



Influence of School Feeding Program on Enrollment of Pupils in Primary Schools in Kaliro District

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Abstract: *The study assessed the effectiveness of school feeding programs on enrollment of pupils in primary schools in Kaliro District. The descriptive design was used to determine scores for individual items in the school feeding program, while the correlational design was used to determine the relationship between the school feeding program and enrollment, retention, and cognitive ability acquisition. Questionnaires were used to obtain data from 93 respondents including teachers, pupils and headteachers. The researcher entered quantitative data into a Statistical Package for Social Sciences (SPSS) spreadsheet, transformed it into frequencies and percentages, and then present it in summary tables to show scores for individual items. Items for feeding programs and the three dependent variables were rated using mean on the 5-point Linkert scale. The school feeding programme has some favourable effects on the number of pupils enrolled in public primary schools. Effective enrollment is measured in terms of improved regular school performance, decreasing early departure from school, stimulating parents' desire to send their children to school due to the positive environment, inspiring pupils to follow programmes geared towards schooling, and reducing child labour as well as classroom attendance. Additionally, the school feeding programme has been found to enhance pupils' overall health and nutrition, leading to improved cognitive abilities and concentration in the classroom. Moreover, by providing nutritious meals to pupils, the programme helps address food insecurity and ensures equal access to education for all children, regardless of their socio-economic background*

Keywords: *School, feeding programme, pupils, Primary school, Kaliro District.*

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1. Introduction

According to Mohammed (2022), school feeding programs date back to the 1900s in two countries, Philadelphia and Boston, having realized a need for states to provide meals to pupils from poor families who enrolled in schools following laws for compulsory education of all pupils under 14, which started in the 1900s. Masset, Edoardo, & Aulo (2013) state that close to ten years after introducing a school feeding program, Boston reported the program enhanced the thinking capacity of pupils and also made

them physically fit, and this pointed to sustainable improvement in performance compared to times before.

This research is based on the notion that school feeding has various goals, one of which is to see consistent gains in academic achievement. The majority of school feeding papers, on the other hand, describe how school feeding has increased girls' enrolment and met pupils' nutritional needs (Awojobi, 2019). One of the main motivations for the establishment of school meals in areas like Kaliro District to boost academic performance, as Kaliro is usually lagging behind when it comes to academic achievement. School feeding effectiveness must therefore be evaluated so that the Ministry of Education, parents, and schools can

improve their advocacy or provide essential guidance if it is ineffective.

There have been reports of falling pupil academic performance in Kaliro District for many years, and there is hope that if the school feeding program is implemented, the problem of poor academic performance will be partially alleviated. According to the District Inspector of Schools Kaliro's annual report for 2017, the introduction of SFP would be a blessing to schools if parents played a central role in contributing food staples like beans and seed maize in kind if that is the preferred mode of contribution for that school (MoES, 2018). Unfortunately, many parents have never taken part in the program, and many of them believe that the government must meet all of the criteria for pupils. Many pupils go to school famished, and their concentration levels are low. This could probably be due to the possibility that knowledge concerning the effectiveness of school feeding programs on academic performance is not fully grasped by stakeholders. This study, thus, seeks to clearly state the rationale for the school feeding programs' effects on academic performance. The connection of school feeding programs specifically points towards enrollments, retention, and cognitive capacities, which are precursors to academic performance.

Objectives

The study was based on two objectives:

1. To establish the state of enrollment of pupils in the context of Kaliro District
2. To determine the influence of school feeding on the enrollment of pupils in Kaliro District

2. Literature Review

According to the United Nations World Food Programme, 66 million primary school-age children go hungry every day, with 23 million hungry children in Africa (KILIÇ, 2022). Furthermore, 80% of these 66 million children are concentrated in just 20 countries. Additionally, 75 million school-age children (55% of them girls) do not attend school, with 47% of them living in sub-Saharan Africa (Atobatel, 2021). Thus, the need to reduce hunger while increasing school enrollment for these children is evident, and school feeding has been developed to target this multifaceted problem (Emelyn, 2016). Schools have become a natural and convenient setting for the implementation of health and education interventions. School feeding is just one facet of school health initiatives, as other programs may include de-worming, HIV/AIDS prevention and education, and life and health skills education.

