



TEACH
A MAN TO FISH



**THE IMPACT OF THE SCHOOL ENTERPRISE CHALLENGE IN UGANDA:
AN EVALUATION REPORT
FEBRUARY 2020**



***“Give a man a fish and you will feed him for a day; teach a man to fish
And you will feed him for a lifetime.”***



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1.0 Executive Summary

1.1 Background

This report, presents a summary of the findings of the October 2019 evaluation of Teach A Man To Fish's flagship programme, the School Enterprise Challenge in Uganda. The School Enterprise Challenge is an international business program for primary, secondary and tertiary schools, run by the education-based charity organization, Teach A Man To Fish. The organisation is guided by an all-encompassing mission: to empower young people with the skills they need to succeed in school, work and life. The program is designed to equip learners with essential 21st century skills as well as business knowledge in a fun and interactive way, enabling learners complete the school cycle, perform well in school and succeed after school. The School Enterprise Challenge program is free to participate in. It trains and provides the resources and support to guide teachers and learners through a step-by-step process on how to come up with a business idea, plan and set up a school business, run a successful school business and write an annual report. This is achieved through school partnership programs as well as global events and where participants develop new skills and win additional prizes. Currently, 224 schools, at primary, secondary and vocational levels, are benefiting from the School Enterprise Challenge in Uganda.

1.2 Objectives

Therefore, the October 2019 evaluation set out to:

- a) Assess the impact of School Enterprise Challenge in four areas: (i) Student enrolment, attendance and school cycle completion rates for vulnerable students; (ii) Teacher-skills development; (iii) Student-skills development; and (iv) Student performance in STEM subjects.
- b) Suggest internationally recognized indicators that Teach A Man To Fish should use to measure its impact against its theory of change.

1.3 Methodology

The evaluation adopted a cross-sectional survey design; using both qualitative and quantitative methods, in a methodological triangulation framework. The survey covered three administratively pre-determined districts in which Teach A Man To Fish is active: Arua in northwest, Dokolo in mid-north and Mpigi in central Uganda. A total of 385 respondents were interviewed and they include; 345 learners, 22 lead and co-lead teachers, 18 key informants (Head Teachers, Deputy Head Teachers, Directors of Studies, members of School Management Committees). Three main methods of data collection were used: documentary review, interviews and observation.

2.0 Findings

Generally, the evaluation established that Teach A Man To Fish's School-Business Model has a positive impact on the performance of participating learners, teachers, and on the education eco-system in Uganda:

2.1 Learners' attendance, absenteeism, drop out from school

- School Enterprise Challenge-participating learners' level of absenteeism stagnated at 44% while, the non-participants' level of absenteeism increased moderately by 1% from 47% to 48%.
- School Enterprise Challenge-participating learners were so attached to the program that 94% of them would not consider leaving their present schools for a school without a school business

2.2 Learners' knowledge of School Enterprise Challenge and business principles and concepts

- 92% of the School Enterprise Challenge participants showed awareness of school business ownership and management principle, representing a slight improvement from the 91% who had done so during the baseline survey.
- 69% of School Enterprise Challenge non-participants exhibited awareness of school business ownership and management principles.
- While 78% of the School Enterprise Challenge-participating learners demonstrated knowledge of how to generate a business idea during the baseline, 89% did so during the evaluation, indicating that, over time, participation in the school business improves a learner's knowledge of how to generate a business idea.

2.3 School Enterprise Challenge and learners' soft skills development

- An average of 75% of the School Enterprise Challenge-participating learners reported that the school business had helped them to develop their soft skills: leadership, teamwork, communication, problem-solving, flexibility and interpersonal skills
- In addition, an average of 82% of the lead teachers' indicated that they had observed an improvement in politeness, punctuality and teamwork ability among the School Enterprise Challenge-participating learners.

2.4 Primary pupils' performance in STEM subjects

- Based on records, such as marks-sheets and report books, the School Enterprise Challenge lead teachers reported that performance in STEM subjects was much better for SEC-learners than for non-SEC learners: the percentage of SEC-participating learners who scored less than 50% dropped significantly by 21 points from 41% in the baseline examination to 20% in the evaluation examination.

2.5 Secondary school students' performance in STEM subjects

- Based on records, such as marks-sheets and report books, the School Enterprise Challenge lead teachers reported that School Enterprise Challenge-participating learners performed much better in STEM than their non-participating counterparts. For example, in Physics, the percentage of super performers increased moderately from 12% to 15% among the School Enterprise Challenge participants; and in Mathematics, School Enterprise Challenge participants recorded a 13% drop in the percentage of poor performers, from 44% to 31% while the non-participants recorded a drop of only 2%, from 54% to 52%. This difference was also visible in other STEM subjects like Biology and Agriculture.

2.6 Lead teachers' levels of knowledge and skills

- An average of 85% of the lead teachers exhibited good knowledge of the three School Enterprise Challenge principles regarding school business ownership, sustainability and use of profits, benefits, representing a 17% improvement in their knowledge levels from the only 68% of the teachers who displayed similar knowledge at the baseline.

2.7 Benefits lead teachers derive from the programme

- 100% of the teachers reported that, through the programme, they are provided with a great, continuous professional development opportunity; 96% reported that through participation in the programme, they learn about business concepts and the realities of running a business; and 100% of the 22 lead teachers confirmed that their participation in the programme helps them gain knowledge of experiential learning techniques, and apply the techniques in a real school business.

This suggests that lead teachers' participation in the School Enterprise Challenge has had the desired effect.

2.8 Profitability of school businesses

- Most (76%) of the learners participating in school businesses reported that their respective school businesses had made some profits, 18% reported no profits at all, and the rest (6%) were not sure. Overall, these findings indicate that the School Enterprise Challenge has the potential to create positive changes in the target areas.

