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EDUCATIONAL POLICIES: THE BIG GAP BETWEEN THE HAVES AND THE HAVE NOTS: A REFLECTION FROM FINLAND AND SOUTH EAST ASIA

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Abstract:
This article reflects on the giants stride made in Mathematics, Physical and Life Sciences. This is a qualitative study, with data collected through individual and group interviews. Some of the data collected were from questionnaires for Mathematics, Physical and Life Sciences students and teachers as well as from classroom observations. These observations were done by recording the lessons taught by these teachers. The findings were transcribed and interpreted in the form of Cultural Historic Activity Theory (CHAT) (Engestrom, 1987). Results obtained from primary data were collected from South Africa. Results from secondary data, extensive literature on South East Asia and Finland, reflected one thing in common: educational policies are performing excellently. The Haves as used in this article are the countries with good educational policies while the Have nots are the countries with poor performance. The limitation in this research article was the use of qualitative research for the data collection of data as it may have been a limited means of data collection for research of this magnitude. However, because of this approach, this research article serves as a lens to reflect on nuances present amongst the Have nots a result of their educational policies.

Keywords: haves, have nots, education policies, Finland, South East Asia and South Africa

1. Introduction

The Trends in Maths and Science Study, (TIMSS) has monitored performance at regular intervals since 1995. In 2007, for example, 59 countries and 425 000 students participated in TIMSS. The TIMSS 2011 results, which were distributed in 2012, demonstrated the qualities and shortcomings of different countries. South Africa performed poorly in TIMSS, as can be seen in Reddy's (2012) analysis.

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An alternative comparative study is PISA (Programmes for International Student Assessment). Reports from PISA concentrated on 45 nations that participated in these competitions. Forty-two of those countries performed at a satisfactory level, while three nations, Botswana, South Africa and Honduras, did not reach the benchmark set by the other 42 countries (Reddy, 2012). These three nations continually perform poorly in both mathematics and the sciences, despite the fact that, according to Reddy (2012), South Africa has recently improved. However, other reports confirm that South Africa still ranks low even when compared to other African countries.

It is against this backdrop that Mamphela Ramphele lambasted the government saying that they had failed the children of 'South Africa on a massive scale' (Maseng, 2013:5). Ramphele added that "*South Africa had the highest proportion of the Growth Development Plan spent on education at R234. Yet the spending goes contrary, to the results from both national and international competitions. "Good policies are important to any economy"".* The famous quote by Carl Sagan (2013) explains more:

> *"It is suicidal to create a society that depends on science and technology in which no one knows anything about science and technology. We need to generate the scientists and engineers, starting in school, elementary school, middle school, you have to fund the research that those scientists go on to do, the fundamental research. You have to generate the engineers that can turn those scientific breakthroughs into products and services".*

This quote inspired this article. The *Haves*, Finland and the South East Asian nations believe in this famous quote. As reflected in their educational policies. Some government policies are in reality suicidal since they support, for example, a class structure, low percentage pass rates. Programmes for International Student Assessments (PISA) Deacon, (2012) stressed that, even among middle in-come nations South Africa participation in Mathematics, Physical and Life Sciences is dismal.

The purpose of this study is to investigate government educational policies as a solution to building a strong Mathematics, Physical and Life Science classroom. This study deals with the following broad themes: These broad themes that will be discussed are:

- Education inequality;
- Grading systems in high-performing countries.

2. Theoretical Background and Literature Review

2.1 Educational inequality

It could be argued that inequality is the result of social strata or status. However, social status could be a purely be a reflection of a foundational issue. Which is underpins any country's policy, even a country's educational system (Bowles and Gintis (1976) base their argument on the premise of the hidden curriculum.

Bowles and Gintis (1976) equated the hidden curriculum with knowledge provided to pupils who learn better through different techniques Pedagogical Content

Knowledge (PCK). Learning better and differently here could mean what and how pupils are taught at school with what is obtainable by their counter parts in other countries. And this is the case with the *Have nots*, where inequality is a problem. Even within the same country, various schools have their standards and thus have different requirements of their pupils.

Inequalities in education in South Africa have been well documented in various official and research documents. Researchers such as Cassim (2005:117) confirm that these inequalities include unsupportive learning environments, shoddy learning tools, poor access to resources and a learning content that is decontextualized and does not reflect the life experiences of the learners. Attempts to deal with historical inequalities have been advocated in policy documents in which equal treatment and non-discriminatory practices in teaching and learning are stipulated.

