

Art. #2027, 9 pages, <https://doi.org/10.15700/saje.v40n4a2027>

School finance reform for curriculum innovation: An equity prospect

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The advent of democracy in South Africa triggered notable reforms to the financing of quality education, and curriculum design and innovation. The ulterior motive behind this study was to underscore the correlation between inadequate financial resources and learners' achievement. School finance reform was found to contribute to learner achievement and was viewed as a building block of every discourse related to equity. In the Eastern Cape (EC) province, the dismal percentage of Grade 12 learners who achieve success in gateway subjects, as reflected in the National Senior Certificate Examination results, was linked to the grossly inequitable distribution of funding and even the defunding of education. The 3 high schools in question were stigmatised as chronic underachievers, having reported a 0% pass rate for 5 successive years. Establishing an intervention programme to finance quality education for schools in poverty-stricken communities was an arduous undertaking. Although the windfall was temporary, it was construed as the dawn of a new age of philanthropy. The project spurred the development of local education finance to motivate South Africa's *Dinaledi* (stars).

Keywords: achievement; curriculum; equitable; equity; finance; gateway subjects; innovation; reform; social support theory

Introduction

In this study one makes a compelling case for investment in equal educational opportunities for all. Failed education systems – especially at the level of basic education – tend to perpetuate the vicious circle of poverty, crime and inequality (Crouch, 2005). For that reason, innovative financing mechanisms, which can improve educational results, should be accelerated. In recognising the need for more effective financing for education, governments should develop several innovative mechanisms aimed at leveraging new sources of funding and creating stronger links between financing and school results. A profitable approach to equity in education can be adopted by viewing this matter through the lens of fairness.

An equitable process in school education is one in which all learners are treated equally. Such a system is one in which all learners have similar opportunities, linked to the same school curriculum taught by teachers with equal expertise, where all learners have access to equivalent school facilities and where all schools receive the same financial allocation.

More than two decades into democracy in South Africa, the EC and Limpopo (LP) provinces remain trapped in structural poverty that negatively affects the provinces' health and socioeconomic profile. Other South African provinces are also better off in terms of educational resources (Fleisch, 2002).

Educational policies and discourses around equity occasionally reflect a view of equity as equality. While equality means treating every learner the same, equity means making sure every learner has the support needed to be successful. Equity in education requires systems to be put in place to ensure that every learner has an equal chance of success. If only some learners have access to better schools, with better teaching and more government funding, that can be construed as unfair and inequitable (Drijvers & Van Herwaarden, 2000).

When learners' unequal starting points are conceded, and efforts are made to meet the needs of individual learners, they are served equitably (Gravemeijer, 2015). It is imperative to note that learners do not have equal needs. Instead of then expecting of all learners to reach a similar point in their learning all at once, they are expected to make excellent progress in learning, irrespective of the point of departure.

Quality education for all learners is rooted in the understanding that there is no single formula that works for every learner. Each learner's set of circumstances outside the classroom profoundly impacts their needs, regardless of their unique requirements in terms of physical or academic ability. Ultimately, driving success in education comes down to funding and investment in schools that are committed to serving learners from all backgrounds and with diverse academic needs (Kaput, 1994; Sandler, 1983).

To investigate the matter of equity in schools in the EC, the following research questions were posed:

- To what extent do inadequate financial resources have a bearing on learners' achievement?
- Which school-based factors affect Grade 12 learners' performance in gateway subjects, as reflected in the National Senior Certificate Examinations (NSCE) results?

The motive underlying the study was to

- underscore the correlation between inadequate financial resources and learners' achievement
- identify which school-based factors affect Grade 12 learners' performance in gateway subjects, as reflected in the NSCE results

Literature Review

The issue of school fees in South Africa's public schools is complex and taxing. In agreement with the South African Schools Act, all state schools must supplement government funding by charging school fees or other forms of fundraising. Only schools that have been designated as "no fee schools" in a Provincial Gazette may not charge schools fees.

