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A SUMMARY REPORT:
Assessing Soft Skills in
Uganda's Secondary
School Education

AUGUST 2017

Acknowledgements

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We appreciate the support of the Ministry of Education and Sports (MoES): Mr. Alex Kakooza, Permanent Secretary; Mr. Robinson Nsumba-Lyazi, the Director Basic and Secondary Education who granted us permission to conduct the study in the selected schools; Dr. George Muteekanga, Assistant Commissioner for Private Schools and Institutions who was responsible for Quality Assurance and without whose effort the report would not be complete. We are equally indebted to the teachers who marked the literacy and numeracy scripts and the different persons who independently and tirelessly read through the study report to ensure it reached its present state. Great thanks to UNEB, NCDC, DES, UWEZO for the immeasurable contributions and collaboration since the inception of the study to its conclusion.

LGIHE remains grateful to UNESCO for the financial support of this study and other logistical aspects. We are grateful to the UNATCOM team most especially Ms. Rosie Agoi, the Secretary General and Mr. Tumwebaze David, the Programmes Manager, for the guidance provided right from the inception of the study to its conclusion. Further, we commend the District Education Officers, District Inspectors of Schools and head teachers that permitted the study to be conducted in their schools. We are also thankful for the invaluable time accorded to us by the students and teachers that participated in the study. We are grateful to AVSI-USA, particularly Barbara Gagliotti and Jackie Aldrette, for the technical and advisory role they played from the inspection of the study until its completion.

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Acronyms

AVSI-USA	Association of Volunteers for International Services
DEOs	District Education Officers
DES	Directorate of Education Standards
DIS	District Inspectors of Schools
EIMS	Education Information Management System
IRT	Item Response Theory
KII	Key Informant Interviews
LGIHE	Luigi Giussani Institute of Higher Education
MDGs	Millennium Development Goals
MoES	Ministry of Education and Sports
NAPE	National Assessment of Progress in Education
NCDC	National Curriculum Development Centre
SDGs	Sustainable Development Goals
UNATCOM	Uganda National Commission for UNESCO
UNEB	Uganda National Education Board
UNESCO	United Nations Educational Scientific and Cultural Organisation
USE	Universal Secondary Education

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Introduction



Chapter 1: Introduction

1.1 INTRODUCTION

Different reports on Education in Uganda such as UWEZO (2015), NAPE (2014), and UNESCO's Education for All Minority Report, (2015) suggest that Uganda's education has not achieved intended objectives and aims as stipulated in the Government White Paper (1992).

The Ministry of Education and Sports' Strategic Report 2004–2015 (June, 2004) states, **“Students are not acquiring the skills and knowledge they need for the world of work or further education... and that at post-primary level, only a minority of students are achieving what is expected; many are leaving school without the knowledge and skills needed to participate as citizens and productive workers.”** Studies further indicate that there is a discrepancy between what employers seek from potential employees and what school graduates actually possess (Lippman et al., 2015).

A preliminary research to identify current critical labour market soft skills needs examined the levels and acquisition of soft skills in lower secondary schools prior to this study reveals that whereas some employers are satisfied with the technical skills possessed by entry level employees, they are not satisfied with their level of soft skills (LGIHE, 2016). This is consonant with research findings in other countries where most employers seem to be satisfied with the

nature and level of technical and vocational skills possessed by school graduates but dissatisfied with their levels of soft (transferable) skills (Kautz et al., 2014).

Whereas different bodies and organisations such as Uganda National Examinations Board (UNEBC) have tried to assess students' learning outcomes at secondary school level, the recourse to quantified parameters has not given a full picture of learning outcomes especially in the area of soft skills.

Most assessments and evaluations of Uganda's secondary education do not address soft skills development. They instead emphasise cognitive skills through standardised examinations and tests scores that concentrate on students' mastery of content knowledge that has been traditionally examined through public examinations and assessments. Hence, such assessments do not strategically contribute towards the UN Sustainable Development Goals target 4. However, in view of SDG-4, the study captures the need to **“ensure inclusive and equitable quality education and promote life-long learning opportunities for all,”** highlighting the critical role of soft skills in life-long learning.

In the field of psychology, the Big Five model of personality factors is widely used to describe factors that influence human behaviour. The Big Five factors include openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism/emotional stability

(Heckman, 2008). The Big Five factors are comprised of sub elements some of which are more stable personality traits while others are more malleable skills that can be improved upon (Lippman et al., 2015). Psychologists make a distinction between traits and skills where traits are thought to underlie and influence human behaviours that are relatively stable. Skills, on the other hand are more specific, teachable and malleable. This study, therefore, used the term skills and not traits to denote their malleability and relevance to education, training and employment. Soft skills are said to “refer to a broad set of skills, competencies, behaviours, attitudes, and personal qualities that enable people to effectively navigate their environment, work well with others, perform well, and achieve their goals” (Lippman et al., 2015 pp 4).

The preliminary research prior to this study reveals that soft skills like: emotional intelligence, conflict resolution, good communication skills, resilience, assertiveness, positive attitude, integrity, self-awareness and patience are demanded by the Ugandan labour market but an empirical evidence gap concerning how they can be developed, assessed and measured still remains.

Similarly, others like: motivation, time management, self-regulation, cooperation, organisation, grit, goal setting, help-seeking, self-efficacy, self-control, self-discipline, work habits, homework completion, study skills and learning strategies (Heckman, 2008; Farrington et al., 2012) are either underemphasised or ignored completely. This is contrary to Uganda’s general educational aims that encompass soft skills such as “**self-discipline, integrity, tolerance and human fellowship**” (Government White Paper, 1992 p.7).

Not assessing soft skills has presented a dichotomy between the general aims of education in Uganda and what is assessed in schools; and more importantly, between what is assessed and what is required of a student to cope with life after secondary school. Although literature has evidenced that soft skills clearly affect academic performance and life after school, policy makers and educators have not leveraged that fact (Farrington et al., 2012).

The implications of soft skills on educational practice are not clearly responding to the question of whether: “**soft skills are malleable especially for teachers**” The unsupported assumption is that policy makers and educators understand the importance of developing students’ soft skills, have concrete strategies to develop them and reliable tools to assess/measure their effect on students; all in conjunction with the development of content knowledge and academic skills (Farrington et al., 2012).

However, this seems not to be the case as revealed by the study on the current critical labour market soft skills needs conducted among lower secondary school students by LGIHE in September, 2016 which found that “**Teachers, supervisors, and employers perceived soft skills as difficult to teach as compared to the technical skills that are taught following the formal curricula.**”

1.2 PURPOSE OF THE STUDY

The purpose of the study was to develop an assessment tool that would give the Ministry of Education and Sport (MoES), educators, teachers, parents, donors and other stakeholders a clearer picture of students’ learning outcomes, especially soft skills.

1.3. STUDY OBJECTIVES

This study was guided by the following objectives:

- i. To establish achievement levels of soft skills among lower secondary school students in Uganda.
- ii. To establish factors that influence pedagogical approaches used in lower secondary schools in Uganda.
- iii. To highlight major factors affecting students' learning and learning outcomes in secondary schools in Uganda.

1.4. GEOGRAPHICAL SCOPE OF THE STUDY

The study was conducted in Uganda across all the 4 geographical regions, namely: Central¹, Eastern, Northern and Western (see, Figure 15).

¹ Central Uganda includes districts in Southern Uganda such as Masaka and Rakai. These districts have been traditionally referred to as Central Uganda.

A group of young children in red school uniforms. In the foreground, a young girl with dark skin and hair is looking intently towards the right. Behind her, other children in similar uniforms are visible, some holding a yellow stick. The background is a plain, light-colored wall.

Methods & Tool Development Process

Chapter 2: Methods & Tool Development Process

2.1 INTRODUCTION

The study adopted a cross-sectional design and employed both quantitative and qualitative approaches. The quantitative approach involved a survey of students of senior three (S.3) in the selected schools while the qualitative approaches involved in-depth interviews with head teachers, district education officers (DEOs) and desk-based documentary review.

2.2 SURVEY POPULATION

The study population was comprised of students in third year (S.3) of lower secondary school in Uganda by March 2017 and teachers of S.3 in all the secondary schools (both government and private). S.3 students were selected for the study as the most suitable class within the lower secondary school since they would have completed at least two years in the school. The minimum of two years of being in the school were thought to be significant to the study in ascertaining how school factors influence students' learning outcomes.

