GITHUNGURI HIGH SCHOOL– RUIRU/KIAMBU (KENYA) – A Case Study

Githunguri High School is a mixed day school in Ruiru peri-urban area called Gitambaya. The students are drawn from this settlement which is a low income area with a majority of the population being factory workers/construction site workers. There is a lot of anti-social lifestyle e.g. drugs, prostitution, broken families and child neglect. The school acts like a safe haven/second home for many of these students due to the kind of challenges they face from home.

Attracting and retaining students.

At the inception of ADSI in 2016, the school had a student population of 287 students with only a quarter being boys and the rest were girls. By 2019 the school’s population has grown to a population of 144 boys and 207 girls totaling to 351 students in the school. This is an 18.54% increase overall in enrolment.

There has been an increase in the number of boys at the school due to the introduction of integration of ICTs in the lessons. Majority of the boys at the school appreciate ICT and would like to participate in these lessons. The integration of 21C skills in teaching and learning has also encouraged students to stay in school and attend lessons. Incorporation of 21C skills means that students are not bored as they are actively involved in learning. A fully operational computer lab has also boosted the students’ moral. This is because they can walk into the computer lab and carry out their online searches.

Through the Teacher Professional Development Teachers’ teaching methodologies have also changed which means that teachers no longer give lectures to students in class instead they engage students more in the teaching and learning process. There’s a lot of collaboration through group activities, research and presentation. This way students learn to learn independently.

Other factors that could have led to an increase in enrolment could be the introduction of the lunch programme at the school and the purchase of the a school bus.
Githunguri High School gate

Githunguri High School students at a school assembly

Principal and SBC checking out the school tablets

Parents of Githunguri High at a school meeting

Teacher and students of Githunguri High in an ICT integrated lesson

ADSI Case Study – Githunguri High School – Kiambu County, Kenya
Increased student enrolment in STEM subjects

ADSI being a computer based project has encouraged more girl participation in STEM subjects has out-performed that of boys. In 2016, 52 students enrolled in Biology and Science 38 were boys. By 2019, of the 59 students enrolled in these subjects, 53% are girls.

Impact of ADSI on National Examination Results
National Examination Mean Scores of the STEM subjects on a scale of 1-12

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>Maths</th>
<th>Biology</th>
<th>Physics</th>
<th>Chemistry</th>
<th>Computer Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>3.73</td>
<td>1.47</td>
<td>3.865</td>
<td>1.613</td>
<td>3.06</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>4.797</td>
<td>2.333</td>
<td>3.6518</td>
<td>2.308</td>
<td>3.7029</td>
<td></td>
</tr>
<tr>
<td>Average Gain</td>
<td>1.067</td>
<td>0.863</td>
<td>-0.2132</td>
<td>0.695</td>
<td>0.6429</td>
<td></td>
</tr>
</tbody>
</table>

Teacher Professional Development

Of the 18 teachers in Githunguri High School, 10 STEM teachers have directly participated in the three-year ADSI professional development and successfully reached the level of Knowledge Creation. This requires teachers to publish their assignments and lesson plans on the ADSI platform to demonstrate their mastery of these skills. The best lesson plans are shared globally as a pedagogic resource with all teachers teaching these subjects. Additionally teachers are mentored via classroom observation involving the local county education officers.

Developing ICT infrastructure

Through ADSI Githunguri High School has a full-fledged computer lab with 24 functional computers and 15 tablets that are loaded with educational content. The school also has a reliable internet connection. There is a school ICT plan in the schools strategic plan.

Benefiting from additional support due to ADSI

The school emerged the best out of the 20 ADSI schools in Kiambu County during ADSI Project Based competitions. They presented the project during the Young Scientist Competition. The school has an ICT mission and vision statements, ICT lessons are timetabled and there are departmental meetings that check on progress and teacher challenges in the integration of ICTs in the lessons.

School Achievements on the Digital Schools of Distinction (DSD) Roadmap

A key implementation model of ADSI is the Digital Schools of Distinction, a four-phase roadmap incorporating standards on five dimensions of leadership, school culture, ICT integration in curriculum, professional teacher development and equipment and e-infrastructure, which a school has to achieve in order to become certified as having a digital status. The four phases or levels of digital status are – e-initial, e-enabling, e-confident and finally e-mature. Schools self assess their progress which is then validated externally by the school support team, including county/district officials.
Charting Progress on DSD Platform

The African Digital School of Distinction (DSD) platform allows each participating schools to self-diagnose their own progress against benchmarks for each standard which contribute to their ranking on each of the five dimensions.

The chart below created on the DSD platform allows all participating schools to chart their own progress relative to other ADSI participating schools at county, national and global levels. The progress of the School towards achieving Digital School of Distinction status.
Annual Assessment Report

Overall Progress Summary

- Githunguri High School
- My County/Region Avg.
- National Avg.
- Global Avg.

Leadership and Planning

ICT Infrastructure and Resources

ICT in the Curriculum

Teacher Professional Development

School ICT Culture

0-1 Initial
1-2 e-Enabled
2-3 e-Confident
3-4 e-Mature