However, learning remains unequal where learners do not benefit because of the language they speak, the resources they have, the environments in which they live and learn and the curriculum to which they are exposed (Cassim, 2005). This author adds that a more in-depth study of the dimensions and scope of learning equity in classrooms in South Africa should allow the development of pedagogies and practices aimed specifically at improving learning. This means that learning equity should be addressed through teacher support in schools.

According to Deacon (2013), South African data on educational achievement show that there are, in effect, two different public school systems in South Africa. The smaller, but better performing system accommodates the wealthiest 20–25% of learners who achieve more highly than those in the larger system.

He describes this situation as 'awful'. These two education systems can be seen when splitting learners by wealth, socio-economic status, geographic location and language. For example, the latest TIMSS 2011 study showed that the average Grade 9 learner in KwaZulu-Natal was 2,5 years' behind the average Grade 9 learner in the Western Cape in science, and that the average Grade 9 learner in the Eastern Cape was 1,8 years' behind the average Grade 9 learner in Gauteng.

Similarly, Pre-PIRLS 2011 showed that Grade 4 learners from rural areas and townships were 2-2.5 years behind urban children in reading. According to reports from the national school effectiveness study, Grade 3 learners from former 'white-only' schools scored higher on the same test than Grade 5 learners from former 'black-only' schools. These results show that, already by the age of eight, there are large inequalities in the educational outcomes of learners.

This clearly indicates the differences in school structure and even differences in rates between the *Haves* and the *Have nots*. There is equality in education policies with the *Haves* unlike those with the *Have not.*

2.2 The grading systems

Maluleke (2014) lamented the pass mark rating used in South African schools. He said that the system is at fault since it has set the bar of achievement very low with a 'pass mark' of 33%. In a global economy, the benchmark for educational success is no longer

measured by national standards alone, but by the best performing school systems internationally.

Systems that are achieving well in teaching and learning strive to meet international standards or global benchmarks (Schleicher, 2014). Countries with school systems that are rated at a high level internationally have systems that compete beyond national standards in terms of teacher training and qualifications, class size, teacher pedagogical skills and pass mark ratings. The creators of these systems design standards that will benefit the child. The systems from *the haves* in mathematics and science set high expectations for each child and enable monitoring of each learner and intervention where necessary. Issues regarding grading in schools are a policy most nations need to work on since it is a policy statement. For example, these pass marks ratings as documented below.

Table 1: Percentage pass-mark ratings in Taiwan

Grade	Percentage
A	90–100
B	80–89
C	70–79
D	60–69
F (fail)	0–59

Source: http://English.moe.gov.tw/mp.asp?mp=1 (2014:1)

Table 2: Grading in South Korean secondary schools

Raw score	
90-100	Su
80-89	Wu
70-79	Mi
60-69	Yang
59 or below	Ga

Source: http://www.ncee.org/programs-affiliates/center-on-internationaleducation-benchmark

The ratings below are those used for South Korean secondary schools. 'Su' means excellent, 'wu' means very good, 'mi' stands for good effort, while 'yang' is an average or acceptable score and 'ga' represents failure.

Table 3: Grading in Japanese secondary schools

Grade in Japanese (Kanji)	English translation	Corresponding percentage	4-scale university
shū (秀)	Exemplary, excellent	A (90–100%), rarely given	
yū (優)	Very good	B (80–89%)	A (80–100%)
ryō (良)	Good	C (70–79%)	B (70–79%)
ka (可)	Average, pass	D (60–69%)	C (60–69%)
nin (認)	Approved, acceptable	E/F (50–59%), not common	
fuka (不可)	Unacceptable, failed	E/F (0–59% or 0–49%)	F (0–59%)

Source: Ellen, (1989:1)

The standard grade ratings in Japanese secondary schools are rigorous. A grade such as 50% to 59% is not common. Grades in the range of 0% to 59% are unacceptable as they are deemed a failure. Good and acceptable grades range between 60% and 100%.

Table 4: Grading in Hong Kong secondary schools

HKALE	GCE A-Level	HKDSE
A	A*	5**
B	A*/A	5*
C	A	5
D	B	4
E	C/D	3
F	D/E	2–1

Source: MOE, Hong Kong Education (2014:2)

The grading in Hong Kong secondary schools ranges from A to F scores. Good and acceptable grades are A to D, while grades E and F are not acceptable. Grade E is equivalent to 60%. Anything less than 60% is not a satisfactory grade in Hong Kong secondary schools.