The association of learning outcomes and school factors can be estimated when a student has stayed in a school over a relatively long time. This association of school factor and learning outcomes therefore excluded S.1 and S.2. However, students of senior four (S.4) were excluded from the study because they were closer to the end of cycle examinations, a factor that would affect their willingness to participate in the study.

2.3 SAMPLING DESIGN

A stratified three-stage cluster sampling design was used for secondary school students. The first stage involved selecting a random sample of districts, stratified regionally by: North, West, Central and East.

Districts in all the four Regions of Uganda were included in the sampling frame. In the second stage, a random sample of schools was selected from the chosen districts proportional to the population of S.3 students in the district. In the final stage, a random sample of S.3 students was selected from those present in the school on the day of the survey. The 2015 Education Management Information System (EMIS) data drawn by the Ministry of Education and Sports (MoES) constituted the sampling frame.

2.4 SCHOOL INCLUSION-EXCLUSION CRITERIA

Schools retained in the sampling frame were those with an S.3 class and an enrolment rate of at least 15 students in the S.4 class. This was to ensure that the number of pupils in S.3 was sufficient to meet the minimum sample size.

2.5 SAMPLE SIZE

Considering a stratified three-stage cluster sampling, a design adjusted to the national sample size of 2152 Senior 3 students was computed. Students were selected from 144 schools equally

distributed across the regions and were proportionally allocated to the selected districts.

Uncorrected sample size for each region (Cochran, 1977).

$$n = \frac{z_{\alpha/2}^2 \times pq}{\epsilon^2} = \frac{1.96^2 \times 0.5^2}{0.05^2} = 384$$

This was attainable for a permissible error of 5%, at a 95% confidence interval and maximum variation of student proficiency of the outcome variable, given by $p = 0.5$.

On the basis of the multi-stage sampling design and for a minimum detectable effect size of 0.12 with a power of 80% the design adjusted sample size for each region, n_c is given by:

$$n_c = [1 + \rho(m - 1)] \frac{z_{\alpha/2}^2 \times pq}{\epsilon^2} = [1 + 0.03(15 - 1)] \times 384 = 538$$

And the national design adjusted sample size

$$n_{total} = 538 \times 4 = 2152$$

Where the number of students selected per school, $m = 15$ and the school intra-cluster correlation coefficient $\rho = 0.03$, derived from the 2014 national assessment of S.2 students achievement in mathematics (NAPE, 2014). Therefore, the cluster size of 15 informed the exclusion and the inclusion of sample school was relied on the sampling frame of the EMIS (2015) that contains a list of all secondary schools in Uganda.

Table 1: Summary of planned and actual sample sizes

REGION	Planned		Actual	
	No. of schools	No. of students	No. of schools	No. of students
Central	36	538	35	509
Eastern	36	538	36	495
Western	36	538	36	526
Northern	36	538	35	534
TOTAL	144	2152	142	2064

Adjustment for non-response was considered in the analysis by using sampling weights.

2.6 DATA COLLECTION TOOLS AND APPROACHES

All the assessment/study tools were developed by experts that included: educationists, a psychologist, subject content masters, assessment experts and a measurement statistician. The tools developed included:

- Soft skills measurement tool:** This tool was developed based on the identified and classified demand-led soft skills as expressed by employers and other stakeholders during the preliminary study on soft skills. It was based on the following domains; openness to experience, emotional stability, conscientiousness, agreeableness and extraversion. The tool also captured the information on the home factors which influence the acquisition of soft-skills among lower secondary schools in Uganda. Each selected student evaluated him/herself.

- **Student-teacher rating tool:** This tool was previously tested and proved to be a reliable tool for students to rate their teachers in key behaviour skills. The tool was previously used by LGIHE in establishing teacher behaviours including teacher-student relationship.
- **Numeracy tool:** This tool was developed based on the Uganda lower secondary school Mathematics curriculum covering S.1 and S.2 content as a written test.
- **Literacy tool:** This tool was also developed based on the Uganda lower secondary English curriculum covering S.1 and S.2 content as a written test.
- **Teacher's self-rating tool:** This tool was designed for teachers of S.3 to self-rate their job satisfaction and enthusiasm to teach, collaboration among teachers and their head teacher's role in supporting their professional development.
- **Teacher-student rating:** This tool was developed for teachers to rate their students. It was used during the pre-test.
- **Head teacher's interview schedule:** This semi-structured tool was designed to gather all the relevant information about the schools and other aspects related to the study. In each school, a head teacher or Deputy head teacher completed the semi-structured tool.
- **MoES officials' tool:** A Key Informant Schedule for interviews with the DEOs or District Inspector of Schools DIS and other key education officials in the MoES was developed to gather some policy information responding to the study objectives.
- **Document review framework:** In addition to all the above tools, the assessment team reviewed all relevant documentations like policy statements, the national curriculum, and scholarly literature to explore, validate and fully address the assessment objectives.
- **Test administration:** Persons identified as test administrators underwent rigorous training on how to administer the soft skills tool, and how to conduct other interviews. The trained test administrator guided the randomly selected students in all the steps involved in completing the tools. Students were assessed in their respective schools.

2.7 TOOL DEVELOPMENT PHASES AND PRE-TESTING

Preliminary qualitative data collection from a multi-sectorial group to identify critical current labour market soft skills needs was conducted by LGIHE in September, 2016. As a result of this, the following 11 soft skills were identified as key skills required by most employers in the labour market; problem-solving; responsibility; critical thinking; achievement striving; grit (consistency and perseverance); integrity/honesty; assertiveness; cooperation/team work/sense of belonging; compassion/empathy; self-esteem; and self-control/patience.

Prior to this pilot, the tools were pre-tested twice for validity, reliability, acceptability, feasibility, flow of questions, to ascertain the duration of the interview and identify suitable test administrators. Participants in the pilot test were informed that they were participating in a pilot study. The pre-test data underwent psychometric analysis and results therefrom were used to refine the survey items and the field procedures where necessary. Pre-test I comprised of 79 items of 11 soft skills constructs and tested on 380 secondary students of

S. 2 on a rating scale of or (a 1-5 Likert scale). The pre-test identified 71 items to be working well while 8 items were not responding to the soft skills constructs under the study and were therefore dropped. The 1-5 Likert scale was found to be too wide and was thus narrowed to a 1-3 Likert scale and a re-pre-test was recommended. Pre-test II contained 71 items of 11 soft skill constructs. These 11 constructs were tested on 530 students of S.3 based on a rating scale of 1-3 or (a 1-3 Likert scale).

Overall, the students' self-administered tool, based on a 3-likert scale as well as the teachers' self-rating tool using a 5-likert scale, were found to be valid and reliable enough in terms of the results obtained.

The teacher-student rating tool was found to be inappropriate because teachers could not inter-rate with their students. The level of teacher-student rating agreement was very low at 4.8% and thus not used in the study. The student-teacher rating tool was found to be reliable and valid as indicated in Table 2 below.

2.8 QUANTITATIVE DATA ANALYSIS

The test scores and additional relevant data from the field were captured using Epidata² (version 3.02). The analysis was done using the STATA³ (version 13.1) statistical package as well as the 'R' environment. The soft skills, numeracy and literacy scores were estimated using the Item Response Theory (IRT) Partial Credit Model.

Table 2: Reliability Coefficients

SN	Soft Skill	Cronbach's Coefficient Pre-test I	Cronbach's Coefficient Pre-test II
1	Cronbach's Coefficient Pre-test II	0.53	0.567
2	Critical Thinking	0.43	0.437
3	Achievement Striving	0.58	0.563
4	Responsibility	0.56	0.552
5	Grit	0.50	0.255
6	Integrity/Honesty	0.37	0.525
7	Assertiveness	0.61	0.579
8	Compassionate/Empathy	0.47	0.329
9	Self-Control/Patience	0.40	0.530
10	Self Esteem	0.61	0.488
11	Cooperation/Teamwork/Sense of Belonging	0.42	0.607

² Epidata is software for data entry that allows for the export to other softwares e.g. Excel.

³ STATA is software for analysis of quantitative data.

For interpretative convenience, the IRT score was linearly transformed to a mean of 50 and standard deviation of 10. Based on this transformation, students were then categorised as possessing “**average and above**” of a particular construct or domain if their transformed score was 50 and above.

The first level of analysis involved determining the overall percentage of students possessing the desired level of soft skills, numeracy and literacy proficiency. Secondly, the proficiency levels were correlated with other factors associated with school, household, teacher and other relevant factors related to the study objectives.

Sampling weights were computed to reflect the probability of students sampled and adjustments for non-responses as well as post-stratification were made. These weights were applied to the data to obtain un-biased estimates of the levels of soft skills, numeracy and literacy proficiencies. The design-adjusted Chi-squared and Student-t statistics were employed to evaluate the significant differences at the 5% level.