South Africa's post-liberation experience in resourcing public schools was primarily a function of the country's unique history of apartheid education. This cruel system which systematically separated groups based on race, was abolished in 1994. Thereafter, the country faced the unique challenge to transform an unequal and racially segregated schooling system. Since 1994 the national government's educational reforms have focused on access, equity, quality, efficiency and redress. Education policies such as the post-provisioning norms; management of school fees; and other pragmatic interventions mainly aimed to remedy inequality based on race to build a new, unified and equitable national system (Mestry & Dzvimbo, 2010).

In support of Crouch's (2005) argument on excessive budget allocation in South Africa, education received an allocation of R262.4 billion (bn) – the biggest share of the budget – in 2019. The country's education system receives funding which is about 20% of the national budget and 6% of gross domestic product (GDP), exceeding that of many sub-Saharan countries. South Africa's poorest learners depend on dysfunctional public schooling and achieve poor outcomes. Although enrolment at secondary level has been expanding, completion rates are low. About 400,000 learners who started Grade 1 did not reach Grade 12 in 2018. Formerly, White schools had per-learner expenditures 10 times greater than Black schools. Spending on a White learner was four times higher than was spent on an African learner – a situation made possible because of the apartheid-defined racial composition of the system: 80% African, 9% Coloured, 2% Indian and 9% White.

Fleisch (2002) indicates that in 2002, of the country's total expenditure, the new African National Congress (ANC) government's educational expenditure took up to 24% and over 7% of the country's gross national product (GNP). Typical indicators that revealed persistent inequality between Black and White learners (Chisholm, 2005).

Mestry (2014) states that to bring about equity and redress in the public education sector, careful consideration was given to budgeting policy options, provisioning and financing in education. Provincial departments of education were required to reduce injustice in funding education; increase

equality in teacher-learner ratios; and finance learning and teaching support materials.

Other building blocks such as the school's size, the necessity to redistribute resources and to achieve equal access to the curriculum – may require that additional weighted learners be allocated to certain schools (Chisholm, Motala & Vally, 2003). It should be considered that provisioning in education is budget driven. The number of teachers distributed to schools is based on affordability and does not depend on the size of classes or teacher-learner ratios. However, class sizes and teacher-learner ratios are used as policy targets and this should be achieved progressively as funding increases (Department of Education [DoE], Republic of South Africa [RSA], 2006).

Redress of the inheritance of inequality depend on education policies like the management of school fees, the National Norms and Standards for School Funding, and other pragmatic interventions.

It is imperative for Government to provide best schools for communities. To address inequality, schools that are in or near the poorest communities must receive the highest school allocations. It is the state's responsibility to measure the poverty of all communities in the country to know which communities should receive better school funding (DoE, RSA, 2006). Government knows that there are schools that serve learners who live far away from those schools. The state's intention is to ensure that all rural and township schools thrive and improve, so that all South Africans, irrespective of race, language, politics and religion can enjoy good schooling regardless of where they reside. If learners from an informal settlement without a school must attend a school in a "suburb" close by, the Government believes this school must be placed differently on the resource targeting list to receive a larger school allocation (Organisation for Economic Co-operation and Development [OECD], 2008:149).

Every year the minister determines the national quintiles for public schools which must be used by Members of the Executive Council (MECs) to identify schools that may not charge school fees. MECs must subsequently identify and publish a list of these schools in their provinces. Schools in each province are therefore classified into five groups, from the poorest to the least poor. For example, Quintile 1 caters for the poorest 20% of schools in a province, and Quintile 2 caters for the next poorest 20% of schools, etc., while Quintile 5 represents the least poor. Schools receive money from government according to these quintiles. Quintile 1 schools receive the highest allocation per learner, while Quintile 5 schools receive the lowest.