3.0 Conclusion

In view of the foregoing account, the study concludes as follows:

- a) Programme-participating learners are closely attached to their respective school businesses, which has helped them to maintain higher levels of school attendance relative to non-participating learners.
- b) Programme-participating learners are significantly more knowledgeable about entrepreneurship and key business concepts than their non-participating counterparts
- c) Participation in the school business increases learners' love and passion for, and performance in, STEM subjects
- d) Most of the school businesses are profitable; and the profits are being put to good use, such as supplementing the provision of lunch for learners and teachers, lending money to needy learners to pay school fees, buy scholastic materials and sanitary pads.
- e) Participation in School Enterprise challenge helps lead teachers learn about business concepts and realities of running a business.
- f) Teachers participating in School Enterprise Challenge gain knowledge of experiential learning techniques and apply the techniques in real school businesses.

4.0 Recommendations

While Teach A Man to Fish's School-Business Model has indisputably led to positive changes in learners' school attendance, enrolment and school completion rates; teachers and learners skills development; and learners performance in STEM subjects, to create further positive changes, it is recommended that:

- a) To generate scientifically valid findings, the impact of the School Enterprise Challenge on learner enrolment and school cycle completion should be assessed only after a school has been running a school business for at least three years.
- b) Teach A Man to Fish should consider holding refresher-training sessions for both lead teachers and co-lead teachers; increase the length of training days from 2 to at least 4 days in order to enhance the impact of the training; and monitor teacher-led trainings for quality control purposes.
- c) Teach A Man To Fish should encourage teachers of STEM subjects to join the School Enterprise Challenge program and to relate their teaching to the activities of their respective school businesses in order to help students improve performance in these subjects.
- d) The Ministry of Education and Sports should partner with Teach A Man to Fish and take up School Enterprise Challenge as a core curriculum activity in primary, secondary and tertiary schools.
- e) School businesses should be supported to access funding from relevant government agencies and/or programs, such as Operation Wealth Creation (OWC).

1.0 Introduction

1.1 Overview

Teach A Man To Fish is a UK-based international NGO that views formal education as part of the solution to global youth unemployment and poverty. According to Teach A Man To Fish's *Problem Tree* and *Theory of Change* (www.schoolenterprisechallenge.org), unemployment and poverty among young people result from the gap between the latter's skills and labour market needs. Teach A Man To Fish attributes this problem to a number of factors, including formal education curricula that lack practical business training and transferable skills; poorly trained, equipped and motivated teachers; teacher absenteeism; and lack of gender training for teachers. To solve, or at least mitigate, this problem in Uganda, since 2009, Teach A Man To Fish has used its flagship program, the School Enterprise Challenge (SEC), and concomitant training and consultancy work, to set up school businesses which are both educational and profitable. The School Business Model enables participating school girls and boys to acquire practical business, workplace and life skills that will enable them to do well at school and to succeed in work and life after school. For example, female and male students learn how to develop a business plan and set up and manage a real school business as a team. Through SEC, learners, head teachers, teachers and partner NGO staff receive school-business training, step by step educational guides and ongoing support, and the school businesses generate much-needed extra income for schools. Through School Enterprise Challenge, Teach A Man To Fish has collected anecdotal evidence that participating learners improve their attitudes to, and performance in school, Science, Technology, Engineering and Mathematics (STEM).

Uganda, about 224 schools, at primary and secondary are benefitting from School Enterprise Challenge. In Mpigi, Dokolo and Arua districts alone, about 90 schools are benefitting. School Enterprise Challenge has trained 257 teachers and other school staff, and enabled 16,934 young people to acquire employability and life skills. Participating schools can qualify for three (3) types of progressive awards, depending on their performance: bronze, silver and gold. For bronze, the qualifying schools are new to the School Enterprise Challenge; have never run a school business before; are curious to learn how to produce a basic business plan and annual report. For Silver, for schools to qualify, they must first meet all the Bronze achievement criteria; have run a school business before (for at least 3 months); are interested in growing their business or starting a different; business; are ready to complete a detailed business plan and annual report. For Gold, the schools must first meet have met all the Silver achievement criteria; have run a profitable school business before (for at least 1 year); are ready to grow their business, involve more students and integrate it into more subjects at their school; are ready to complete an advanced business plan and annual report. Through the School-Business Model, Teach A Man To Fish is supplementing the efforts of Uganda's Ministry of Education and Sports, in a public-private partnership framework, to promote skilling Uganda through Entrepreneurship Education in the target schools.

1.2 Context

According to Teach A Man To Fish's *Problem Tree* and *Theory of Change*, unemployment and poverty among young people result from the gap between the latter's skills and labour market needs. Teach A Man To Fish attributes this problem to a number of factors including:

- Lack of entrepreneurship and transferrable skills, due to the formal education curricula that lack practical business skills, entrepreneurship trainings and transferable soft skills;
- Teacher absenteeism and poorly trained, equipped and motivated teachers leading to low education standards;
- Limited girl-child opportunities reportedly due to lack of gender training for teachers and involvement in domestic work and income generating activities.

According to National Curriculum Development Centre (2014), entrepreneurship skills are not well integrated into the school curriculum especially in primary schools and worse of all, young people are more likely to be unemployed than adults. The establishment of interventions and policies such as Skilling Uganda and attempts to make Entrepreneurship subject compulsory in secondary schools shows Ugandan Governments recognition of the current entrepreneurship skill and knowledge-gap in the education sector; hence, the efforts to address it. It is in this context, characterized by the need to promote science education, Mathematics and Entrepreneurship in formal education; so as to render graduates of formal education and training more employable and capable of creating their own employment, that the School Enterprise Challenge program of Teach A Man To Fish has been introduced to supplement government efforts.