2.9 QUALITATIVE DATA ANALYSIS

The study identified initial themes and classified them according to the set objectives as well as keeping an open mind towards emerging themes. Following these objectives, the study categorised qualitative data according to the factors that influence and inform pedagogical approaches used in secondary schools and the factors affecting students’ learning and learning outcomes in secondary schools in Uganda. The data was then sorted by theme, synthesized and presented in thematic charts so that key points from each piece

of data was summarized, classified and interpreted according to the study objectives.

2.10 ETHICAL CONSIDERATION

Survey interviewers or enumerators explained the purpose of the survey in order to enable informed consent. The data gathered during the survey was held in confidence and used solely for research. Any personal identifiers such as name of respondent did not appear in the report or shared data unless there was agreement with a respondent to be identified with their views in the report. Enumerators sought permission to take notes or voice record discussions for quality assurance of data collected. However, the respondents were free to decline to answer any or all questions presented to them. All research personnel underwent training in interviewing skills and research ethics in order not to harm or disadvantage the respondents during data collection.

Key Findings



Chapter 3: Key Findings

3.1 THE LEVELS OF SOFT SKILLS AMONG SECONDARY SCHOOL STUDENTS IN UGANDA

In as much as the different secondary school stakeholders had divergent definitions of soft skills such as: inter-personal skills, socialisation tools and intrinsic effects of what it means to be either schooled or educated, there was uniformity in their conceptualisation. They broadly conceptualised soft skills as a sort of life skills or human survival skills. Generally, these are skills that help individuals live in harmony in their respective societies. They are skills that enable them to accomplish micro and macro goals and objectives.

From the study, it can also be taken that soft skills are better defined within the affective domain that mainly deals with character and emotions. Additionally, some key informants revealed that soft skills acquisition is not limited to school but are acquired within the student's total environment - the home, community and school.

The study reveals that students' soft skills acquisition is still below average. The following percentages of students achieved an "above average" score as indicated in the table. Problem solving (49.1%), critical thinking (48.2%), responsibility (47.5%), assertiveness (44.9%), cooperation/teamwork/sense of belonging (44.7%), self-control/patience (42.8%), grit (41.8%), achievement striving (40.3%), integrity/honesty (39.4%), compassionate/empathy (37.7%), and self-esteem (31.2%)

Table 3: Proportion of students per score category

Soft Skill	Below Average	Average	Above Average
Problem solving	49.8	1.1	49.1
Critical thinking	51.1	0.7	48.2
Responsibility	51.7	0.9	47.5
Assertiveness	40.3	14.8	44.9
Cooperation/Teamwork/Sense of belonging	39.3	16.0	44.7
Self-control/Patience	41.8	15.4	42.8
Grit (Consistency and Perseverance)	41.8	16.4	41.8
Achievement striving	41.8	17.9	40.3
Integrity/honesty	41.7	19.0	39.4
Compassionate/Empathy	34.9	27.4	37.7
Self esteem	49.6	19.2	31.2

The section below presents the study findings on the proportion of students who scored "At least average" correlated by gender, region, school ownership, the USE status, school location, boarding type, school and home factors.

Categorisation by Gender

Boys significantly scored higher than girls in the soft skills of cooperation/ teamwork/sense of belonging (65.0%), assertiveness, (65.1%) grit (consistency and perseverance) (61.7%), achievement striving (64.3%), self-esteem (54.3) and problem solving (53.9%). Girls however scored slightly better than boys in the soft-skill domain of responsibility.

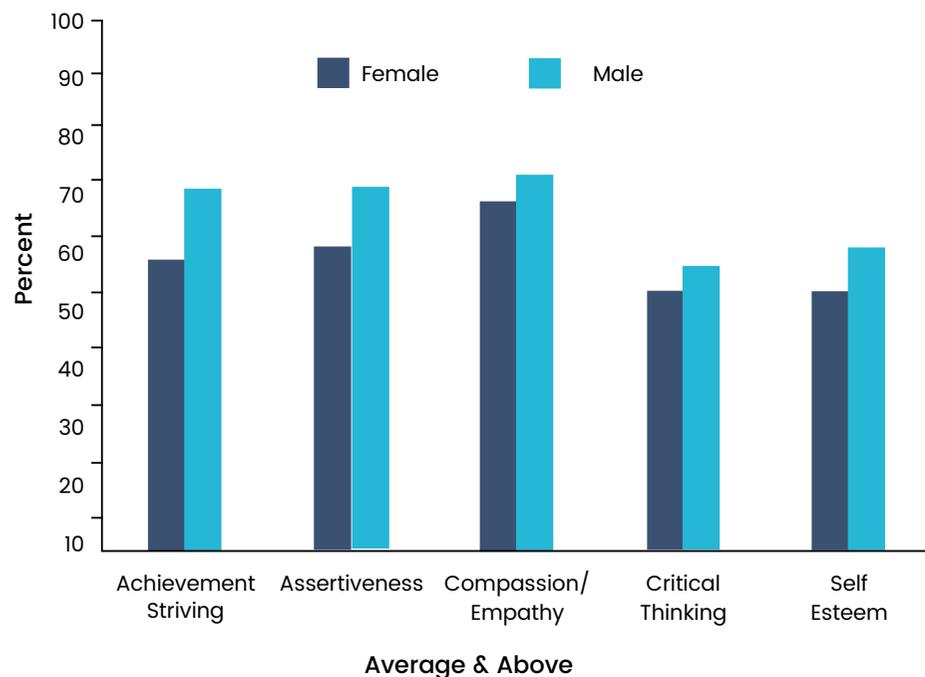


Figure 1: Students' levels of Achievement Striving, Assertiveness, Compassion, Critical Thinking and Self-Esteem by Gender

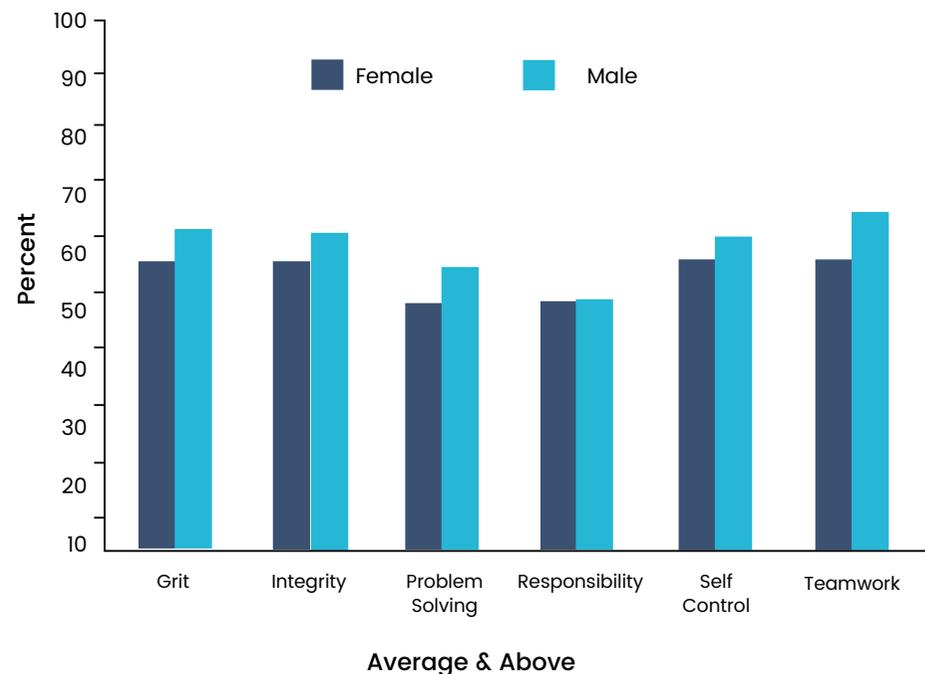


Figure 2: Students' levels of Grit, Integrity, Problem Solving, Responsibility, Self-Control and Teamwork by Gender

Categorisation by Region

Students from the Northern region of Uganda were found to demonstrate significantly higher degrees of integrity (79.6%), students from the Central region were most cooperative/team engaged (66.1%) and with most grit, consistency and perseverance (66.1%) while students from the Western region scored higher in the soft skill domain of self-esteem (55.6%). Specifically, most students from the Central region scored higher in the soft skills domains of achievement striving (63.3%), assertiveness (63.5%),

compassionate/empathy (68.5%), grit (66.1%), self-control/patience (62.3%) and teamwork (66.1%) as compared to their counterparts in other regions. The study also reveals that most students from the Western region scored below average in the soft skills domains of problem solving (59.4%) and responsibility (59.4%).