Every day, countless children across the globe turn up for school on an empty stomach, which makes it hard to focus on lessons. Many simply do not go, as their families need them to help in the fields or around the house. For all of them, having food at school every day can mean not only better nutrition and health but also increased access to and achievement in education. It is also a strong incentive to consistently send children to school. In 2018, 16.4 million schoolchildren benefited from nutritious WFP meals and snacks. It also built the capacities of 65 governments, which led to improved national school feedings for another 39 million children (Alejandro, 2018).

Atobatel, (2021) identifies that school feeding is of two types (on-site meals and take-home rations), which differ in the way children benefit from them. Smith (2018) reveals that on-site meals are foods such as porridge or nutrient-fortified crackers distributed to children while at school in the morning and afternoon, while take-home rations are basic food items such as rice and cooking oil sent home and transferred to families of children who regularly attend school.

While school meals are provided by the governments of most high- and middle-income countries around the globe, the children who may benefit most from school feeding are in low-income countries that do not have government-provided school meals (Viner et al., 2020). School feeding in low-income countries often starts with funding by international organizations such as the United Nations World Food Programme or the World Bank or national governments through feeding arrangements such as the McGovern-Dole International Food for Education and Child Nutrition. However, some governments have first started school feeding and then requested the help of these organizations and programs. Additionally, many countries have "graduated" from their dependency on foreign assistance by reshaping their school feeding to be country-led and self-supported (Taillie et al., 2019).

During crises, school feeding successfully meets basic nutritional needs while getting children back to the classroom (Viner et al., 2020). In Egypt, Jordan, and Lebanon, school feedings are helping Syrian refugee children improve their nutrition and continue their education, investing in their own and the region's future. Beyond improvements in access to food, school feeding also has a positive impact on nutritional status, gender equity, and educational status, each of which contributes to improving overall levels of country and human development (Viner et al., 2020).

A study by Mastewal, Samson, Carol, and colleagues (2018) investigated the effects of SFP on school attendance of pupils in Boricha district, Southern Ethiopia, and a specific assessment was made on the effects of SFP on Dietary Diversity Score (DDS), class attendance rate,

Body-Mass-Index for age (BAZ), and height-for-age (HAZ) Z-scores were assessed using a multivariable linear regression model. Findings indicated that absenteeism was reported more frequently among non-beneficiaries (91.0%) than beneficiary pupils (49.7%). The main reported reason for absence among non-beneficiaries was hunger (42.8%), while the leading reason in the other group was domestic workload (27.6%). However, Mastewal et al.'s (2018) findings lack an explanation for the enrollment rate. In this study, the researcher has an assumption that SFP helps to inspire pupils to attend school, and based on the study in Ethiopia, if SFP enhances attendance, then it is OK to establish how it relates to enrollment.

Atobatel (2021) conducted a study in Ghana schools and established that school-feeding programs brought about a general increase in enrolment in programme schools. In their study, Atobatel (2021) reported that statistics show an excess in yearly enrolment targets set by CRS/Ghana between 2004 and 2007 in that, whereas 153,146 and 137,253 pupils were targeted in 2004 and 2007, actual enrolment was 192,049 and 226,026, showing an increase of 25% and 64%, respectively. In a place like Kaliro District, where the SFP was just introduced, there is a need to establish whether, like Ghana, the enrollment rate increases courtesy of the school feeding program.

Another study conducted in Jamaica shows that school meals do indeed improve the education of beneficiaries (Atobatel, 2021). They found that school performance indicators (enrollment, attendance, dropout rate, repetition of grades, school attainment levels, cognitive function, and classroom behavior) have all improved in response to school feeding. This is because the provision of school meals reduces the parents' cost of sending pupils to school, thereby promoting early enrollment and improving attendance. The more time pupils spend on learning in response to school meals, the more they will learn and the less they repeat school or dropout. Other studies on school meals have cast doubt on whether there is any positive impact on school participation. Grantham (Ibid), for instance, found that the WFP assisted School Feeding Program (what he calls the standard program) does not increase enrollment at any level compared to control schools.