1.3 Evaluation Objectives

The aim of the evaluation was to assess the impact of the School-Business Model on the performance of participating students and teachers, and on the education eco-system in Uganda. The evaluation will help Teach A Man To Fish to review and improve the School-Business Model, and to provide objective data to facilitate Teach A Man To Fish's advocacy work about best practices in entrepreneurship education in Uganda. More specifically, the evaluation set out to:

- a) Assess the impact of SEC in four areas: (i) Learner enrolment, attendance and school cycle completion rates for vulnerable learners at primary and secondary school levels (ii) Teacher-skills development; (iii) Learner-skills development; and (iv) Learner performance in STEM subjects.
- b) Suggest internationally recognized indicators that Teach A Man To Fish should use to measure its impact against its theory of change.

1.4 Design and Methodology

The evaluation was conducted in October 2019, towards the end of third term. The evaluation adopted a cross-sectional survey design, using both qualitative and quantitative methods. Data was collected from the same representative cross-section of the target population in Arua, Dokolo and Mpigi districts, from which baseline data had been collected. Although the evaluation sought to interview all the 446 respondents that had been interviewed during the baseline survey, due to a variety of reasons, some of the respondents could not be accessed. However, the evaluation team still managed to interview 385 of the initial 446 respondents, giving us a decent coverage of 86%. These included 345 (89.6%) learners, 22 (5.7%) lead teachers and 18 (4.6%) key informants (head teachers, deputy head teachers, PTA members and members of school

management committees). Table 1 below summarizes the evaluation coverage by district and respondent category.

Table 1: The evaluation sample coverage by district, respondent category and gender

	District	Schools	Learners	Lead Teachers	KIs	Total
1	Arua	8	113	7	6	126
2	Dokolo	7	103	7	6	116
3	Mpigi	8	129	8	6	143
	TOTAL	23	345	22	18	385

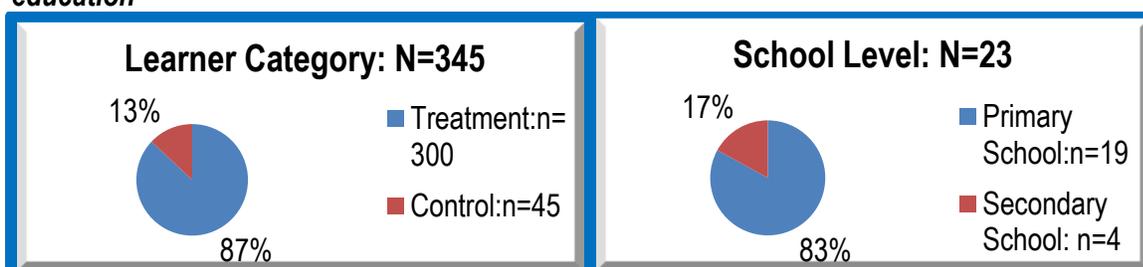
Source: Field data

2.0 Findings

2.1 Participating Schools, Learners and Teachers

The evaluation targeted 23 schools. Of the 23 schools in the evaluation sample, 19 (83%) were primary schools while 4 (17%) were secondary ones (See figure 1 below). In all, 14 (61%) of the schools were rural while 9 (39%) were urban. However, as it was noted in the baseline survey report, many of the *de jure* urban schools are patently rural. A total of 345 learners, including 300 (87%) SEC participants and 45 (13%) non-participants were interviewed (See figure 1 below), and they included 177 (51%) females and 168 (49%) males, aged between 11 and 18 years.

Figure 1: Distribution of learners by treatment and control category, and schools by level of formal education



Source: Field data

In all, 22 lead teachers were interviewed, 6 (27%) females and 16 (73%) males, aged between 30 and 60 years. While 18% of the teachers had a bachelor's degree as their highest academic/professional qualification, most had only a Certificate (46%) or a Diploma (36%) and were primary school teachers. Most (41%) of the teachers teach English, and only 36% and 32% of them teach Mathematics and Science subjects respectively. Each of Biology, Chemistry, Entrepreneurship, Economics and Accounts, all of which are central to the SEC program, is taught by 5% of the lead teachers.

2.2 Learners' Absenteeism and School Dropout

According to results from qualitative interviews, poverty is the major cause of school dropout and learners absenteeism; manifesting through failure to clear school fees balances and lack of scholastic materials, sanitary pads and uniforms. School Enterprise Challenge business model, is designed to offer a solution to this problem through the school businesses. Therefore, to establish whether there were any differences in levels of absenteeism between the SEC-participating learners and the control group (non-participants), all the learners were asked whether they ever missed school. Their responses revealed that a higher percentage (47%) of the learners in the control group than those in the treatment group (44%) miss school sometimes. In order to gauge the gravity of learner absenteeism, the evaluation also sought to establish the relative average number of days lost to the different categories of learners on account of absenteeism, and it emerged that, on average a higher percentage (48%) of control than (33%) of treatment miss between one-to-ten days per term. Similarly, a greater percentage (5%) of the learners in the control group than that of the SEC-participating ones (1%) lost over 23 days per term. This suggests that, on average, participation in school business reduces the learners' number of days lost per term due to absenteeism.

2.3 School Enterprise Challenge and Learners' School Attendance

The evaluation also sought to establish whether the SEC program had in any way contributed to improving school attendance among SEC-participating learners. To this end, the SEC-participating learners were asked whether their participation in the school business had improved their school attendance, to which 258 (86%) of them responded affirmatively while only 42(14%) responded negatively. Asked to explain how participation in the school business had helped the 258 learners to improve their attendance, four main types of answers were generated, the leading means (51%) by which participation in the school business is perceived to have boosted learners school attendance is by encouraging them to attend school regularly as they have to attend to their school business as well. The second means, at 22% is by enabling the participants to generate some income from which some needy learners were able to borrow and meet some of their needs, such as school fees and scholastic materials. Finally, the third means is by encouraging participants to participate in skills development training which takes place at school. More so, when the 22 lead teachers were also asked whether they had noticed any difference in school attendance between SEC-participating learners and non-participating ones, interestingly all the 22 lead teachers 22(100%) responded affirmatively, saying that SEC-



participating learners attend school more regularly compared to the non-SEC participating learners. Hence, confirming that participation in the school business has a positive impact on learners' school attendance. The researchers met a young girl (**shown in the picture here**) who almost missed her senior four, mock-exams because of failure to pay school fees balance. However, being a member of the school business, her colleagues offered part of the profits from the school business to clear the balance to enable her to do her exams. This touching story among other many similar stories, portray Teach A Man To Fish's positive impact on young people as well as on the girl-child's education and school completion.