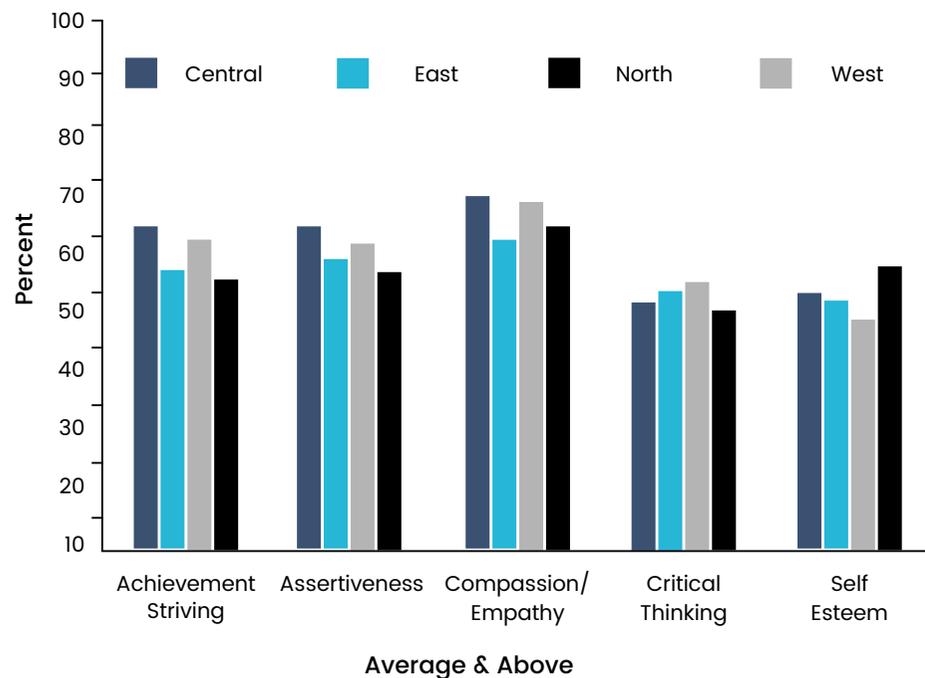


Figure 3: Students' levels of Achievement Striving, Assertiveness, Compassion, Critical Thinking and Self-Esteem by Region

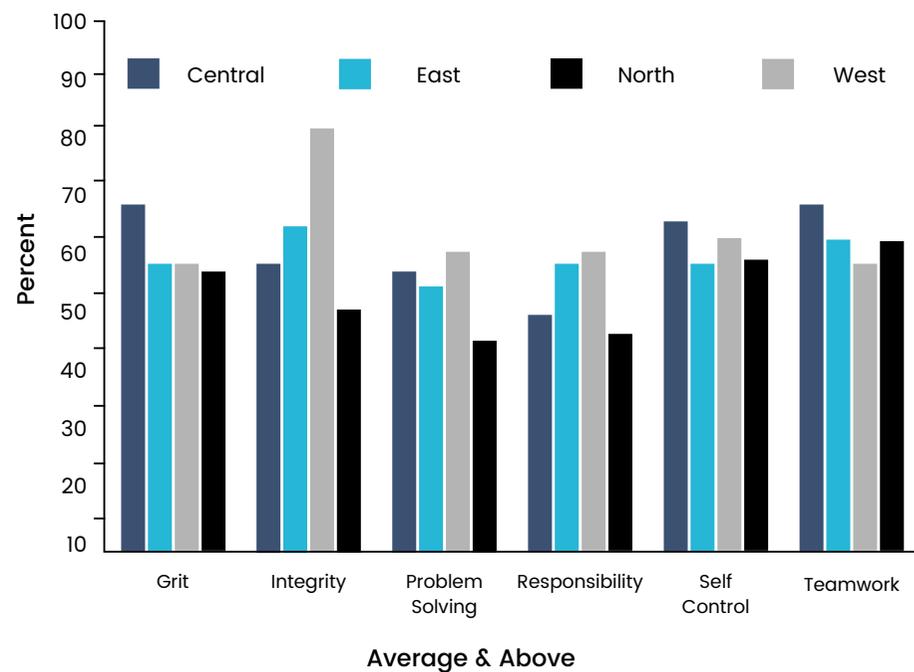


Figure 4: Students' levels of Grit, Integrity, Problem Solving, Responsibility, Self-Control and Teamwork by Region

Categorisation by School Ownership

The study revealed that students in government aided schools scored significantly higher than students in private schools in the soft-skills domains of achievement striving (61.5%) and integrity/honesty (63.5%). More so, students from government aided schools scored slightly better than their counterparts in private schools in the rest of the soft skills domains except in the domain of responsibility in which 46.8% and 50.0% of the students in the government and private schools, respectively scored “average and above.”

The study findings are in agreement with the previous study conducted in Italy by the European University Institute which asserts that government aided schools are more conducive in promoting soft skills compared to private and public schools (Bonkers & Robert, 2003). Most of the government aided schools in Uganda are faith-based with a socio-cultural environment that supports the development of inter-personal as well as intra-personal skills. The school activities and programmes in faith-based secondary schools such as participation in clubs, co-curricular activities, prayer moments and encouragement of religious ethos, are known to promote the development of soft skills (Bronkers and Robert, 2003). In this case; the study reveals that the school environment is critical in students’ development of soft skills.

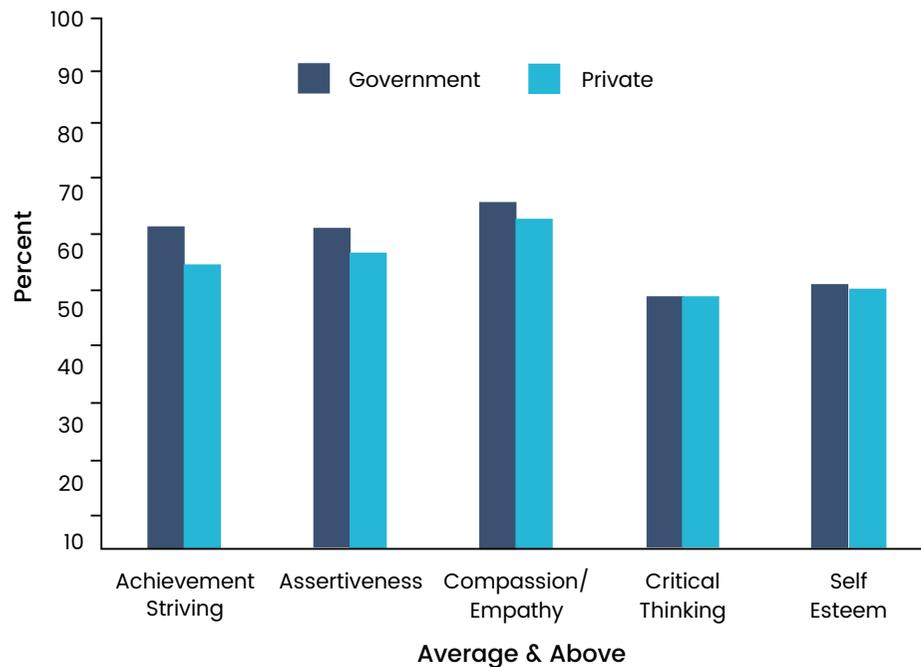


Figure 5: Students’ levels of Achievement Striving, Assertiveness, Compassion, Critical Thinking and Self-Esteem by School Ownership