Table 5: Grading in Singapore secondary schools

Percentage	Grades	GPA
96–100	A	4.0
91–95	A-	3.2
88–90	B+	3.0
84–87	B	2.9
81–83	B-	2.7
78–80	C+	2.0
74–77	C	1.5
71–73	C-	1.7
68–70	D+	1.3
64–67	D	1.0
61–63	D-	0.7
0–60	F	0.0

Source: MOE, Singapore Examinations and Assessment Board (2014:1)

The grade rating in Singapore ranges from zero to 10%, but only 60% and up is regarded as a pass mark for an examination in any subject. According to the Singapore Ministry of Education, the only acceptable grades are those ranging from A to D, which is between 61% and 100%. Non-acceptable grades range between 0% and 60%.

Table 6 shows the high grading standard in Finland. The lowest acceptable grade is E, as high achievement standards are set in Finland. There is provision for learners who do not meet this minimum pass rate. Teachers make an extra effort to help learners with learning difficulties, as highlighted by Valijarvi, Linnakyla, Kupari, Reinikainen and Arffman (2002:38).

Table 6: Grading in Finnish secondary schools

International scale	Finnish scale
A (Excellent)	10 - 9
B (Very good, with few errors)	8,99 - 8
C (Good, with some errors)	7,99 - 7
D (Satisfactory, with many errors)	6,99 - 6
E (Sufficient. This is the minimum passing grade)	5,99 - 5

Source: MOE, Finland, Opetushallistus FNBE (2014:6)

When high achievement standards are set, there is a strong possibility that learners performances will reflect high results. Ce (2003) maintains that one possible explanation why learner achievement in mathematics and science is low in some countries could be a result of low academic standards and unchallenging programmes in their school systems. According to Ce (2003), countries with demanding curricula and high standards are more likely to produce learners with high achievement levels. This may be the reason why some school systems do not perform well, the pass rate has simply been set too low.

In a global economy, the benchmark for educational success is no longer measured by national standards alone, but by the best performing school systems internationally. Systems that are achieving well in teaching and learning strive to meet international standards or global benchmarks (Schleicher, 2014). Countries with school systems that are rated at a high level internationally have systems that compete beyond national standards in terms of teacher training and qualifications, class size, teacher pedagogical skills and pass mark ratings.

3. Methodology and Data analysis

The research strategy used for this study was a qualitative case study design as supported by Merriam (1998). A short exploratory questionnaire was administered to eight teachers at school who taught either science or mathematics. The responses were tabulated. The samples used here for this study was a purposive, convenience samples. Two teachers were interviewed at this school. The interview questions were open-ended and analyzed by coding and theming (Saldana, 2009). The interviews were focus-group and individual interviews, which were recorded and transcribed before analysis. Three lessons were observed: one for each of the three subjects: Mathematics, Physical and Life Science. The three lesson observations were analyzed using the Reformed Teaching Observation Protocol (RTOP). The result of the RTOP was analyzed as well. RTOP is an instrument designed and tested by the Evaluation Facilitation Group of the Arizona Collaborative for Excellence in the Preparation of Teachers (2000). The findings from the analysis of each data source are triangulated and interrogated using CHAT as an analytical framework to both highlight tensions in South African case study, and to contrast them with the Finnish case study.