Awojobi (2019) reveal that school meals affect the age at entry in different ways. First, the provision of food offsets

the cost of educating pupils by making available additional income for households and consequently raising the benefits of attending school. When this income effect is large, it can cause households to send their pupils to school at a relatively younger age, thereby minimizing the possibility of late entry. Secondly, the "neighborhood effect" resulting from the school feeding program may also influence the age at entry. That means the act of households to send their pupils to school earlier with the commencement of the school feeding program would create social pressure and (Awojobi, 2019).

Another study on 32 Sub-Saharan African countries shows that providing food in schools under the Food for Education (FFE) scheme contributed to increasing absolute enrollment in WFP assisted schools by 28% for girls and 22% for boys in just one year (Khama, 2022). After the first year, however, the enrollment pattern showed variation depending on the type of FFE program; that is, whether the provision of food in school was combined with take-home rations or was served alone. In those places where on-site feeding and take-home rations were offered together, girls' absolute enrollment kept on increasing by 30% in the subsequent years (Khama, 2022). Meanwhile, schools that provided only on-site feeding have just recorded an increase in absolute enrollment that was the same as before the feeding program was implemented.

3. Methodology

3.1 Research design

The descriptive design was used to determine scores for individual items for school feeding program, while the correlational design was used to determine the relationship between the school feeding program and enrollment, retention, and cognitive ability acquisition. The study thus used a blended approach to collect both qualitative and quantitative data from respondents.

3.2 Study population

This study population was divided into several categories, namely; the District Inspector of Schools (DIS)-Kaliro, the heads of selected schools, teachers, and primary seven pupils, as shown in Table 1.

Table 1: Study Population

| No | Category | Number |
|----|---------------|--------|
| 1. | DIS | 01 |
| 2. | Head teachers | 05 |
| 3. | Teachers | 65 |
| 4. | Pupils | 50 |
| 5. | Total | 121 |

Source: Primary schools in Kaliro Town Council

3.3 Sample size and techniques

The researcher determined the sample for this study using Yamane (1978) formula as follows.

$n = \frac{N}{1+N(e)^2}$ where n = sample size to be calculated, N the total population targeted (121) and e = percentage of expected error made in selecting sample (5% or 0.05), and 1 is representative of any missing respondent who might have been left out because he or she may be absent from the study area by the time of the study.

$$\begin{aligned} \text{Therefore, } n &= \frac{121}{1+121(0.05)^2} \\ &= \frac{121}{1+121 \times 0.0025} \\ &= \frac{121}{1+121 \times 0.0025} = \frac{121}{1.3} = 93 \text{ respondents} \end{aligned}$$

Therefore, the study generated results for 93 respondents.

Proportion of each category

$$\begin{aligned} \text{DIS} &= \frac{1}{121} \times 93 = 0.76 \sim 1 \\ \text{Head teachers} &= \frac{5}{121} \times 93 = 3.8 \sim 4 \\ \text{Teachers} &= \frac{65}{121} \times 93 = 49.9 \sim 50 \\ \text{Pupils} &= \frac{50}{121} \times 93 = 38.4 \sim 38 \end{aligned}$$

3.4 Techniques of Sampling

The researcher employed a variety of sampling techniques, including stratified sampling, which were used to categorize the study population by gender and designation characteristics. This sampling technique is critical for the study because it is the most effective at selecting a sample population with appropriate representation based on their various characteristics. Purposive sampling was also used, specifically to include the DIS and school leadership.

These authorities are supposed to be directly included as the sole representatives of schools and districts, whose responsibility it is to oversee their respective jurisdictions. Simple Random sampling was used specifically to select individual respondents especially from the categories of teachers and pupils.

3.5 Data collection instruments

In this study, the researcher created and administered structured self-administered questionnaires along with some unstructured questions in order to collect authentic data from teachers and principals. The questionnaire was divided into sections to elicit feedback on specific aspects of reading abilities.

The unstructured questions were set the pace for respondents to express their opinions based on their observations of the situation before and after the implementation of the school feeding program. As is the case with the questionnaire, the responses from the interviews were not influenced by any opinions..