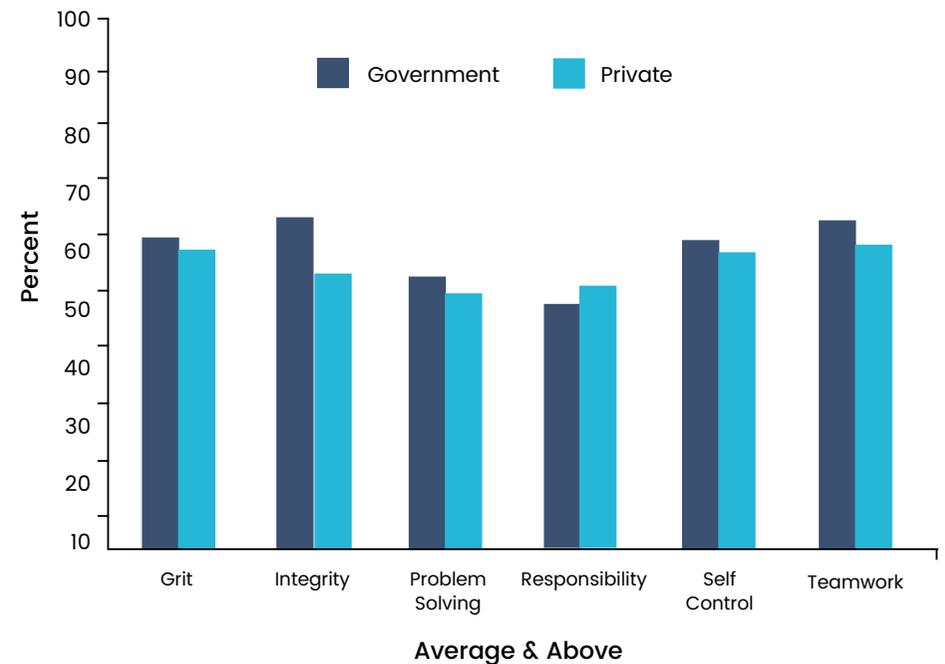


Figure 6: Students’ levels of Grit, Integrity, Problem Solving, Responsibility, Self-Control and Teamwork by School Ownership

Categorisation by USE⁴ Status

Students in Non-USE schools scored significantly higher than those in USE schools in most skills except in the soft-skill domain of critical thinking, responsibility, self-esteem and integrity. As indicated on Figures 7 and F8, the students' scores are significantly associated with their USE status. Specifically, students in Non-USE schools scored higher than those in USE schools in the soft skills of achievement Striving (63.0%), assertiveness (64.3%), grit (consistency and perseverance) (64.6%), self-control/patience (61.6%), and cooperation/teamwork/ sense of belonging (64.8%). In fact, students in Non-USE schools scored better than those in USE in the soft skills aforementioned. Literature confirms that public schools are less efficient in developing students' soft skills even when students come from similar socio-economic backgrounds (Bonkers & Robert, 2003).

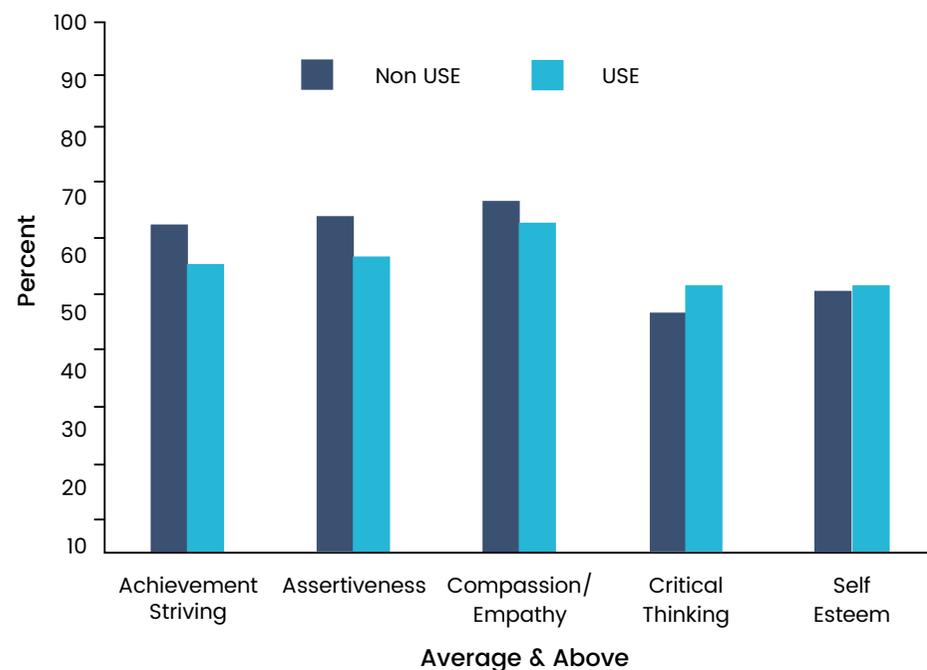


Figure 7: Students' levels of Achievement Striving, Assertiveness, Compassion, Critical Thinking and Self-Esteem by USE Status

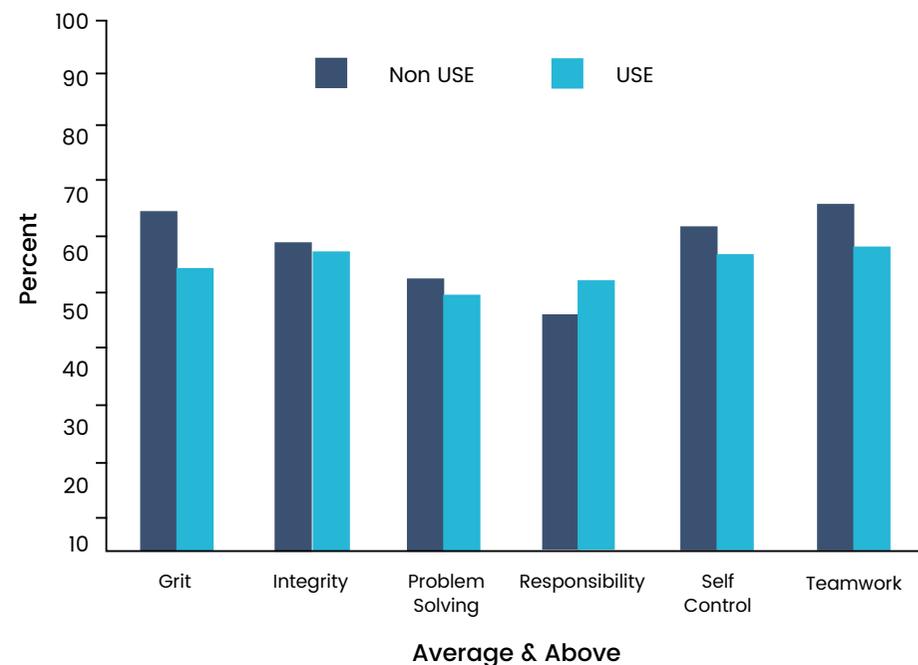


Figure 8: Students' levels of Grit, Integrity, Problem Solving, Responsibility, Self-Control and Teamwork by USE Status

⁴ USE refers to Universal Secondary Education. The USE schools are government owned or funded secondary schools in which students do not pay tuition fees. It is what is commonly referred to as free secondary education in Uganda. The Non-USE schools refer to private or government aided schools in which students pay tuition fees.

Relationship between Soft-Skills, Numeracy & Literacy levels

The study reveals that students with strong soft-skills are associated with high scores in both numeracy and literacy. Specifically, students who scored high in the soft-skills domains of achievement striving (64.6%) assertiveness (63.7%), compassion (62.5%), grit (67.1%), integrity (62.0%), problem solving (61.3%), responsibility (60.4%), patience (63.7%) and teamwork (63.6%) were found to be associated with high scores in the literacy test. However, the soft-skill domain of critical thinking was not found to be associated with literacy scores ($p = 0.7322$).

Similarly, the students who scored high in the soft skills domains of achievement striving (67.1%) assertiveness (62.1%), compassion (63.4%), Grit (65.2%), integrity (62.7%), problem solving (65.0%), patience (64.9%) and teamwork (65.1%) were found to be associated with high scores in numeracy test. Both critical thinking and responsibility skills were found not to be associated with high scores of numeracy ($p = 0.8388$) and ($p = 0.5908$) respectively.