2.4 School Enterprise Challenge and School Enrolment

The evaluation also sought to establish whether the SEC program had in any way contributed to learner's enrolment

among SEC-participating schools. To this end, the 18 Key informants (Head Teachers, Deputy Head Teachers, Directors of Studies, members of School management Committees) were asked whether SEC had influenced learner enrolment in their respective schools, to which 15 (85%) agreed while the rest 15% disagreed. All the 15 key informants who agreed indicated that their respective schools had experienced a growth in enrolment since the school business was introduced in their schools. This growth ranged from less than 10 new learners in some schools to close to 100 in others, especially in Dokolo District where some agricultural school businesses enabled schools to provide porridge in the morning and lunch, which attracted many new learners. However, this is anecdotal evidence that needs to be verified over a longer period of time, especially given the infancy of most of the school businesses and the low survival rates of Ugandan enterprises.

2.5 School Enterprise Challenge and School Drop Out

In reference to school dropout, apart from learners transferring to other schools and being absent due illness or school fees, the evaluation did not identify any school dropout cases. One may be tempted to attribute lack of school dropout cases to SEC especially in participating schools which may sound right but it is not conclusive enough.

2.6 Learners' Knowledge of Business Concepts

Teach A Man To Fish's vision is to ensure that that young people leave school not just with academic and /or technical skills, but with an entrepreneurial mind set and skill set ready and able to support themselves and their families. This is achieved through building the capacity of teachers who in turn train learners these business principles and concepts. Therefore, the evaluation sought to establish the learners' levels of mastery of some key business concepts such as: a business idea, a business plan, a natural resource and a stakeholder. Consequently, learners were asked to either agree or disagree to the definition of a business idea, a business plan, a natural resource and a stakeholder. The results indicate that 90% (45% males & 45% females) of SEC participating learners agreed or strongly agreed that a business idea is a concept for a product or service that will generate financial gain, Only 58% (20% males & 38% females) of the non-participants (control) reacted correctly to the same definition. This implies, that SEC participants were significantly more knowledgeable (by 32% over the control group) about the definition of a business idea than the control group.

Similarly, when the same respondents were asked to either agree or disagree to the right definition of a business plan, findings show that 91% (45% females & 46% males) of the SEC participating learners agreed or strongly agreed that a business plan is a written document that describes in detail how a business will achieve its goals. Only, 69% (47% females & 22% males) of control respondents agreed to the right definition. This indicates again that SEC participating learners were more knowledgeable about the definition of a business plan by 22% over the control group.

When the same respondents were asked to react to the definition of a natural resource, 94% (46% females & 48% males) agreed or strongly agreed that a natural resource is anything that you can use which is found in nature (e.g. plants, tree, river or land) while 76% (49% females & 27% males) of the control group agreed or strongly agreed to the same definition. Ideally, this implies that SEC-participating learners were more knowledgeable about the definition of a natural resource by 18% above the control group.

Finally, 85% (41% females & 44% males) of SEC participating learners agreed that a stakeholder is a person with an interest or concern in a particular project, usually a business, and only 67% (45% females & 22% males) of the non-participants agreed to the same definition of a stakeholder. Thus, indicating that SEC-participants were more knowledgeable about the definition of a stakeholder than the control group. Overall, on average, 90% of the SEC-participating respondents agreed or strongly agreed to all the four correct definitions of: business idea, business plan, natural resource and a stakeholder, indicating a decent level of mastery of the concepts. In contrast, an average of only 72% of the control group agreed to the same definitions, suggesting that the SEC-participating learners were ahead of their non-participating counterparts by 18%, indicating that, other factors being constant, and participation in the school business accounts for the better performance of the participants.

2.7 Learners' Knowledge on How to Generate a Business Idea

In addition, the evaluation sought to establish the learners' level of knowledge and understanding of how to generate a business idea. In order to gauge learners' level of understanding of how to generate a business idea, they were asked to either agree or disagree to whether or not they would pose the following questions before generating a business idea:

- a) What are the problems in my community?
- b) How could I use my business to solve the problems in my community?
- c) What could I make that people would like to buy in my community?
- d) Who will be my customers and how can I reach them?
- e) Would I update or modernize a traditional business idea?
- f) Are there any gaps for goods and services in the local market?
- g) Could I combine existing products and services to make something new?