3.6 Data Analysis

The collected data were coded and grouped thematically for easy analysis and reporting. The researcher entered quantitative data into a Statistical Package for Social Sciences (SPSS) Version 23 spreadsheet, transform it into frequencies and percentages, and then present it in summary tables to show scores for individual items.

4. Results and Discussion

This subsection is subdivided into two parts. The first part presents results about enrollment of pupils, and the second part indicates the influence of the school feeding program on enrollment of pupils. Table 2 shows results for enrollment and the interpretation of Mean scores is such that: 1.00-1.80 –Strongly Disagree, 1.81-2.60 –Disagree, 2.61-3.40 - Neutral, 3.41- 4.20 - Agree, and 4.21-5.00 – Strongly Agree.

Table 2: Results about enrollment of Pupils in Public Primary Schools in Kaliro TC

| No. | Enrollment School feeding assists in: | | A | N | D | M | SD |
|-----|---|---|-------|-------|-------|------|------|
| 1. | Increasing in enrolment at schools where meals are served | F | 58 | 3 | 28 | 3.31 | 1.59 |
| | | % | 64.7% | 3.4% | 31.8% | | |
| 2. | Encourages punctuality | F | 59 | 00 | 29 | 3.23 | 1.55 |
| | | % | 67% | 00% | 33% | | |
| 3. | Enhancing regular pupil attendance of school | F | 53 | 9 | 26 | 3.25 | 1.54 |
| | | % | 60.2% | 10.2% | 29.6% | | |
| 4. | Pupils' stay in school because of provision of meals | F | 56 | 6 | 26 | 3.37 | 1.62 |
| | | % | 63.6% | 6.8% | 29.6% | | |
| 5. | Reducing departure from school before time | F | 55 | 6 | 26 | 3.33 | 1.58 |
| | | % | 63.7% | 6.8% | 29.5% | | |
| 6. | Steams up the parents' desire to teach children | F | 52 | 9 | 27 | 3.35 | 1.63 |
| | | % | 59% | 10% | 31% | | |
| 7. | Encouragement amongst pupils themselves to study | F | 52 | 8 | 28 | 3.31 | 1.61 |
| | | % | 59.1% | 9.1% | 31.8% | | |
| 8. | Relieving parents of breakfast and lunch for children at home and encourage them to attend school regularly | F | 52 | 9 | 27 | 3.28 | 1.59 |
| | | % | 59% | 10% | 31% | | |
| 9. | Reducing child labour that interferes with children school life is checked through school feeding | F | 60 | 6 | 22 | 3.55 | 1.49 |
| | | % | 68.2% | 6.8% | 25% | | |
| 10. | School feeding enhances regular classroom attendance | F | 55 | 5 | 28 | 3.43 | 1.47 |
| | | % | 62.5% | 5.7% | 31.8% | | |

Source: Field data August, 2022

Findings about enrollment, as indicated in Table 2, indicate variations in scores for the individual items. The idea that school feeding increases enrollment at schools where meals are served was rated cumulatively with 64.7% of responses in agreement, 3.4% neutral responses, and 31.8% of responses in disagreement. The results were evaluated with a mean and standard deviation ($M = 3.31$; $SD = 1.59$), thus producing neutral results. This means that as far as increasing enrollment is concerned, school feeding has an average contribution. The results were supported by findings from headteachers in that one of the headteachers stated;

With all this ongoing lack of food security in families, especially following the COVID-19 outbreak, families are very eager to associate themselves with places where meals are served. Parents with studying children take their children to boarding and day schools where meals are served. By doing so, they will be sure that a large family will only eat during supper time and on weekends when they are at home.

The results are in line with findings according to Awojobi (2019), which established that school-feeding programs brought about a general increase in enrollment in program schools. In their study, Awojobi (2019) reported that statistics show an excess in yearly enrolment targets set by CRS/Ghana between 2004 and 2007 in that, whereas

153,146 and 137,253 pupils were targeted in 2004 and 2007, actual enrolment was 192,049 and 226,026, showing an increase of 25% and 64%, respectively.