Theoretical Framework

Educational quality can be defined by using a theoretical framework that depicts education within schools as a productive system in which school inputs are transferred into outcomes. The Social Support Theory was selected to underpin this study, and four social support resources, named below, are elaborated on. The concepts and functional categories used below are congruous with social support typologies presented in various debates of support (Antonucci & Depner, 1982). Esteem support is provided when any person is esteemed and accepted, irrespective of personal faults (Wilcox & Vernberg, 1985). In this instance, it can be assumed that at-risk learners can make it in life, if they are supported.

Self-esteem can be enhanced by communicating to persons (teachers and learners) that they are valued for their own worth and experiences and are accepted regardless of their backgrounds. It has already been pointed out that various stakeholders were consulted and informed about the plight of poverty-stricken schools, so that they should extend a helping hand to support learners. This type of support has also been referred to as emotional support (LaRocco, House & French, 1980). When learners fail to pass the NSCE, they are sometimes criticised and labelled as chronic underachievers, and they need close support from both their teachers and parents.

Informational support, which is helpful when an individual has to cope with problematic events (Barrera & Ainlay, 1983; Sandler, 1983), is also referred to as appraisal support or cognitive guidance. Learners should always be encouraged to develop a positive self-concept, as a mere word of encouragement might enable someone to turn around life. Social companionship involves spending time with others, for instance, when teachers and learners in intervention classes focus on establishing positive, affective moods. Stress can be reduced in persons who are assisted through attempts to distract them from worrying about their problems (Moos & Mitchell, 1982). This dimension has also been referred to as diffuse support and belongingness, because it reduces stress.

Lastly, tangible or instrumental support is rendered in the form of financial aid. Instrumental aid helps to reduce the stress of underachieving teachers and learners through the direct resolution of instrumental problems. Although one could draw a clear-cut distinction between support functions, in naturalistic settings, they are intertwined.

Method

In this study, the researcher used primary and secondary data, and adopted a qualitative approach. Three chronically underachieving high schools from poverty-stricken communities in the EC were purposefully selected and sampled for an in-depth study. The province is famed for the poor performance of its Grade 12 learners (Chisholm, 2005). The lives of many residents in the Oliver Reginald (OR) Tambo District Municipality of the former Transkei (homeland) are characterised by appalling penury. The district is one of the most deprived in South Africa, with 5% of homes having tap water, and less than one in nine households having electricity and flush toilets. It is home to almost one-and-a-half million people – two-thirds of whom are under the age of 24. Most young people are unemployed; only 17% of residents have finished school; a mere 5% have tertiary qualifications; and 65% of breadwinners are women who are also pensioners (Chisholm et al., 2003).

Interviews were conducted with key stakeholders from the three schools identified as chronic underachievers in the province. The study participants from those schools were purposefully sampled. The researcher ensured that all sources of data were acknowledged in line with ethical practices, while letters of the alphabet (e.g., X, Y, Z, A, B, C) were used as pseudonyms to conceal participants' identities.

Of the 10 teachers in the sample, six were from the three underachieving schools where they taught mathematics and physical science (three teachers per subject), and the remaining four were from *Dinaledi* schools in a peri-urban area (two teachers representing each gateway subject).

With the assistance of the district manager, teachers from *Dinaledi* schools with a good track record of successful results in the previous five years were identified and introduced to the project coordinator. It was agreed that they would assist the failing schools temporarily, on weekends and during school holidays. Such intervention and enrichment programmes were meant to last for three years, and remuneration was involved.

Furthermore, the three principals of the underachieving schools, as well as 10 learners took part in the study: six from the three underachieving schools, and four from the *Dinaledi* schools.

Although the study focused on the dismal performance in gateway subjects, the overall pass rate reported for the various districts in the EC for the period 2016–2018 (see Table 1) was satisfying.