Findings show that, on average, 89% of the programme-participating learners, as compared to only 58% of their non-participating counterparts, were knowledgeable about how to generate a business idea, and this is attributable to the School Enterprise Challenge. In addition, while 78% of the programme-participating learners demonstrated knowledge of how to generate a business idea during the baseline survey in April 2019, 89% of them had mastered that knowledge during the evaluation of October 2019, indicating that, over time, participation in the school business improves a learner's knowledge of how to generate a business idea. A comparison of the results disaggregated by gender reveals that while an average of 84% of the female programme-participating learners reacted correctly to the seven questions above, an average of 89% of their male counterparts did so, implying that the males were more knowledgeable than the females about the questions one should pose when trying to generate a business idea. When the same results were disaggregated by school location, it was found that while an average of 46% of the rural program-participating learners reacted correctly to the seven questions, an average of only 39% of their urban counterparts did so, implying that the rural learners were more knowledgeable than their urban counterparts regarding the process of generating a business idea. However, a higher percentage (14%) of rural learners than of urban ones (11%) reacted inaccurately to the seven questions,

2.8 Learners' Knowledge of Basic Facts about the School Enterprise Challenge

Further, the evaluation also sought to establish the learners' level of knowledge of basic facts about School Enterprise Challenge, they were asked to react (agree or disagree) to the following statements: *the school business is owned by the school but it is staffed and operated by students in the school; the school business is intended to be sustainable, selling products or services on a consistent basis and; at least part of the profits*

from the enterprise should be reinvested in the school's educational activities or in growing the business further. Ideally, all learners should have agreed to all the statements above; to this end, most (74%) of the programme-participating learners, as compared to 63% during the April, 2019 baseline survey, knew who owns and runs the school business, indicating that, generally, programme-participating learners' knowledge of this aspect of the school business has improved since the baseline survey. Similarly, while only 53% of the programme-participating learners could correctly define a sustainable business during the baseline survey in April 2019, 63% of them could do so during the evaluation in October 2019, indicating an improvement of 10%. When the data was disaggregated by gender, it emerged that there was no difference between the average percentages of female and of male SEC-participating learners who reacted correctly. In terms of school location, while an average of 89% of the urban SEC-participating learners reacted correctly to the three statements about school business ownership and management principles, a higher percentage (93%) of their rural counterparts did so, suggesting that rural learners are slightly more knowledgeable of these aspects of the school business than their urban counterparts.

2.9 School Enterprise Challenge and Learners' Soft Skills Development

To establish whether the SEC-participating learners thought that their participation in the school business had helped them to develop their soft skills, the learners were asked to state the extent to which, in their opinion, their participation in the school business had helped them to develop six soft skills: leadership, teamwork, communication, problem-solving, flexibility or adaptability to different or changing situations and interpersonal skills or ability to relate and interact with other people. Results show that, an average of 75% of the SEC-participating learners reported that the school business had helped them to develop their soft skills. Similarly, the key informants opined that the SEC-participating learners were more knowledgeable about entrepreneurship, and had more developed soft skills, than their non-participating counterparts. In addition, 91% of the lead teachers' indicated that they had observed an improvement in the general conduct or behaviour of the SEC-participating learners, and 73% noted that they had observed an improvement in the interpersonal skills of the same learners. This is attributed to the different roles and responsibilities given to SEC-participating learners, while planning, setting up and running the school business that in turn develops their soft skills. Therefore, the gravity of SEC's impact on the development of learner's soft skills largely depends on learner's consistent participation and significant involvement in the school business.

2.10 Learners' Performance in STEM Subjects

For purposes of source triangulation, the scores reported by learners were further analysed and compared with scores reported by teachers from marks-sheets and report-books. Interestingly, there was a significant difference between the self-reported scores and the actual scores from the STEM subject-teachers. This was reportedly as a result of learners not being able to remember scores off head at the time as well as learners confusing test scores or mid-term scores for end of term exam scores.

2.10.1 Primary school pupils' performance

Based on the records such as marks-sheets and report books, the SEC teachers reported that performance in STEM subjects was much better for SEC-learners than for non-SEC learners. In Science examinations, of the 283 primary school learners in the survey, the percentage of SEC-participating learners who scored less than 50% dropped significantly by 21 points from 41% in the baseline examination to 20% in the evaluation examination. In comparison, the control group learners in the same category of scores recorded a drop of 8 points, from 50% to 42%. At the same time, the percentage of School Enterprise Challenge-participating learners who scored 80-100% increased more than three times, from 5% in the baseline results to 22% in

the evaluation results while that of their control group counterparts rose only moderately by 2 points, from 5% to 7%. This implies that programme participants performed significantly much better than non-SEC participants. Therefore, it can be concluded that on the basis of the dramatic reduction in the percentages of poor performers and on the basis of dramatic increase in the percentage of super performers among the School Enterprise Challenge-participating learners, participation in the school business had a positive effect on the performance of learners in Science subject.

Regarding primary school learners' performance in Mathematics examinations, their performance did not differ significantly from that in Science. In Mathematics examinations, the percentage of programme-participating learners who scored 80-100% tripled: from 9% in the baseline results to 27% in the evaluation results while that of their control group counterparts rose only moderately by 5 points, from 4% to 9%. This implies that the former performed better than the latter. The better performance of programme participants in Mathematics was accentuated by the marked increase (from 9% to 27%) in the percentage of super performers, suggesting a positive effect of the School Enterprise Challenge on learner's performance.

Overall, with regard to primary school, the programme participants performed better than their non-participating counterparts in both Science and Mathematics, the difference in performance was more significant in Mathematics than it was in Science, just like in the baseline results. In principle, this exceptional performance by programme participants is largely attributed to the programme, hence confirming a positive link between the School Enterprise Challenge and primary learner's performance in STEM subjects.

2.10.3 Secondary school students' performance

Overall, among the 63 secondary school learners in the survey, there was also a marked difference between the scores of programme participants and those of non-participants. While the percentage of super performers in Physics increased moderately from 12% to 15% among the programme participants; it dropped dramatically from 15% to 0% among non-participants. Surprisingly, though, among programme participants, the percentage of poor performers in Physics dropped from 36% to 14%. Therefore, other factors being constant, the remarkable drop in the percentage of poor performers, and the moderate increase in the percentage of super performers, among programme participants can be attributed to their participation in the school business.

In Chemistry, while programme participants recorded a 14% drop in the percentage of poor performers, from 44% to 30%, the control group learners in the same category increased by 4%, from 62% to 66%, suggesting that the programme participants did much better than their non-participant counterparts. Again, while the programme participants recorded an increase of 4%, from 6% to 10%, in the percentage of super performers, the control group recorded an increase of 3%, from 0% to 3%, implying again that the programme participants fared much better. These findings reveal that programme participants performed better in Chemistry than their non-participant counterparts, suggesting that participation in the School Enterprise Challenge has a positive influence on secondary school students' performance in Chemistry.

