020; Muchlisin *et al.*, 2020; Yakubu & Salisu, 2018). Health service-related factors also influence adolescent pregnancies (Cabus & De Witte, 2016; Gubbels *et al.*, 2019; Guzmán *et al.*, 2021; Kim & Kim, 2018; Mishra, 2020; Muchlisin *et al.*, 2020; Yakubu & Salisu, 2018). Seemingly unique to sub-Saharan Africa, religious factors, early marriages, low

level of education, poverty, the cost of contraceptives, lack of adolescent-friendly health service provision, inadequate and unskilled health workers, and lack of comprehensive sexuality education. Policymakers and opinion leaders should focus on community sensitisation, comprehensive sexuality education, and ensure girls enroll and stay in an education institution (Cabus & De Witte, 2016; Gubbels *et al.*, 2019; Guzmán *et al.*, 2021; Kim & Kim, 2018; Mishra, 2020; Muchlisin *et al.*, 2020; Yakubu & Salisu, 2018). Various other factors at the individual, national, and global levels also influence high attrition rates, but in the main, these are adequately grouped into sociocultural, environmental, and economic factors.

3. Consequences of Attrition in Society

Attrition is defined as the share of learners or students who do not complete their educational programs at a specific time (Aina *et al.*, 2022). Attrition is also defined as anyone leaving an education institution at which one is registered for without completing the course or qualification, or a certificate or equivalent credential, or a specific grade one was studying/pursuing has not been completed (Nicoletti, 2019; Sarker *et al.*, 2019). Attrition is a premature departure of the student from the program/course or institution without fulfilling the requirements of the program. Attrition is also associated with a loss of investment in education. According to Guzmán *et al.*, (2021), investment in education ceases to be profitable when the attrition rate is high. The achievement of all the aspirations of the SDGs is also affected when the attrition rate is high (UNESCO, 2024). A high attrition rate compromises the achievement of the SDGs' aspirations. For example, SDG#4, namely 'ensuring inclusive and equitable quality education and promotion of lifelong learning opportunities for all'; SDG#9 'industry, innovation and infrastructure'; SDG#3 'ensure good health and well-being for all ages' (Kim & Kim, 2018; OECD, 2023; UNESCO, 2024). Due to high attrition rates, the period for redressing the imbalances of the past is affected (White & Van Dyk, 2019). The attrition rate negatively impacts on objectives of the quality, equitable, and democratic education system, which is central to South Africa's transformation and redressing of the inequitable system of apartheid past (Sayed & Motala, 2012). The attrition rate continues to widen the country's economic disparity and unequal educational opportunities due to different socioeconomic backgrounds (Ogbonnaya & Awuah, 2019). A high attrition rate is a serious harmful factor that affects the human capital development of nations (Sarker *et al.*, 2019). In developing countries, one-third of learners/students suffer from the challenges associated with the attrition rate (Sarker *et al.*, 2019). The attrition rate poses a disaster in the education system; and it mainly happens due to social, economic, political, and environmental factors. Economically poor societies are the most affected by the challenges of attrition rate, where some students do not attend classes or eventually cancel enrolment.

Attrition rates may lead to economic deprivation and different mental social, occupational, and marital challenges in adulthood (Gubbels *et al.*, 2019). The absence of learners/students from these contexts has the potential to create or compound deviations in normal development (Heyne *et al.*, 2019). The attrition rate is also associated with many different life-course problems (Gubbels *et al.*, 2019). An attrition rate is one of the challenges that must be declared as an educational pandemic, as it continues to haunt societies. South Africa is investing much in entrepreneurship education as entrepreneurship is believed to be an appropriate approach that enables people to provide for themselves and eradicate poverty (Bux & Van Vuuren, 2019). While South Africa provides several programs to empower and enable people to engage in entrepreneurship, among other factors, the high attrition rates from entrepreneurship programs remain a serious concern affecting its meaningful contribution to the question of poverty eradication and achievement of SDG aspirations (Bux & Van Vuuren, 2019).

4. Interventions for Mitigating Attrition Rates and Improving Educational Completion

In South Africa, various policies are implemented, which are related to improving access and affordability to education. These include the quintile education system, the provisions of feeding schemes programs, the provisions of scholar transport, the programs that look at infrastructure, and the financial aid schemes for tertiary education students. Each of these is briefly discussed in this section. The quintile education policy categorises schools according to the communities the schools serve. The Amended National Norms and Standards for School Funding (ANNSSF) ranks all schools into one of five quintiles, with Quintile 1 representing the poorest, and Quintile 5 representing the most affluent schools (White & Van Dyk, 2019). The policy addresses the funding system of schools and some challenges in the education system. For example, Quintile 1 schools are regarded as no-fee paying schools, receiving the bulk of financial support from the Department of Education (White & Van Dyk, 2019). It is an intervention that allows learners to receive education without any form of financial exclusion. Parents can choose which school to take their children depending on their economic status and factors such as which school is closer to the learner's place of residence. Quintile 5 schools are fee-paying

schools, meaning that the financial support for the school is mainly raised by parents of learners attending the school and less financial support is provided by the government. The no-fee paying schools supporting policy is one among other interventions that seeks to improve access, equity, and the quality of education (Sayed & Motala, 2012). It is also one of the factors leading to high enrolment rates between the ages of 7 to 14 (StatsSA, 2022).