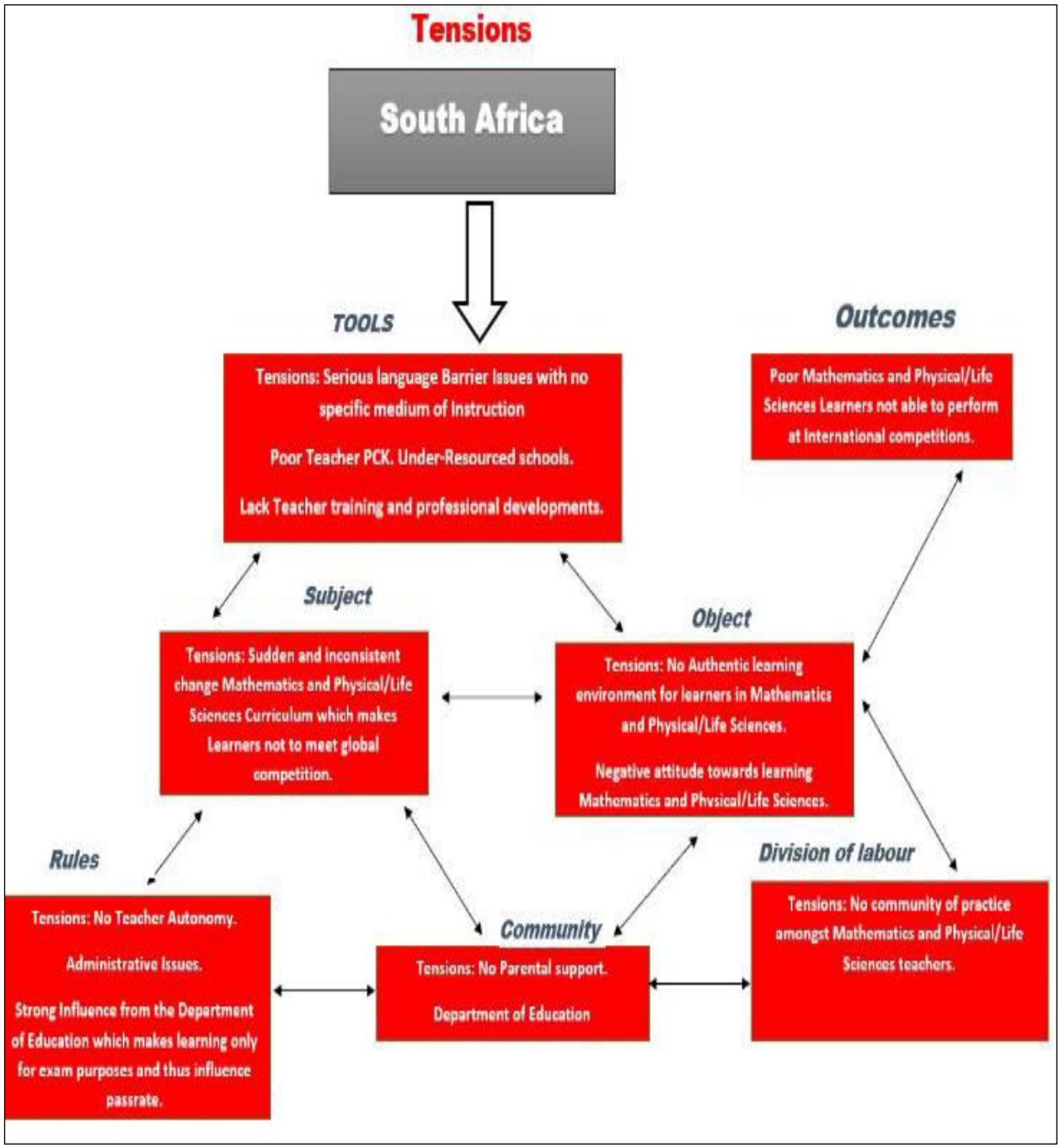

Figure 1: Overview of the South African Science education:
A reflection of her education policies

Source: The Researcher (According to Engestrom, 1987)