In Mathematics, while the programme participants recorded a 13% drop in the percentage of poor performers, from 44% to 31%, the non-participants recorded a 2% drop, from 54% to 52%. Similarly, while the programme participants recorded an increase of 11%, from 6% to 17%, in the category of super performers, the control group stagnated at 0% in the same performance category. Again, the 13% drop in the percentage of poor performers, like the 11% increase in the percentage of super performers among programme participants, indicates that secondary school programme participants also performed better in Mathematics than non-participants, and this better performance is attributed to the School Enterprise Challenge.

In Biology, 10% of the programme-participating learners performed poorly while 20% performed superbly in the latest examinations. These results represent a great improvement in these learners' performance because 33% had performed poorly in the previous examinations while the percentage of super performers almost doubled from 11% in the baseline survey to 20% in second term examinations. On the other hand, the performance of the control group appears to have improved slightly: the percentage of poor performers dropped by almost the same margin as that of programme participants, from 84% during the baseline survey to 63% during the evaluation. However, no learner in the control group performed superbly either in the baseline survey or in the evaluation. Generally, these findings suggest that, as far as performance in Biology is concerned, School Enterprise Challenge participants performed much better than their non-participant counterparts.

Finally, in Agriculture, the programme participating learners recorded a dramatic drop in the percentage of poor performers, from 29% during the baseline survey to 3% during the evaluation. Similarly, the percentage of the same learners who scored 80-100% over the same period more than doubled, from 14% to 36%. Meanwhile, the control group also recorded a dramatic drop in the percentage of poor performers, from 84% to 24% and also recorded an increase in the percentage of superb performers from 0% to 9%. Although both the programme participants and non-participants improved in their performance in Agriculture, programme participants still performed much better by 27% over and above non-participants in the category of those who scored 80-100%. Therefore, one can conclude that participation in the School Enterprise Challenge has a significantly positive effect on learners' performance in Agriculture as a subject, and this can be partly attributed to the fact that most school businesses are agricultural.

Overall, therefore, the programme participants performed significantly better than non-participants in the 2019 end-of-second term examinations in STEM-subjects, and they exhibited a marked improvement in their performance relative to baseline data, an improvement that is attributable to the School Enterprise Challenge. Therefore, participation in the programme has a positive influence on learners' performance in STEM-subjects.

2.11 Lead Teachers' Levels of Knowledge and Skills

The evaluation assessed the lead teachers' levels of knowledge of the School Enterprise Challenge and its related business concepts to establish whether the teachers had adequate mastery of the subject matter to perform their role of lead teachers, and whether their levels of knowledge had improved since April 2019. To this end, the evaluation discovered that an average of 85% of the lead teachers exhibited good knowledge

of the three programme principles regarding school business ownership, sustainability and use of profits, representing a 17% improvement in their knowledge levels from the only 68% of the teachers who displayed similar knowledge during the baseline survey. During the evaluation, an average of 98% of the lead teachers, as compared to 97% during the baseline survey, displayed a strong grasp of the benefits learners are expected to derive from participating in the school business. This implies that almost all the teachers had properly understood the benefits of the school business, and that, over time, the few who initially fail to grasp those benefits begin to understand them. An average of 85% of the lead teachers exhibited a high level of knowledge of the benefits they are expected to derive from the programme, implying a significant improvement in their knowledge of this aspect of the programme since April when only 67% of them had displayed similar knowledge of those benefits. Moreover, given that many of these lead teachers have been participating in the programme for less than a year, one can conclude that the programme has had a clearly positive impact on them.

2.12 Lead teachers' entrepreneurial development

While the School Enterprise Challenge focuses on pupils and students as the main beneficiaries, the lead teachers involved are also expected to benefit from the program by improving their teaching skills. However, as the evaluation revealed, participation in the programme had also helped some teachers to acquire or sharpen their entrepreneurial skills: 95% of the 22 lead teachers reported having established or expanded their own businesses, mainly agricultural ones and petty trade (maize mills, retail shops, making pancakes and liquid soap).

2.13 Benefits lead teachers derive from the programme

To test the lead teachers' knowledge of the benefits they are expected to derive from the School Enterprise Challenge, the evaluation required the teachers to react to whether or not they agree to the statements that:

- a) The School Enterprise Challenge provides them with a great, continuous professional development opportunity;
- b) They learn about business concepts and realities of running a business; and
- c) They gain knowledge of experiential learning techniques, and apply the techniques in real school business.

Ideally, all the teachers should have either strongly agreed, or at least simply agreed, to all the statements. Interestingly, and as expected, 100% of the teachers reported that, through the programme, they are provided with a great, continuous professional development opportunity; 96% reported that through participation in the programme, they learn about business concepts and the realities of running a business; and 100% of the 22 lead teachers confirmed that their participation in the programme helps them gain knowledge of experiential learning techniques, and apply the techniques in a real school business. This suggests that lead teachers' participation in the School Enterprise Challenge has had the desired effect.