Table 1 EC district performance, 2016–2018 (DoE, 2019:15)

EC districts	2016			2017			2018		
	Wrote	Achieved	% achieved	Wrote	Achieved	% achieved	Wrote	Achieved	% achieved
Alfred Nzo East	3,674	2,294	62.4	3,511	2,524	71.9	3,653	2,835	77.6
Alfred Nzo West	6,125	4,125	67.3	6,151	4,475	72.8	6,716	5,163	76.9
Amathole West	7,533	4,274	56.7	7,062	4,852	68.7	6,173	4,764	77.2
Amathole East	4,049	2,172	53.6	3,634	2,020	55.6	3,068	1,986	64.7
Buffalo City	7,830	5,186	66.2	7,843	5,729	73.0	7,306	5,694	77.9
Chris Hani East	4,262	2,649	62.2	3,845	2,700	70.2	3,618	2,601	71.9
Chris Hani West	4,526	3,073	67.9	4,294	2,966	69.1	3,974	2,996	75.4
Joe Gqabi	3,075	2,061	67.0	3,174	2,138	67.4	3,045	2,326	76.4
Nelson Mandela Metro	8,534	6,195	72.6	8,152	6,205	76.1	8,002	6,512	81.4
OR Tambo Coastal	7,981	4,923	61.7	7,680	5,344	69.6	6,899	5,356	77.6
OR Tambo Inland	7,560	5,234	69.2	7,829	5,571	71.2	8,260	6,248	75.6
Sara Baartman	2,499	1,795	71.8	2,558	1,869	73.1	2,484	1,850	74.5

The overall percentage pass rate, depicted in Table 1, is pleasing because there has been an incremental improvement over the three years.

Results: School Improvement Strategies

Funds for the community engagement project were sought from politicians and the business sector, and a large amount of money was donated to improve the quality and equality of education in public schools. The funds also supported the development of underachieving schools in 2015. A label of negative results was attached to the schools which participated in this study, since they had obtained a 0–10% pass rate for five successive years. Their performance in mathematics and physical science was dismal, as they obtained a 0% pass rate.

For the community engagement project to run smoothly, a budget was tabled and discussed at length with all the *Dinaledi* schoolteachers, and they all signed contracts. Reasonable incentives were discussed, to augment their transport costs. Permission was sought from the provincial DoE and it was granted after consultations with parents.

An evidence-based improvement plan was implemented in the province's three impoverished

schools, and at-risk learners had to attend classes over weekends and during school holidays. Various intervention strategies were identified, such as a weekly stipend for teachers, awarding the best teachers, and financing mathematics and physical science laboratories.

Robust discussions were held on provincial analyses of the performance and improvement of learning outcomes, which eventually provided progress on financing the school curriculum. *Dinaledi* teachers were able to work with diverse populations and had a thorough understanding of high-quality instruction and maintained high expectations of learners. They were given a mandate to reverse the trend of underachieving learners. In the first three months, the project had teething problems, but these were finally resolved amicably. Charitable donations brought about educational improvement and encouraged the citizenry's involvement in schools.

Although the EC registered a slight improvement in 2017 (see Table 1), it was barely adequate to elevate it from languishing at the bottom rung when compared to the other provinces, as portrayed in Tables 2 and 3.

Table 2 Mathematics performance by province (DoE, 2019:21)

Province	Total wrote		Total achieved at 40% and above	
	2017	2018	2017	2018
EC	35,994	36,449	26.5	25.9
FS	10,134	9,722	49.3	49.3
GP	36,937	35,279	49.6	52.5
KZN	68,463	61,686	27.3	31.3
LP	40,723	39,216	32.0	33.2
MP	24,327	24,207	31.8	33.2
NW	19,232	9,083	40.0	43.4
NC	2,796	2,798	37.8	37.8
WC	15,497	15,418	57.0	56.7
National	245,103	233,858	35.1	37.1

Note. FS = Free State, GP = Gauteng, KZN = KwaZulu-Natal, MP = Mpumalanga, NW = North West, NC = Northern Cape, WC = Western Cape.