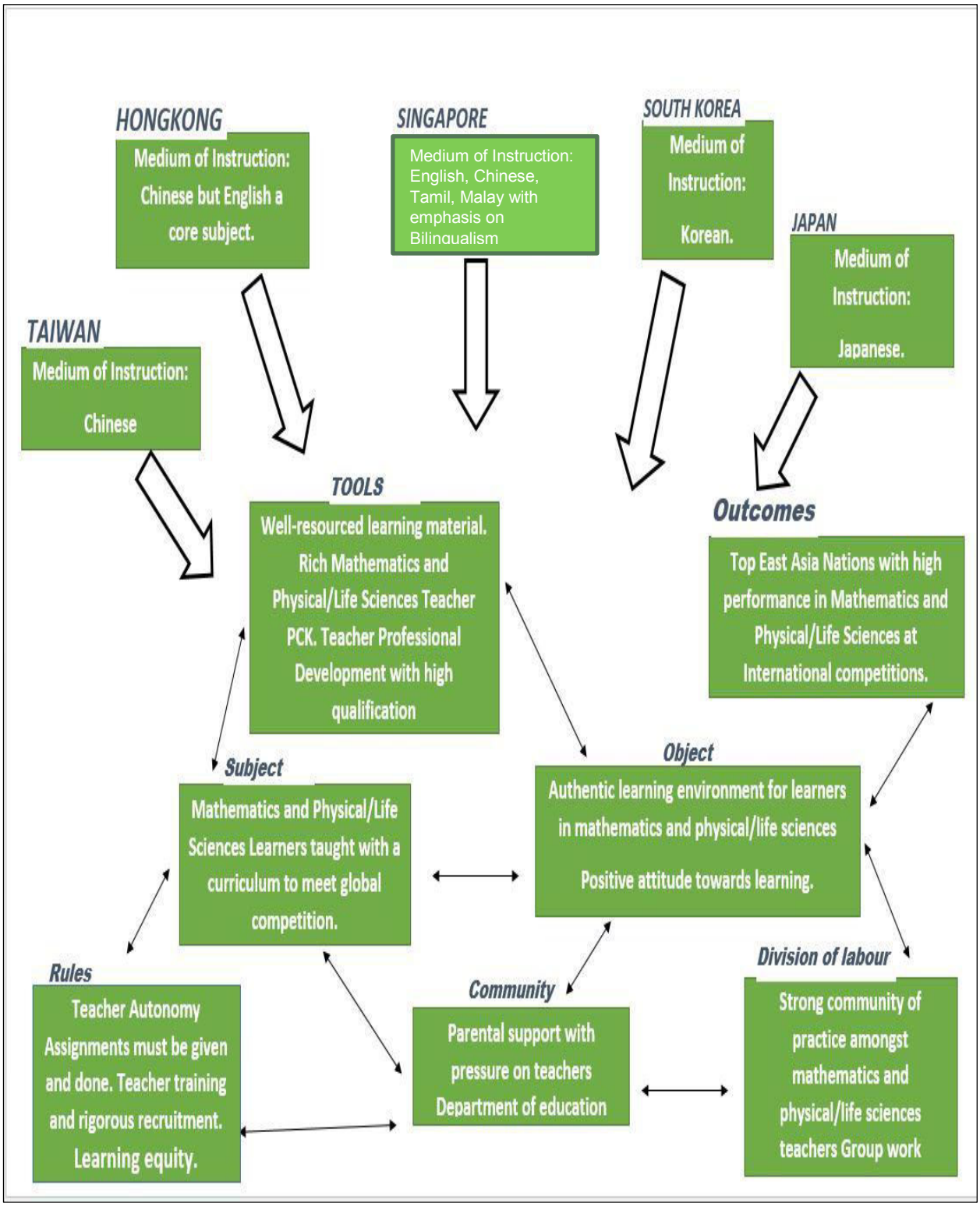

Figure 2: Overview of the South East Asia nations' science education system: A reflection of strong education policies.

Source: The Researcher (According to Engestrom, 1987)