2.14 Profitability of school businesses

School businesses that generate profits are more likely to be sustainable while benefiting more learners and their respective schools, and enabling further business development. Therefore, to gauge the efficiency and effectiveness of the school businesses, the evaluation sought to establish the profitability of the businesses in the target schools. To this end, learners were asked whether their school business had made any profits. Seventy-six percent (76%) of programme-participating learners reported that their respective school businesses had made some profits; 18% reported no profits at all; and the rest (6%) said that they did not know. It is worth noting here that some schools (18%) were not making profits simply because production cycles of some businesses especially agricultural businesses take longer than an academic year and also some schools take longer than an academic year to set up their school business. This could be as a result

of a number of reasons, for example type of business, adverse weather conditions for these largely agricultural businesses, and also internal challenges within the school itself. To establish the impact of these profits on schools and students, the evaluation asked learners and teachers whose businesses had made some profits to state how they had used the profits. In response, they reported that the profits made were reinvested in the businesses, used to lend money to vulnerable students to pay school fees, buy scholastic materials, school uniforms and sanitary pads. In some cases, school businesses contributed maize flour and vegetables to supplement the provision of school meals for both teachers and learners. This shows that some school businesses are already serving to solve or at least mitigate some problems associated with poverty among the participants.

2.15 Proposals for improving delivery of the school enterprise challenge and performance of school businesses

In order to establish what could be done to improve the delivery of the School Enterprise Challenge and the performance of school businesses, learners were asked to propose what can be done in this regard. In response the following proposals were made;

- The most frequently proposed strategy for improving delivery of the School Enterprise Challenge and the performance of school businesses was offering material support to participating learners. This is a reflection of two factors: the relatively high levels of poverty among the participants and their families, and the dependency syndrome that characterizes Uganda society, and that is cultivated by top political leaders who create the impression that they are the sources of the material wellbeing of ordinary people.
- The second most popular proposal was that the operational capital of school businesses, especially the low-resourced ones, should be increased significantly.
- Another popular proposal was that the participants, both learners and teachers, should be sensitized and trained more intensively because most of the agricultural school businesses are operated using rudimentary methods and tools, largely on account of the participants' ignorance of modern farming methods and inability to afford better tools.
- Yet another proposal was that the school businesses should be managed more efficiently and effectively because many of the businesses are not efficiently operated, and as a result, they are not optimally productive or profitable. For example, most agricultural school businesses in Dokolo District are abandoned during the school holidays, leading to considerable wastage, loss and setbacks.
- Finally, it was recommended that agricultural school businesses should be provided with more land and agricultural inputs because most of them do not have enough land to practice impactful crop cultivation. For its part, the need for more agricultural inputs is partly a reflection of the shortage of capital that most school businesses are experiencing.

3.0 Conclusions

In view of the foregoing account, the study concludes as follows:

3.1 SEC and school attendance

- a) School Enterprise Challenge-participating learners are closely attached to their respective school businesses, which has helped them to maintain higher levels of school attendance relative to non-participating learners.
- b) While a greater percentage of girls than of boys miss school sometimes, largely because, in patriarchal Uganda, girls are expected to do most of the domestic chores, the number of school days lost by girls does not differ significantly from that lost by boys.
- c) Although a greater percentage of rural learners than of urban ones miss school sometimes, a greater percentage of urban learners than of rural ones lose 5 and more school days a term.
- d) Poverty is the main cause of learners' absenteeism from school, and it manifests itself in inability to afford basic requirements, such as school fees, school uniform, scholastic materials, and sanitary pads.
- e) There was only a slight improvement in learners' school attendance levels from the April 2019 baseline survey to the October 2019 evaluation.
- f) On average, the School Enterprise Challenge program has had a greater positive influence on the number of days lost due to absenteeism than it has had on the number of learners who missed school sometimes.
- g) Given that the primary and lower secondary school cycles are 7 and 4 years respectively, it was not possible to measure and produce statistically reliable school drop-out rates within less than a year (April – October). Besides, most schools never had documented records on school-dropouts; as a result it was impossible to track school dropout rates in the target schools.

3.2 Learners' knowledge of SEC and business principles and concepts

- a) Generally, programme-participating learners are much more knowledgeable of basic facts about, and principles of, the school business program than their non-participating counterparts, and their level of knowledge rose between the baseline survey and the evaluation.
- b) Programme-participating learners are significantly more knowledgeable about key business concepts than their non-participating counterparts, and their knowledge of those concepts improved between April and October, 2019.
- c) Programme-participating learners are significantly more knowledgeable than their non-participating counterparts about the process of generating a new business idea, and their knowledge increased from April to October, 2019.
- d) Female programme-participating learners (93%) were more knowledgeable than their male counterparts (86%) about the ownership and management of their respective school businesses.
- e) Rural programme-participating learners (91%) were slightly more knowledgeable than their urban counterparts (88%) about the ownership and management of their respective school businesses.

3.3 The school business and development of learners' soft skills

- a) Participation in the school business helps learners to develop their soft skills, and this was attested to by 75% of the programme-participating learners and a majority of lead teachers and key informants who observed that the soft skills of programme-participating learners were more developed than those of their non-participating counterparts.

3.4 The school business and learners' academic performance

- a) Participation in the school business increases learners' love and passion for, and performance in, STEM subjects, and this was attested to by:
 - (i) 92% of programme-participating learners who also proved that their passion and love for, as well as performance in, the same subjects had improved after they joined the school business, attributing these developments to the School Enterprise Challenge; and
 - (ii) 55% of the lead teachers who observed an improvement in the performance of their learners in Science subjects and Mathematics.
- b) Participation in the school business did not have a significant effect on the performance of learners in STEM-subject examinations, probably because:
 - (i) The teaching methods of STEM subjects are largely theoretical; and
 - (ii) Only 15% of the lead teachers teach STEM subjects.

3.5 Lead teachers' levels of knowledge and skills

- a) Most lead teachers have a strong grasp of the ownership and management principles as well as the nature and objectives of the school business, including the benefits they and their learners are expected to derive from School Enterprise Challenge.

3.6 Lead teachers' entrepreneurial development

- a) School Enterprise Challenge has a positive effect on participating teachers, and this was demonstrated by the fact that 95% of the lead teachers reported having established or expanded their own businesses.
- b) Participation in School Enterprise challenge helps lead teachers learn about business concepts and realities of running a business.
- c) Teachers participating in School Enterprise Challenge gain knowledge of experiential learning techniques and apply the techniques in real school businesses.