The quintile ranking system was to ensure equity in the financial status of schools (White & Van Dyk, 2019). Literature reveals that students from lower quintile schools experience a higher attrition rate tendencies when in tertiary education institutions, taking them more time to adjust and complete their programs compared to students from higher quintile schools (Ogbonnaya & Awuah, 2019). The quintile system also redresses the impulse of the widening gap between the haves and have-nots. Interventions such as no-fee paying schools, provisions of feeding schemes, and scholar transport reduce the attrition rates and adjustment-related challenges of students at tertiary institutions (Sayed & Motala, 2012). The National Student Financial Aid Scheme (NSFAS) was introduced to make higher education accessible to poor students in South Africa. It undoubtedly contributed positively to making higher education more accessible to the poor. A larger proportion of NSFAS students perform better than non-NSFAS students and obtain qualifications while a smaller share of them dropped out without qualifications, compared to the non-NSFAS students (de Villiers, 2023). A full understanding of the attrition rate patterns was needed for the complexities of the various interventions impacting outcomes in education systems (Sayed & Motala, 2012).

Some policies and programs are implemented to make education an attractive commodity and improve access, equity, and quality of education, and arrest the high attrition rate in South Africa (Munje & Jita, 2019). These include social and economic supports that are provided to students. The provided support attempts to make the education environment a happy place to learn. When both learners/students and instructors are happy, there is a feeling of friendship and the presence of fresh air and safety, these variables stimulate happiness and improve the learning experiences, learning outcomes, and well-being of learners (UNESCO, 2024). Hunger is one of the factors considered a major barrier between impoverished learners and the learning process, always leading to absenteeism and ultimately attrition (Munje & Jita, 2019). Nutrition influences the efficiency of the education program, and it is vital for learners' cognitive development (Nhlapo *et al.*, 2015). Some improvements should be made in the nutrition programs, storage, and handling of food at some educational institutions (Munje & Jita, 2019).

Another intervention that has a remarkable impact in reducing attrition rates is the provision of scholar transport. Most scholars in rural areas face serious challenges in commuting to and from educational institutions, including walking long distances, weather conditions, and personal safety, resulting in worse academic performance due to fatigue, and/or damage to textbooks (Joseph & Carpenter, 2017). The national and provincial transport policies contain limited helpful sections, sometimes putting learners in difficult or dangerous situations. It is recommended that South Africa must provide learners with adequate transport due to the dangers and traveled distances. The provision of scholar transport is an important right for every learner. The policies put in place by government departments provide a starting point for the creation of an effective transport strategy, but there are still many difficulties to overcome to ensure that transport is available for every learner who has trouble getting to and from school (Joseph & Carpenter, 2017). Some of these learners do not have the economic means to afford scholar transport to and from schools. Insufficient scholar transport places some difficulties on learners, making it impossible for some learners to attend classes regularly, and/or eventually drop out (Joseph & Carpenter, 2017; Rammuki, 2018). The provision of scholar transport addresses the obstacles learners face while walking to schools, such as walking in dangerous terrains (Joseph & Carpenter, 2017). In provinces such as Gauteng, the policy covers learners who live at least 4 kilometers (km) to a maximum of 15 km of schools of choice. These are most prevalent in rural areas as most learners in urban areas live within 4 km of schools of choice (Mngaza *et al.*, 2001). A study by Mabasa (2023), reflected on the attrition rates from the course, where students could not write their examinations. Despite the factors advanced for attrition, the fact remains that at first, the student had the intention to complete the module/qualification, but could not due to attrition.