At first glance, the above table may be confusing as far as gateway subjects are concerned. The performance of more than 60% of learners (including the three underperforming schools) was grossly inadequate, which is indeed a testimony of poor mathematics results in the country. If the WC can perform so well in the subject, the EC can also show incremental improvements. South Africa needs medical doctors, engineers and actuarial scientists, and a borderline pass rate cannot open

doors to such lucrative fields. Physicians in the medical industry use mathematics in hospitals and pharmacies daily. Mathematics plays a vital role in health, since it allows for the safe administration of painkillers and antibiotics and ensures appropriate treatment and diagnoses. Medical practitioners use mathematics each day to write prescriptions for medication and calculate proper dosages. From balancing a household budget to preparing a tax return, mathematics is crucial.

Table 3 Physical science performance by province (DoE, 2019:23)

Province	Total wrote		Total achieved at 40% and above	
	2017	2018	2017	2018
EC	24,805	24,939	33.7	39.4
FS	8,031	7,876	53.5	55.6
GP	29,178	26,763	49.4	60.9
KZN	43,005	40,643	42.4	48.5
LP	33,584	31,717	37.6	43.9
MP	19,306	20,387	38.6	44.1
NW	8,451	7,348	39.4	50.2
NC	2,344	2,259	34.1	41.2
WC	10,857	10,387	57.3	60.2
National	245,103	233,858	35.1	37.1

Table 3 also provides enough evidence of the EC's poor performance in physical science, compared to that of the other provinces. The performance of more than 50% of learners was below 30%, which is cause for concern (DoE, 2019). Doctors need science to convert weights from pounds into kilograms and convert medicine into milligrams per kilogram. Doctors then determine how long patients must continue taking medicines, and how long the medicine will stay in their systems. In turn, they use science to determine the frequency and duration of dosages. Civil engineers also need mathematics and science to construct bridges and erect buildings. Innovations in technology help people to communicate across the globe using satellites, the internet and cell phones. Technology also helps us each day to work better and even pay our bills online.

Paying a Weekly Stipend

Teaching on the African continent has long been perceived as a low-paid job, but much more goes

into teachers' compensation than just the salary. Heated debates about teachers' low wages keep making headlines across the continent. In 2019, there were world-wide protests over teachers' salaries and pensions, with many such manifestations gaining momentum in early 2020, before the unprecedented nationwide lockdowns fuelled by the Corona virus.

To improve the performance of at-risk learners and teachers in gateway subjects, improvement plans were implemented as part of community engagement – a project that linked teacher pay to learner achievement on summative and formative assessments. Such aspirations were clear and comprehensible, since they tied learners and teachers to higher standards and rewarded positive outcomes.

Teacher salaries vary drastically based on qualification, position, experience, skills, or location. The average monthly salary for a teacher, includes an allowance for housing, transport, and other benefits. The experience level is the most

important factor in determining the salary. Naturally the more years of experience, the higher the package (Fleisch, 2002).

Learner A from underachieving school B remarked: “*Low-income learners who do not have additional experiences and resources like those from upper class families then end up at schools with less experienced teachers and less technology.*”

Teacher Z mentioned the following: “*It is a vicious cycle that must be stopped. The more well-off families end up at the best schools. The gap is widening and will continue, unless the government makes drastic changes.*”

Dinaledi schoolteachers and learners from the underachieving schools had to cope with the teething problems of overcrowded classes. Drug and alcohol abuse were prevalent at the underperforming schools, which also reported a decline in teacher morale and autonomy in the classroom, accompanied by unreasonable workloads, all of which were cause for concern. Given these challenges, the project undertook to pay a weekly stipend to *Dinaledi* schoolteachers who sacrificed their time and effort to teach at-risk learners from struggling schools in awkward times. Their stipend was viewed as fair remuneration for the number of hours they spent teaching and consulting at schools and served as extrinsic motivation for teachers to avail themselves over weekends and during school vacations.