3.7 Profitability of school businesses

Most school businesses are operating profitably, though modestly so; generally, the profits are reinvested into the business and/or lent to needy members to help them pay for school requirements; and many agricultural school businesses are contributing to the feeding programs of their respective schools.

3.8 Proposals for improving the delivery of the programme and the performance of school businesses

The most frequently proposed strategies for improving the delivery of the School Enterprise Challenge and the performance of school businesses were: training School Enterprise Challenge participants more intensively and regularly; including School Enterprise Challenge activities in the school time table; increasing the working capital of school businesses; and managing school businesses more efficiently and effectively. Others were: enlisting the services of successful local entrepreneurs to act as their patrons, advisors and mentors for the school businesses; supporting school businesses to access funding from relevant government agencies and/or programs; and integrating practical business aspects in the teaching of science subjects and Mathematics. The proposal that relevant and "easy-to-understand reading materials" should be provided is more a reflection of the learners' literacy limitations than of the quality of reading materials provided by the programme.

3.9 Indicators for measuring the impact of Teach A Man To Fish

Given the long-term nature of impact, the phenomenon should be measured after a school has been implementing the program for given number of years; and the following indicators should be used:

- (i) The number of running businesses established by current and former, female and male, SEC-participating learners;
- (ii) The number of jobs created by current and former, female and male, SEC-participating learners; and
- (iii) The amount of profits made by businesses established by current and former, female and male, SEC-participating learners.

4.0 Recommendations

4.1 School Enterprise Challenge-learner participant recruitment

Teach A Man To Fish should hold sensitization sessions with District Education Officers, Head teachers and lead teachers on the need for learners' participation in school businesses to be voluntary; and learners should be sensitized about the programme before they are allowed to opt to join it or not to.

4.2 Learner enrolment, attendance and school cycle completion

Some of the secondary and long-term outcomes of Teach A Man To Fish's Theory of Change are to increase learner enrolment, school attendance and school cycle completion. According to the evaluation, these outcomes are being realised, though modestly in some schools. The use of school business profits to pay school fees, buy scholastic materials, school uniforms and sanitary pads are some of the reasons for increased school attendance and reduced absenteeism among programme-participating learners. However, to generate scientifically valid findings, the impact of the School Enterprise Challenge on learner enrolment and school cycle completion should be assessed only after a school has been implementing the programme for at least three years.

4.3 Teacher-skills development

While Teach A Man To Fish trains programme-participating teachers on basic business management principles and practices as well as means of accessing capital for small and medium enterprises, the evaluation identified varying levels of teacher skills, knowledge and understanding of these principles and concepts. This may lead to discordant implementation practices and outcomes. Therefore, Teach A Man To Fish should consider holding refresher-trainings for both lead teachers and co-lead teachers, increasing the length of the training period from 2 to 4 days in order to intensify the training of the teachers, and monitoring teacher-led training for quality control purposes.

4.4 Learner skills development

Although the evaluation established that Teach A Man To Fish's School-Business Model had helped participating learners to establish and run successful school businesses, acquire and improve their presentation, problem-solving, leadership and teamwork skills, for sustainability purposes, it is recommended that:

- (i) Teachers of STEM subjects, Agriculture, Commerce and Entrepreneurship should be encouraged to join the school businesses.

- (ii) The School Enterprise Challenge should promote learners' attachment/internship programs in appropriate businesses or agricultural farms to enable learners to improve their business knowledge and skills.
- (iii) Basic School Enterprise Challenge training for lead teachers and learners should include enterprise development, particularly value addition to agricultural products, such as food processing and packaging.
- (iv) School businesses should be encouraged to identify and enlist the services of successful local entrepreneurs to act as their patrons, advisors and mentors.

4.5 Learner performance in STEM subjects

It is further recommended that Teach A Man To Fish should:

- (i) Target teachers of STEM subjects and encourage them to join the programme and to relate their teaching to the activities of their respective school businesses in order to help students improve their performance in these subjects.
- (ii) Consider devising means of involving STEM-subject teachers in the School Enterprise Challenge, and improving their modes of delivery through workshops designed to improve teaching and learning of STEM subjects.
- (i) Devise means of supporting participating schools to acquire relevant child-friendly STEM-subject reading materials, partly through charitable organizations to facilitate learners' performance in STEM subjects, especially in low-resourced participating schools.

4.6 School business development and sustainability

- (i) Teach A Man To Fish should develop a database of agencies and companies that can provide appropriate information, training, marketing, mentoring and internship opportunities for school businesses, and make the data available to participating schools.
- (ii) Lead teachers should facilitate formal registration of fully established school businesses in order to promote business development and sustainability.
- (iii) Teach A Man To Fish should encourage school businesses to participate in national and district agricultural and general entrepreneurship shows so as to showcase their achievements, attract more young people and market their products to a wider community.
- (iv) Schools should support their businesses to acquire appropriate agricultural knowledge, skills and tools to enable farming businesses to rely less on rain-fed farming and to be more productive and profitable.
- (v) School businesses should be supported to access funding from relevant government agencies and/or programs, such as Operation Wealth Creation (OWC).
- (vi) Ministry of Education should partner with Teach A Man To Fish and take up School Enterprise Challenge as a core curriculum activity, and adopt a learner-centred approach for building children's entrepreneurship and life skills in primary and secondary schools.

4.7 Indicators to measure impact of Teach A Man To Fish

The following indicators should be used to measure the impact of Teach A Man To Fish:

- (i) The number of running businesses established by current and former, female and male, School Enterprise Challenge-participating learners;
- (ii) The number of jobs created by current and former, female and male, School Enterprise Challenge-participating learners; and

- (iii) The amount of profits made by businesses established by current and former, female and male, School Enterprise Challenge-participating learners.

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