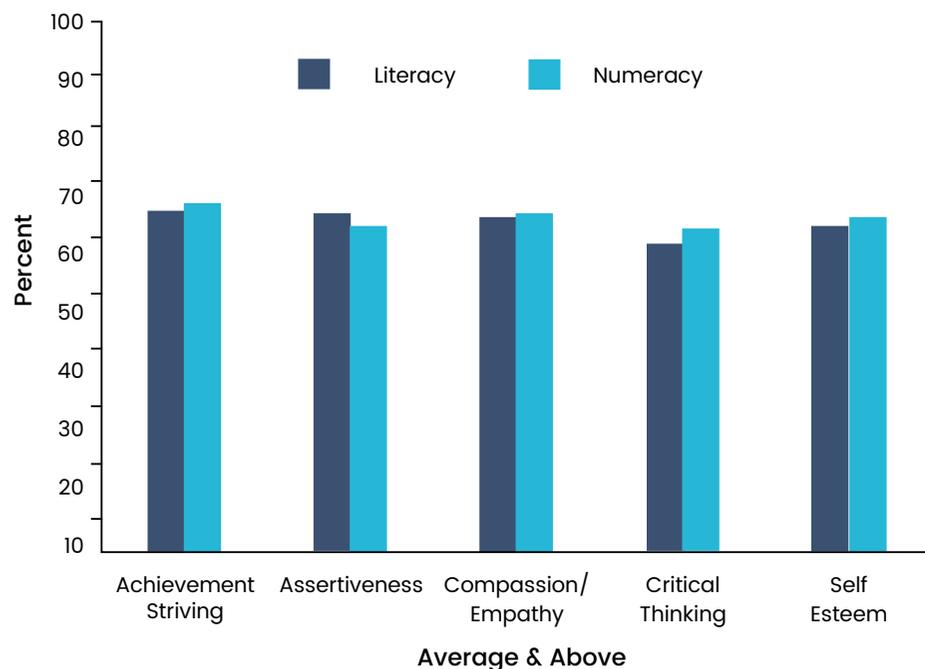


Figure 9: Percentage of students' scores on Literacy and Numeracy by Soft skills (Achievement Striving, Assertiveness, Compassion, Critical Thinking and Self-Esteem)

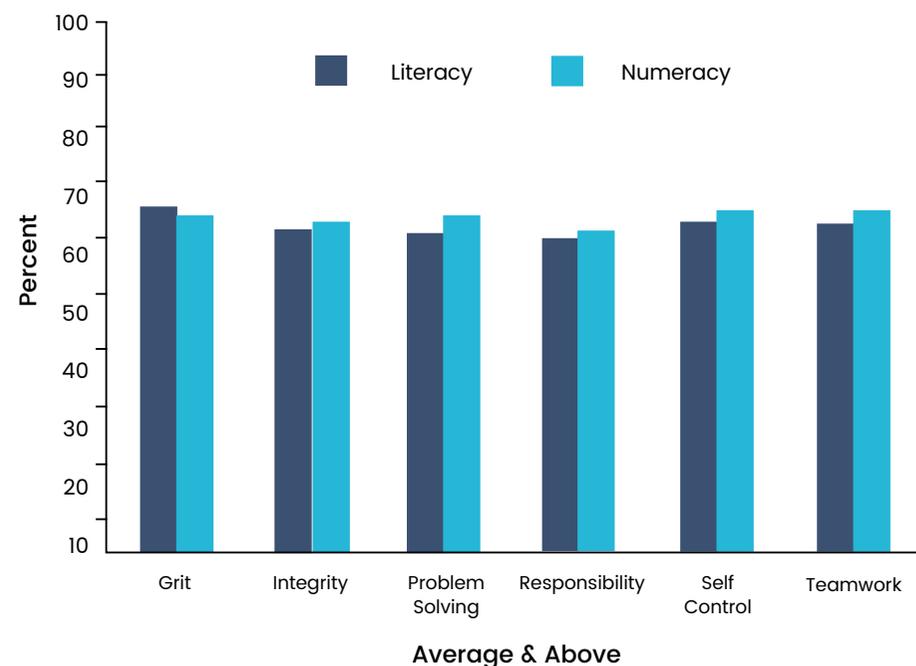


Figure 10: Percentage of students' score on Literacy and Numeracy by the soft skills (Grit, Integrity, Problem Solving, Responsibility, Self-Control and Teamwork)

School Factors & Students' Level of Soft Skills

The study reveals that the teachers' level of job satisfaction is not associated with the students' level of soft skills. Specifically, students who scored high in the respective soft skills domains did not show strong linkage with their teachers' levels of job-satisfaction (none of the 'p-values' was less than 0.05)⁵.

The level of collaboration among teachers was also found not to be associated with most students' soft-skills. Only the soft skill of compassion/empathy (61.9%) was significantly associated with the teachers' rating on collaboration among themselves ($p=0.0395$). Students' visit to the library was found to be associated with their levels of most soft skills. For example, students who sometimes or always visit the library were significantly associated with high scores of soft-skills, specifically in the domains of achievement striving (90.6%), assertiveness (91.8%), self-esteem (91.5%), grit (consistency and perseverance) (91.8%), responsibility (92.8%), self-control/patience (93.0%), cooperation/teamwork (93.1%).

On the whole, students who at least participated in clubs, and games and sports were associated with higher soft skills. For example, students who always participate in games were associated with high scores of soft skills in the domains of achievement striving (61.5%), assertiveness (62.4%), compassionate (68.4%), self-esteem (58.3%), grit (62.8%), integrity (56.5%), problem solving (54.7%) and teamwork (66.5%).

The study further reveals that a positive teacher-student relationship enhances students' soft skills. For example it was found out that

students who reported a positive relationship with their teachers scored significantly high in all the 11 soft-skills domains of achievement striving (64.3%), assertiveness (63.8%), compassionate (69.8%), critical thinking (51.5%), self-esteem (56.2%), grit (64.9%), integrity/honesty (62.9), problem solving (53.8%), responsibility (53.6%), self-control/patience (63.5%) and teamwork/cooperation (69.4%).

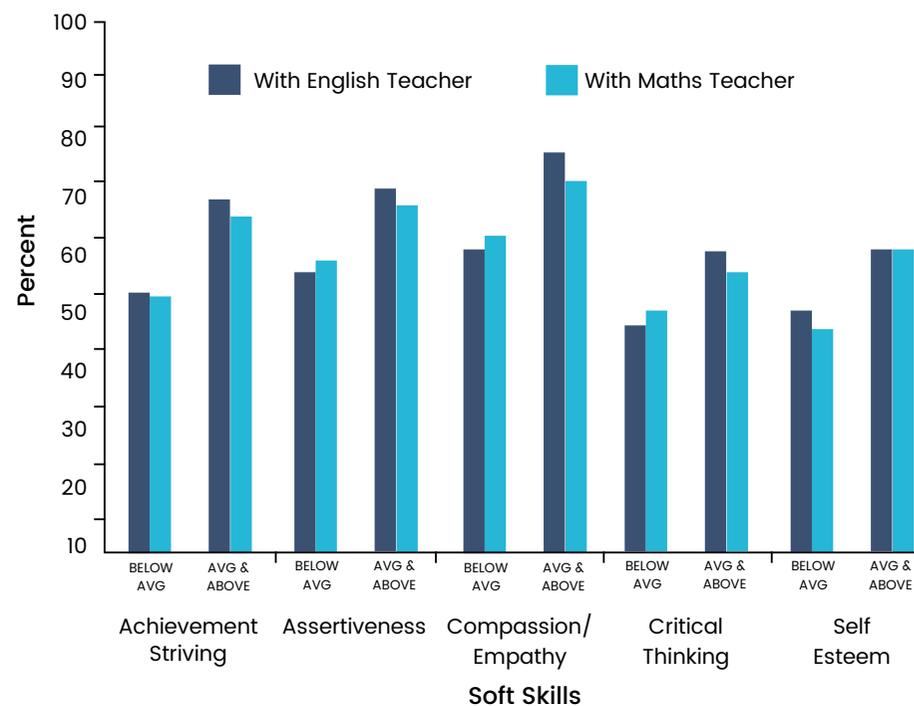


Figure 11: Percentage of students' scores on the soft skills, by quality of teacher-student relationship (Achievement Striving, Assertiveness, Compassion, Critical Thinking and Self-Esteem)

⁵ p-value refers to probability value which was compared with the 0.05 (5% significance level).

Most students whose teachers of English or Mathematics highly accounted for students' background in teaching and learning possessed higher soft skills scores.