It became apparent from the interviews that neophyte teachers were linked to the dismal performance of learners. In this regard, policy developers could have a serious impact by shedding light on the atrocious standards of neophyte teachers and raising the bar in areas where learner outcomes were dreadful. Among the sobering challenges facing schools from destitute communities were recruiting and retaining teachers for scarce skill fields.

During a parliamentary session, a question from an official opposing political party was posed to the Minister of Basic Education, Motshekga, on how to deal with the teachers’ exodus from LP and the EC. Her response was that quality teachers would be recruited for rural schools, and they would be retained in their posts for several years. Moreover, it was pointed out that an estimated R5.2bn would be required to eradicate the backlog in terms of teachers’ remuneration across the country. Minister Motshekga further singled out the EC for not having quality teachers and suitable infrastructure.

Most teachers who are appointed at rural schools stay there for two to three years while looking for greener pastures at urban schools. If teachers who work in destitute communities are not adequately remunerated for their services, learners in such communities always bear the

brunt. Currently, extra funding is not set aside to combat the challenge of understaffing in scarce skills fields. The EC cannot continue training teachers who are in transit, because it affects the performance of learners.

The DoE’s attempts to revamp high schools by inflicting teacher-proof strategies continually ran aground in the face of the unforeseeable events affecting individual teachers and learners. The DoE developed a three-year education transformation plan, which partly dealt with several backlogs, which included ensuring that teachers were paid on time, reducing the EC districts from 23 to 12, ensuring that schools were served efficiently, and that vacant posts were filled.

Rewarding Best Teachers and Learners

Teaching at-risk learners was devoid of interest, operose and humdrum. Teachers and learners are unique; therefore, a one-size-fits-all pedagogy cannot meet the variation which comes with individual learners’ needs and interests. It was of paramount importance to motivate and gratify *Dinaledi* teachers to combat burnout and promote engagement in the classroom. It was a daunting task to keep star schoolteachers elated which necessitated hard work and perseverance. It was peremptory to motivate them to excel and take pride in their learners’ performance during and after teaching. Teachers and learners from *Dinaledi* schools were always recipients of awards for top performers whilst those who were in poverty-stricken communities were spectators.

Principal A from underachieving school C took a swipe at the Ministry of Education, stating: “*The existence of extreme inequality, two decades after the demise of apartheid is an indictment of the education system’s inability to surmount historic prejudices, in spite of substantial reforms in the funding of poor schools.*” The efficacy of *Dinaledi* teachers had a pronounced effect on the instructional quality at the underachieving schools. No other in-school factor had as significant an effect on learner performance as the teachers in the classroom situation. Moreover, the best-performing teacher and learner of the month received vouchers to the value of R250 each. Learners who improved the most and showed promise during a specific month were also acknowledged and given incentives in the form of certificates for going the extra mile.

Impoverished high schools in the province had less experienced teachers, who had inferior qualifications in mathematics and physical science. They faced major challenges in teaching calculus, algebra and geometry. This was a clear testimony that learners in high-poverty schools, exacerbated with few resources, were recipients of little or nothing in the classroom situation.

In the first quarter of 2016, some Grade 12 learners from the three schools in question, failed while in the first two months of the second quarter there were border-line cases. By merely passing their tests, those learners received cash and performance was adequate in the last two quarters. Tribute was paid to the best learners and teachers for excellent performance. Accomplishments and hard work enabled the top performers to grab the limelight, and it was a pleasant experience for them. This was indeed an outstanding accolade from the project committee which enabled teachers to gain a feeling of gratitude.