Other forms of support for students include among others social networks, social capital, and social support. A social network is defined as a structure composed of a set of actors where some members are connected by a set of one or more relations. Individuals access a variety of resources through membership in social networks (Liu *et al.*, 2018; Mishra, 2020). Social networks provide access to various forms of social capital such as information, social support, values, and aspirations along with economic resources (Liu *et al.*, 2018; Mishra, 2020). Social capital is defined as the aggregate of the actual resources that are linked to the possession of a

durable network of more or less institutionalised relationships of mutual recognition (Mishra, 2020). The mechanisms through which different forms of social capital are accessed and mobilised are complex and dependent on the composition and characteristics of social networks (Liu *et al.*, 2018; Mishra, 2020). The social support literature distinguishes between perceived and received support (Liu *et al.*, 2018). Perceived support measures the general availability of support or global satisfaction with the amount of support that is available (Liu *et al.*, 2018). In a study by Mabasa (2023), conflicting results were reported about the role of discussion forums (which platform provides interactive support between students and learning content, students and fellow students, students and institutions) in predicting education performance. There are some noticeable improvements in the percentage distribution of educational attainment for individuals aged 20 years and older between 2002 and 2021 as shown in Table 1 below:

Table 1: Percentage distribution of educational attainment for individuals ages 20 years and older between 2002 and 2021

Period	None	Completed Primary school	Completed Grade 12	Completed Post school
	%	%	%	%
2002	11.4	7	21.3	9.2
2003	10.6	6.6	21.7	9.4
2004	10.2	6.7	23.5	9.6
2005	9.8	6.4	22.7	9.8
2006	9.8	6.3	24.3	9.2
2007	8.7	6.4	23.8	10
2008	8.7	6	24.6	11
2009	7.3	5.7	26.3	11
2010	6.8	5.7	26.6	11.3
2011	6.3	5.5	27.7	11.7
2012	5.7	5.2	27.5	12.5
2013	5.5	5.1	28	12.8
2014	5.2	4.8	29	13.5
2015	5	4.7	28.3	14.1
2016	4.7	4.6	28.8	14.1
2017	4.7	4.4	29.2	13.9
2018	4.5	4.3	30.9	14.3
2019	3.7	4.2	30.8	15.4
2020	2.9	3.8	36	14.1
2021	3.2	3.7	35.9	14.6

Source: (StatsSA, 2022)

It is shown in the table that the number of learners who have not completed any education level is on the decline, from 11.4% in 2002 to 3.2% in 2021. There is also a decline in the number of learners who have completed some primary education, which is a positive outcome from the 7% high in 2002 to 3.7% in 2021. The number of learners who complete grade 12/matric is on the increase, from 21.3% in 2002 to 35.9% in 2021. The number of students who completed their post-matric qualifications, from 9.2% in 2002 to 14.6% in 2021. The marginal changes are low for those who have completed either grade 12 or post-grade 12 education.

A portion of the educational budget is related to ancillary services, including welfare services offered to students (student meals, housing, and transport). Public funding is heavily scrutinised and in an economic downturn, even core sectors like education are subjected to budget cuts by governments. Government funding for education is generally spent on public institutions but some countries spend a large part of the public budget on private educational institutions. Staff expenditure encompasses the salaries, pensions, and other benefits earned by teaching and support staff, representing the largest expenditure in educational budgets across all OECD

countries (OECD, 2023), and South Africa is one of the OECD member countries. In the Gauteng Department of Education, for example, 55% of the school budget is for learners' support materials; 33% for services, and 12% for maintenance (Sayed & Motala, 2012). The available budget for attrition prevention in some other countries has been on the increase (Cabus & De Witte, 2016). However, the budget must be used economically and efficiently for the good of the educational institutions and students. It is argued that entrepreneurial education (EE) has many benefits and should be central in any nation's educational policies and financial support. One of the objectives of entrepreneurship education is to build knowledge and skills for entrepreneurship, a viable tool for poverty alleviation and survival during periods of high unemployment rate and economic downturn (Vegard Johansen, 2014).

5. Results, Findings, Discussions and Conclusions

The benefits of education are evident in society at both individual and societal levels. Education is a tool for capacity development and to redress the imbalances of the past, such as the alleviation of poverty and inequality. It increases the prospects for employment, manageable marriage, and improved self-esteem for individuals. It is at the center of the achievements of all the SDGs' aspirations. There are various interventions at individual and institutional levels to promote access and affordable education, grouped as economic and social support interventions. These include the provisions of learning, accommodation, feeding/nutrition schemes, transport, and financial support. These interventions ensure that the learning environment is a happy place for all learners/students to complete their studies. Despite all these forms of support, the attrition rate is still a concern. The educational completion rates are still far below targets for primary, secondary, and tertiary education. The budget committed for education by countries is huge with high hopes for better educational outcomes. However, the educational outcomes are not commensurate with the committed budget due to factors such as attrition rate. The success of critical programs such as entrepreneurship education, which is believed to capacitate individuals with needed survival skills for alleviating poverty, is also affected by attrition rates. The study concluded that all parties, and not the government alone, must be committed to the available interventions for better attrition mitigation outcomes.

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