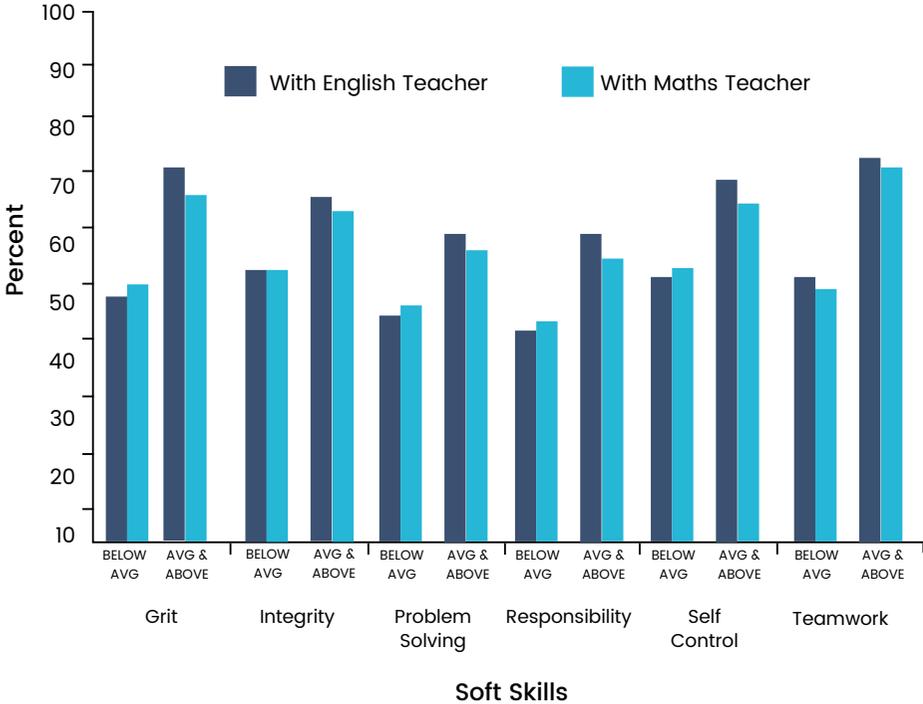


Figure 12: Percentage of students' scores on the soft skills, by quality of teacher-student relationship (Grit, Integrity, Problem Solving, Responsibility, Self-Control and Teamwork)

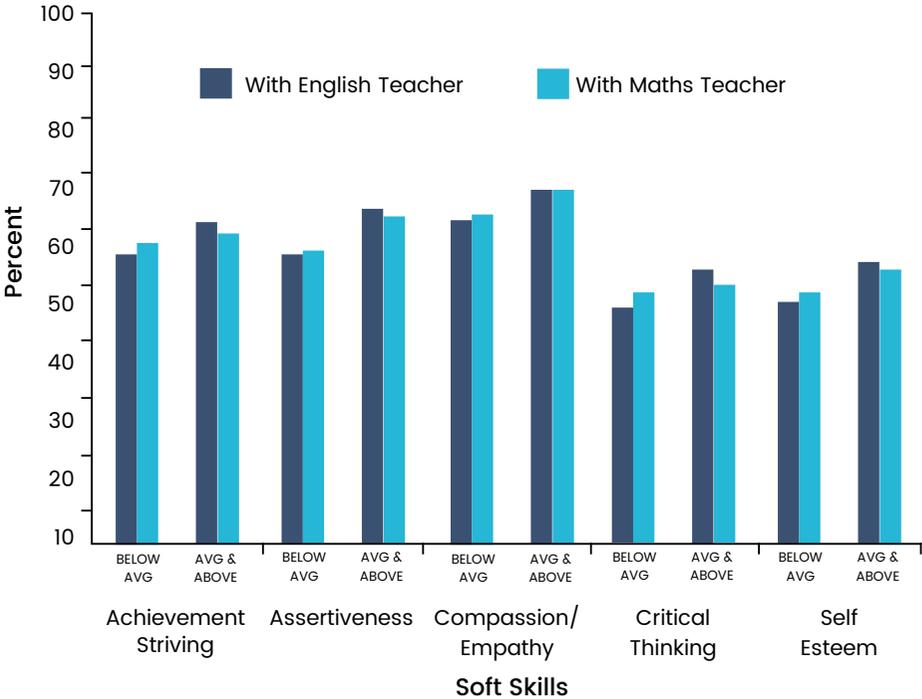


Figure 13: Percentage of students' scores on the soft skills, by teachers' consideration of students' background (Achievement Striving, Assertiveness, Compassion, Critical Thinking and Self-Esteem)

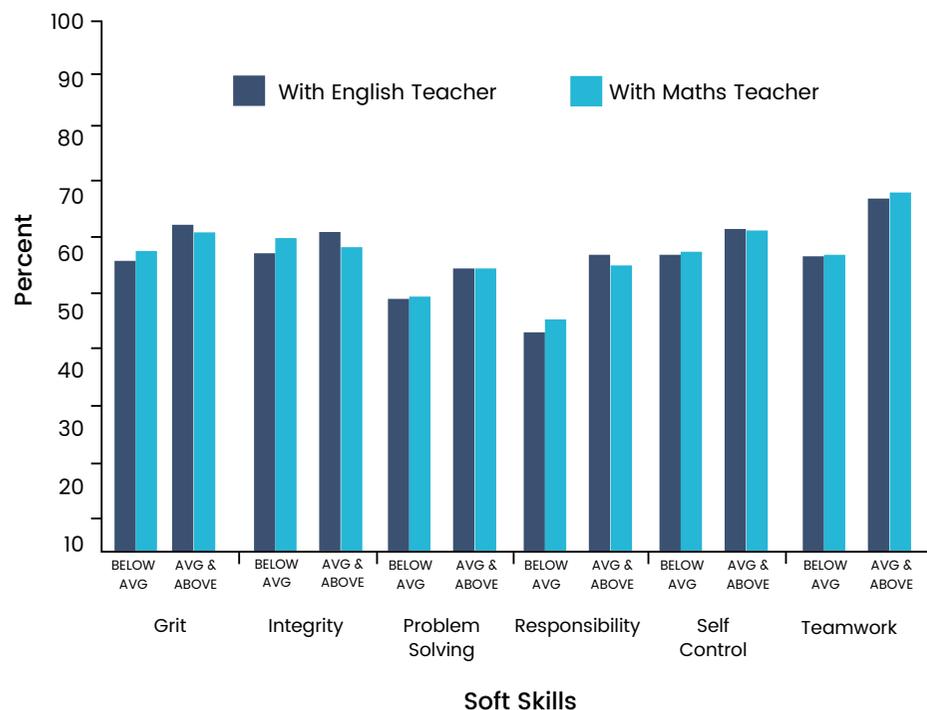


Figure 14: Percentage of students' scores on the soft skills, by teachers' consideration of students' background (Grit, Integrity, Problem Solving, Responsibility, Self-Control and Teamwork)

The Relationship between Home Factors & Students' Soft-Skills

This study demonstrates that there is a significant association between the person with whom a student lives and the students' level of self-esteem ($p=0.0268$). Most students who live with non-relatives or non-nuclear family members (e.g. uncles or aunts) were associated with lower scores on self-esteem. No significant associations existed between the person with whom the student lives with, and the rest of the soft skills.

Table 4: The association between the person with whom the student lives and the students' soft skills scores

	Computed Chi-squared estimates, df and p-values of association	
	Whom Student Lives with	
	<i>Chi2 (7)</i>	<i>p-values</i>
Achievement Striving	17.4942	0.2582
Assertiveness	7.9918	0.5658
Compassion	22.4682	0.1058
Critical Thinking	6.8261	0.6819
Self Esteem	25.1777	0.0268**
Grit (Consistency)	12.5783	0.3989
Integrity/Honesty	20.3721	0.1224
Problem Solving	23.6237	0.0951
Responsibility	9.6977	0.5676
Self-control/Patience	16.6393	0.1771
Cooperation/Teamwork	11.2515	0.4850

** $p < 0.05$

The Association between Nursery Attendance, Class Repetition & the Students' Soft Skills

The study reveals that students who attended nursery school were associated with higher scores on compassion ($p=0.0066$) grit ($p=0.0069$) and cooperation/teamwork ($p=0.0159$) while most students who never attended nursery school were associated with higher scores on integrity/honesty ($p=0.0116$).

However, when examined from a regional perspective, it appears that most students who were found with the soft skill of integrity/honesty came from the Northern region of Uganda (Figure 15). Considering that these two regions have inadequate coverage of nursery schools, it is possible that the study results about nursery attendance and integrity/honesty could have been greatly influenced by the region of the students and not so much as to whether they attended nursery or not. The soft skills of compassion and grit are reported in this study to be positively associated with nursery attendance but this could have been also influenced by the region.

Figure 15 and Figure 16 indicate that in the central region students led in the soft skills of grit and compassion and considering the view that most students from the region attend nursery.

Thus, it could be true that the study results about the association of nursery attendance and these soft skills could have been influenced by the region. Students who have never repeated any class were associated with higher scores on achievement striving ($p=0.0215$), self-esteem ($p=0.0290$), grit ($p=0.0073$), self-control/patience ($p=0.0034$) and cooperation/teamwork ($p=0.0283$).