Some room was left in the budget for the project to motivate teachers and learners with fun ideas for small prizes and treats. Gifts such as t-shirts and caps with the name of the project printed on them, birthday cards, airtime and data bundles were purchased and awarded to those who exceeded expectations. The teachers encouraged their learners to develop a positive self-concept in their studies. When teachers went an extra mile in the classroom, it was easy to see how much more engaged and inspired learners became. It was difficult for some teachers to recognise their own strengths, especially while trying to keep up with curriculum standards.

An award related to their teaching-learning situation was pivotal to helping teachers determine what works in their classrooms. Laptops were purchased on a quarterly basis to inspire teachers for work well done. Mobile phones and watches were given to learners who outperformed in tests. Many incentives developed by the project were helping groups of learners to succeed academically. It became evident that sustaining and expanding reforms required good teachers and a supportive policy environment.

It was of paramount importance for the project to value *Dinaledi* teachers. Refreshments appeared to be another drive for teachers and learners when dished out for celebratory reasons. A gesture was made in the form of free staff breakfasts and lunches during which *Dinaledi* teachers were thanked for the immense contribution they were making to the school. Free transport was organised for commuting learners who stayed far from the school and the project had to bear the costs for the duration of the intervention programme. No absenteeism or late coming was ever reported during weekend and holiday classes. As soon as the teachers and at-risk learners realised that they were valued, they wanted to shine. By merely attending classes, the learners automatically qualified for free, healthy meals.

Financing Laboratories

Due to learner numbers fluctuating and or even dwindling, and teachers leaving to move to urban areas, small schools in certain districts were either

merged or shut down. The EC education system also grappled with inadequate school infrastructure across the province. Although mathematics and physical science were offered in the three high schools under study, there were no laboratories at these venues. Laboratories are places where learners can learn and explore mathematical and scientific concepts and verify facts and theorems through a variety of activities, using different materials (Doorman, Drijvers, Gravemeijer, Boon & Reed, 2012).

Laboratory activities are carried out by the teacher and/or the learners, to explore, learn, stimulate interest and develop a favourable attitude towards scientific subjects. Setting up mathematics and science laboratories required a certain level of expertise and professional etiquette. The principals assisted by giving their input. Through interviews, the researcher determined that appropriate equipment was needed to enable at-risk learners to learn and improve their mathematical and scientific abilities.

Teacher X from a *Dinaledi* school in a peri-urban area stated:

The juxtaposition of schools without basic services against the former historically White or model C schools, with their Olympic-sized pools, multiple sports fields and well-equipped laboratories, computer rooms and libraries with air conditioners, highlights the enduring infrastructure disparity in the country's public schools.

The project donated a substantial amount of money for the establishment of three laboratories. Within a period of six months, the laboratories were ready and functioning, and everyone celebrated. In the next three years, 45 computers were purchased and a batch of 15 was supplied in a calendar year. Each of the three schools received five computers on an annual basis (15 in three years). This was deemed essential, because if pedagogy does not keep pace with technology, upcoming generations would be woefully unprepared for the real world.

The donated computers were of crucial importance because they were used to display virtual models of mathematics and science, and created graphs with ease, making use of Excel. Furthermore, scarce skills were practised on websites (e.g., A+ Math and Mathquarium). The Excel program was user friendly, allowing teachers to keep track of learners' marks and achievement skills. The laboratories licenced the learners to discover various geometrical properties and facts, using paper cutting and folding techniques.

The state-of-the-art laboratories served as a place where all learners studied science-related concepts. They also verified relevant facts, using various quality study materials downloaded from the internet. Securing network connectivity was a daunting task at two of the schools, and teachers were compelled to view the role of the laboratory as dichotomous, because it also served as a library.

Quality study materials (including question papers from previous years) were supplied to the schools, to guide the learners on how to respond to various forms of assessment.