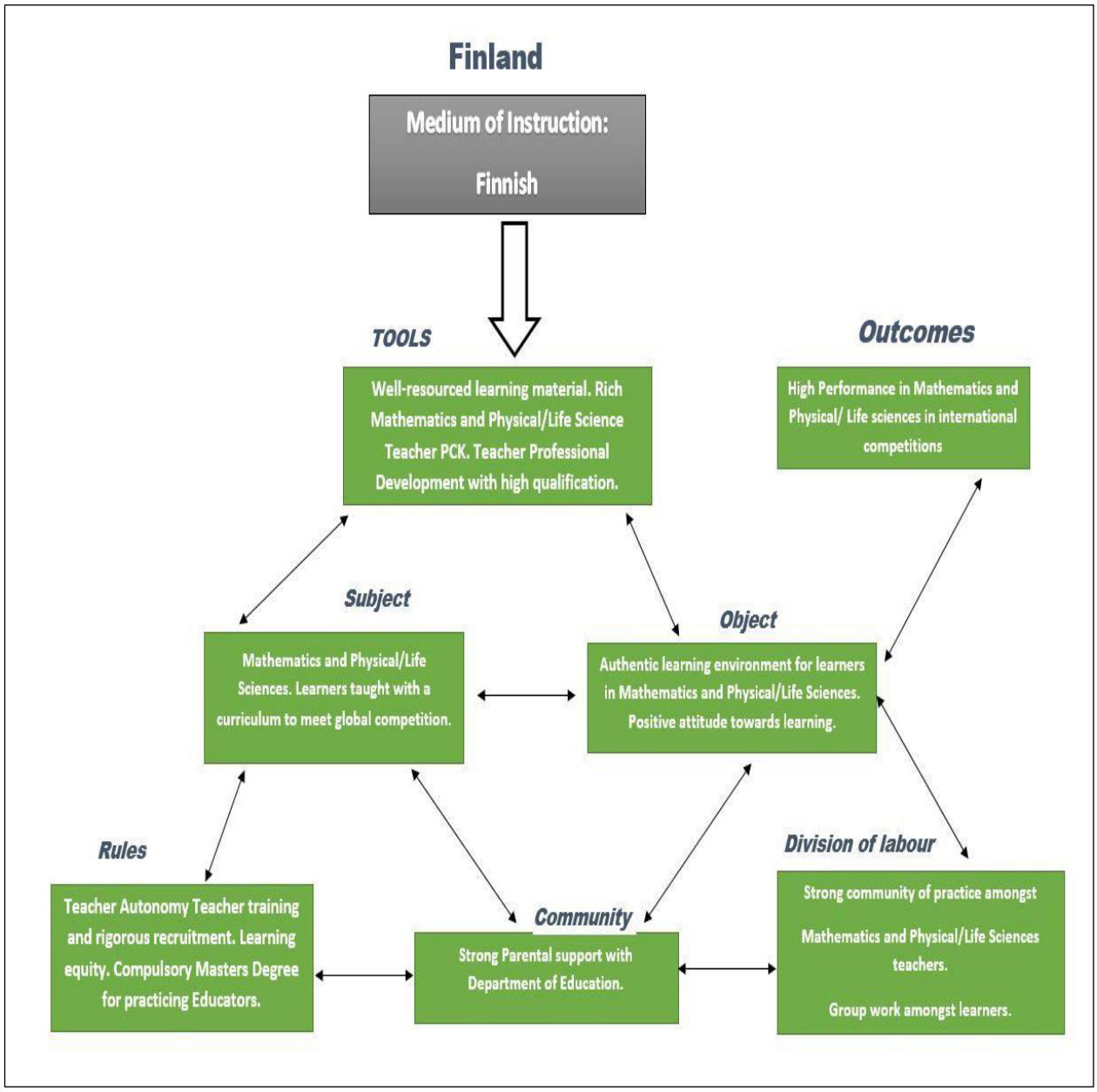

Figure 3: Overview of the Finnish science education:
A reflection of her education policies

Source: The Researcher (According to the Engestrom, 1987)

4. Findings and Discussions as reflected in CHAT above

The *Haves* used multilingual methods of teaching in the classroom while the *haves not* relies on one language for communication in the classroom. This situation is 'awful'. Researchers such as Cassim (2005:117) confirm that they include unsupportive learning environments, shoddy learning tools, poor access to resources and a learning content that is de-contextualized and does not reflect the life experiences of the learners. Attempts to deal with historical inequalities have been advocated in policy documents in which equal treatment and non-discriminatory practices in teaching and learning are stipulated.

However, learning remains unequal where learners do not benefit because of the language they speak, the resources they have, the environments in which they live and learn and the curriculum to which they are exposed (Cassim, 2005). These two education systems the *Haves* and the *Haves not* can be seen when splitting learners by wealth, socio-economic status, geographic location and language of instruction. The ***tools*** as viewed in the activity systems above represents policies made by the government of *the Haves.* Where well-resourced materials are made available for learners/students. This is contrary to *the Have not* as observed with tensions in figure 1.

The *Haves,* are taught in their home languages. This is a policy statement, which could be orchestrated from education department. On the contrary, the *Have not* are left with serious language issues as raised in the course of the study. Matthew (2008:372) attested to the fact that language plays a very important role while teaching and learning in a mathematics and science classroom.

The *Haves* teachers showed a strong level of Pedagogical Content Knowledge (PCK). This could be as a result of policies like, teacher professional development training and good compulsory qualifications like the case with Finland. In Finland, the minimum teacher qualification is a Master's degree with a rigorous selection process for teachers.

Other policies like, The Teachers' International Professional Development Program (TIPD) was initiated by the University of Helsinki, Almeria Centre for Continuing Education in 2007. According to Schwartz & Mehta (2012), the quick advancement made in Finland may have its strength in this advancement in teacher educations and training.

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