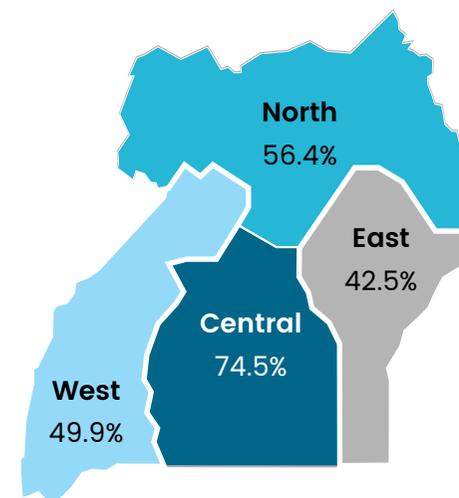


Figure 15: Percentage of Students who scored above average in literacy achievement by region

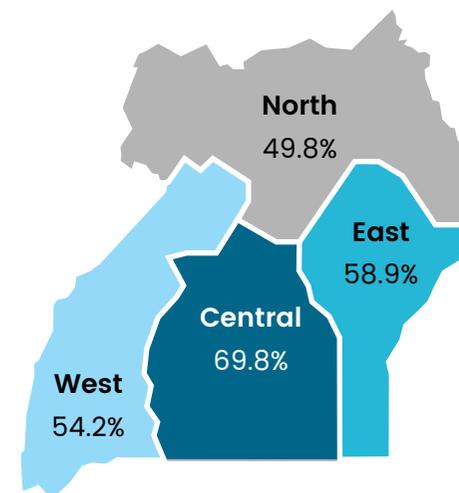


Figure 16: Percentage of Students who scored above average in numeracy achievement by region

3.2 FACTORS THAT INFLUENCE & INFORM THE PEDAGOGICAL APPROACHES USED IN UGANDAN SECONDARY SCHOOLS

The qualitative data generated from Key Informant Interviews (KII) reveal that school pedagogical approaches are skewed towards the way teachers teach, the nature of examples they give in and outside the classroom and the teaching and learning resources at their disposal. The mission of the school, the characteristics of the school administration and staff, the school explicit and implicit activities, the frequency of meetings between school teachers and the school management and also between school administration and students are key factors which influence the school pedagogical approaches.

Due to the nature of the philosophy guiding specific schools, it was found out that some schools put more emphasis on a child-centred paradigm while others emphasise teacher-centred pedagogies. The study revealed that learners in rural and up country study areas were more prone to being subjected to teacher-centred pedagogies.

3.3 FACTORS AFFECTING STUDENTS' LEARNING & LEARNING OUTCOMES IN SECONDARY SCHOOLS IN UGANDA

The study revealed that whereas the family is expected to be the first place from which soft skills are developed, the family practically plays a minimal role in students' development of soft skills. For example, as shown in Table 3, the study shows that the only soft skill domain influenced by the people a student lives with, is self-esteem ($p=0.0268$). However, the study reveals that whereas the educational

level of the father does not affect the soft skills of students, the education of the mother does. For example, the educational level of the mother was found to be associated with, grit ($p=0.0310$), responsibility ($p=0.0499$) and patience/self-control ($p=0.0002$). The qualitative data from Key Informant Interviews further reveal that the low contribution of the family to students' development of soft skills was due to a number of factors including: poverty in most households, working parents who have no time for their children as most children are left in the care of home attendants; a regrettable shift in the African socio-cultural ethos system. Furthermore, the lack of proper modelling at home by parents heightens the problem; for example drunken parents or guardians, early marriages and the resultant teenage parenthood were cited among the home factors responsible for the soft skills' gaps in Uganda.

School related factors that include resources such as: the school managers and leaders, the teachers, the students, and the school infrastructure/resources (e.g. textbooks, teaching and non-teaching facilities) were found to influence the level of soft skills among students. The study also revealed that the individual school's educational philosophy influence students' soft skills. The school's philosophy was interpreted implicitly through school programmes and activities that point towards the mission and vision of respective schools. The school philosophy implicitly or explicitly dictates the values and beliefs the school leaders, teachers and students exhibit.

All the stakeholders interviewed revealed that the current Uganda secondary school system has clear objectives which map well with the intended skills including the soft skills or life skills.

Conclusions & Recommendations



Conclusions & Recommendations

Both the conclusions and recommendations of this study are crucially aligned to SDG-4, i.e.: the need to “ensure inclusive and equitable quality education and promote life-long learning opportunities for all.” Specifically SDG-4 target 4.4 aligns closely with this study conclusions and recommendations with the aim of considerably increasing by 2030 “...the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.”

This study also concludes and recommends as shown below to adopt mechanisms focused on activities that contribute towards meeting these targets. Relatedly, target 4.5 aims to eradicate by 2030 “...gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples, and children in vulnerable situations.” Target 4.7 promises to ensure that by 2030 “...all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture’s contribution to sustainable development.”⁶

The conclusions and recommendations outlined below indicate how the study identified and proposed mechanisms through which schools and the education sector or stakeholders in Uganda can work towards meeting the SGD-4 targets presented here.

CONCLUSIONS

The study makes five major conclusions regarding the future efforts aimed at improving learning outcomes in the Ugandan secondary school system as outlined below:

1. **Teachers’ knowledge of their students:** The study concluded that teachers do not command sufficient knowledge of individual students under their care on the one hand while on the other,

there is little interaction between teachers and students.

2. **Contribution of co-curricular activities to soft skills development:** The study associated students who participate in games, sports or clubs with stronger soft skills. The study also suggests that schools appreciate the importance of co-curricular activities in nurturing the students’ soft skills.
3. **Adopting strategies for improving students’ soft skills:** This study

⁶ See: Indicators & A Monitoring Framework: Launching a data revolution for Sustainable Development Goals [<http://indicators.report/goals/goal-4/>] [Accessed: 05 March 2018].

concluded that there is a positive relationship between soft skills and the students' numeracy and literacy scores. Thus, students who possess strong soft skills, such as achievement striving and time management, tended to score highly in literacy and numeracy. Moreover, in the study, boys tended to score higher than girls in numeracy and all the other soft skills that were assessed.

4. **Teachers' capacity to assess soft skills:** Through interviews, this study found that assessment in most schools is skewed towards examinable aspects of learning while skills such as soft skills that cannot be easily examined are ignored. Furthermore, teachers do not seem to possess the skills to assess soft skills.
5. **Valuing parental involvement in the education of their children:** It is clear from the study that the family plays an insignificant role in development of students' soft skills. The study further emphasised that the school is a critical place from where students develop soft skills. Additionally, schools have better potentials to involve families in the education of their children by inviting them to participate in school activities and in so doing become part of the process of growing their children's soft skills.

RECOMMENDATIONS

The study proposes the following recommendations in order to improve learning outcomes in Uganda's secondary education sub-sector:

1. **Strategies to promote teacher-students relationships:** In respect of the above conclusion, the study recommends that the MoES, school leaders, teachers, and other relevant stakeholders should strive to improve teacher-students' relationships in a bid

to increase their knowledge and interactions with their students. Therefore, strategies such as the learner-centered methodologies should be emphasized in schools since they potentially strengthen teacher-student relationship; a critical factor in enhancing students' soft skills.

2. **Promotion of co-curricular activities:** In reference to the conclusion on the roles of co-curricular activities in soft skills development, the study recommends that all schools be incentivised to mainstream co-curricular activities within the core school programmes as a means of enriching the students' experience of school life and growing other non-academic skills.
3. **Improved strategies on students' soft skills:** Based on the relationship found between the between soft skills and the students' numeracy and literacy scores, the study proposes that teachers should employ gender sensitive methodologies in the teaching-learning environment since boys were significantly better than girls in most of the assessed soft skills as well as numeracy. Even then, learner-centered teaching methods ought to be adopted and applied by teachers as part of their classroom practice to enable learners develop critical thinking abilities as opposed to rote learning in which learners are often viewed rather as content depositories.
4. **Assessment of soft skills:** In view of the teachers' capacity to assess soft skills, the recommends that teachers be trained to assess such skills. Therefore, the National Curriculum Development Center (NCDC) and UNEB could collectively consider this research as a starting point in pursuit of a system where soft skills can be measured and assessed in Ugandan secondary schools.

5. **Importance of parental involvement in education:** In view of encouraging families to play active roles in the development of the students' soft skills, the study recommends that schools put in place mechanisms for encouraging families to actively engage in the education of their children by participating in school activities that enable them to become key protagonists of what and how schools educate their children.

Bibliography

The image shows a study desk with an open book in the foreground. The book is laid flat, showing two pages of text. The desk is light-colored wood. In the background, there is a wooden bookshelf filled with books and stacks of papers. Two black chairs are visible behind the desk. The overall scene is a quiet study environment.

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