Such activities were pioneered by the *Dinaledi* teachers, who assisted the at-risk learners by stimulating their interest and improving their learning abilities by avoiding distractions (e.g., posters and clutter), which were not allowed in the venue. It also offered learners the opportunity to grasp and embody the basic mathematical and scientific concepts through manipulating concrete objects and situations. Three televisions with big screens were supplied to the schools, and these were solely used for mathematics and science lessons. The televisions empowered the teachers to demonstrate and describe abstract concepts by enacting concrete objects, charts and graphs. During the COVID-19 lockdown of 2020, the Minister of Basic Education reported that 1,577 schools across the country had been vandalised. Although the rate of criminality is concerning, it was pleasing to realise that all the computers and televisions were taken care of and no theft or vandalism at these schools had been reported.

The results in all three high schools started to creep up in the examinations of 2016 to 2018, and at the end of the project in 2018, all three schools were in harmony with South Africa's NSCE (DoE, RSA, 2006) norms. The project was viewed as a huge success and unbelievable scenes of jubilation from the underachieving schools were welcome. Yet this success story was short-lived, and improvement was fleeting.

Discussion

The in-depth discussion on this study sought to spark a more profound debate on school finance reform for the sake of curriculum innovation. The system of funding public education could not be reformed because it was elegantly simple and admirably egalitarian. The presumptions that undergird this debate scorned a reality which is of vital importance. Educational outcomes for chronic underachieving learners are a ramification of unequal access to essential educational resources. The EC is the worst-affected province regarding the number of schools built with inappropriate materials. The EC has the most schools without proper sanitation, and many still do not have access to electricity (Fleisch, 2002). Substandard infrastructure and inadequate services remain barriers to quality education.

An unequal education system in any country exposes learners to the risk of receiving dramatically varying learning opportunities, based on their social status. Despite stark distinctions in funding school education, quality curricula, prime teachers and manageable class sizes, the view is that if learners still underachieve, they are to be

blamed. Inequitable school finance cause harm on minority and economically disadvantaged learners in the province. Poor schools located in rural districts suffer from fiscal inequity, resulting in learners' performance being grossly inadequate.

The disinclination to supply equitable funds for school education is fuelled by the claims of eminent scholars who assert that the stages of finance for schools lead to a slight increase in, or have no effect on, learner achievement (Chisholm et al., 2003). Critics of funding education also argue that school finance reform for curriculum innovation does not offer value for money. Their view is refuted by the contention that money well spent in education yields positive outcomes for both teachers and learners. In fact, the stage of funding was tied to sizable net effects for learner performance.

Conclusion

The theme of financing school education should not eclipse fruitful debates about pedagogy. Such a discourse cannot convey a lot without the funding required to execute the initiatives originating from them. The South African educational landscape can be ameliorated by free schooling for all. The EC has long been identified as one of the worst-performing provinces in terms of education, due to poor infrastructure and insufficient funding, which usually attract underqualified teachers.

One recommends a dedicated effort to seek out opportunities to support the more effective mobilisation and use of finances for schools. Given the importance of public finances for basic education, the educational community needs to act proactively regarding public finance reforms. This could include the mobilisation, effective allocation and monitoring of public spending. If donors played a greater role in catalysing the mobilisation and allocation of domestic resources, it would close financing gaps in many countries.

Financing school education through a community engagement project has deep-seated historical roots in many countries. South Africans have a dream for public education that provides education for all learners, to create the informed citizenry which any democratic country requires. This dream cherishes the well-being of all children world-wide, sustaining the goal of equal opportunity and emphasising the credendum that public education can indeed level the playing field.

A province with large, relatively homogeneous school districts cannot effectively target such districts based on indigence rates, because they are all similar. Instead, a province may need to consider alternative mechanisms, such as categorical funding aimed at channelling moneys to disadvantaged learners within districts. Debates on school funding must go beyond the raw numbers and assess whether learners have

equitable access to the resources required for self-actualisation. This should include quality teachers and exposure to curriculum development. The community engagement project reported on here was determined to close the achievement gap and it provided at-risk learners with an opportunity to succeed despite all odds.

Note

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