Further, findings as per Table 4.5 indicate that school feeding increases the punctuality of pupils in public primary schools in Kaliro District. This statement is justified by the cumulative rating of the results, whereby 67% of the responses agreed compared to 33% in disagreement. The results were evaluated with a mean and standard deviation ($M = 3.23$; $SD = 1.55$). The mean evaluation shows a neutral grading of results. Therefore, the level at which school feeding explains the punctuality of pupils is still average. This is not surprising given that there are still 33% of the responses that show that school feeding does not enhance punctuality. These results are in contradiction with findings by KILIÇ (2022), which stress that school feeding introduces a kind of thinking among pupils that meals served at school are more nutritious than meals at home and thus lets pupils attend school early enough not to miss such additional benefits as breakfast and lunch.

In addition, findings in Table 2 indicate a rating for the view that school feeding assists in enhancing regular pupil attendance at school. This aspect of enrollment was rated with cumulative scores of 60.2% of responses that agreed,

10.2% of neutral responses, and 29.6% of responses that disagreed. The evaluation of these results with mean and standard deviation indicated that $M = 3.25$ and $SD = 1.54$. The results thus imply neutral grading, just like in the previous paragraph. The qualitative results also reflect this aspect of school feeding and one of the headteachers stated;

In schools where feeding is available for pupils, it is rare to find many pupils in school. This is because what normally happens is that as pupils move long distances on foot from their respective homes to their schools of study, time comes when they get tired and start missing school, especially if they do not get lunch and supper meals some days. In this case, you will not expect a child to attend school regularly.

The study results are not totally in agreement with Tsion (2021), who identified that a school feeding program (SFP) is a targeted social safety net intervention that may provide both educational and health benefits to socio-economically disadvantaged schoolchildren. The benefits include alleviating short-term hunger, increasing school enrollment, and reducing school dropout and absenteeism.

More results revealed that the effect of the school feeding program on pupils staying in school varied among responses. Cumulatively, 63.6% of the responses agreed, 6.8% were neutral responses, and 29.6% disagreed. Though the majority of the respondents agreed, the mean and standard deviation ($M = 3.37$ and $SD = 1.62$) reflect neutral results. This interpretation points to the 29.5% result in disagreement, which is not a small percentage and requires attention if school feeding should define pupils' stay in school. Adelman *et al.* (2008)'s relative study indicates that school meals affect the age at entry in different ways. First, the provision of food offsets the cost of educating children by making available additional income for households and consequently raising the benefits of attending school. When this income effect is large, it can cause households to send their children to school at a relatively younger age, thereby minimizing the possibility of late entry.

In the same vein, the study investigating whether school feeding reduces pupils' early departure from school received a cumulative rating of 63.7% of responses in agreement and 29.5% of responses that disagreed. These results were evaluated with a mean and standard deviation ($M = 3.33$ and $SD = 1.58$). This evaluation indicates that the results are neutral. Similarly, the idea that school feeding streams up parents' desire to teach children had a cumulative rating of 59% of responses that agreed against 31% that disagreed, and the evaluation of these results with mean and standard deviation was ($M = 3.35$ and $SD = 1.63$). From the qualitative results, it is also indicated that

availability of school feeding instills the desire to teach among parents. i.e.,

Every parent would like their children to be taught in schools that do not tolerate their good health. In this case, some schools that have gone ahead to promote the bringing of solid food such as potatoes and others that have advocated for the planting of bananas and maize have highly attracted the attention of parents to take their children to such schools, mostly for the nutritional gains and then the desire to see children not study on empty stomachs.

The results also indicate neutral responses. In line with these findings, a study conducted in Jamaica shows that school meals do indeed improve the education of beneficiaries (McGregor, Chang, & Walker, 1998). They found that school performance indicators (enrollment, attendance, dropout rate, repetition of grades, school attainment levels, cognitive function, and classroom behavior) have all improved in response to school feeding. This is because the provision of school meals reduces the parents' cost of sending their children to school, thereby promoting early enrollment and improving attendance.

The results concerning the idea that school feeding programs create courage among pupils themselves received a cumulative rating of 59.1% of responses that agreed, 9.1% of neutral responses, and 31.8% of responses that disagreed. The evaluation by mean and standard deviation ($M = 3.31$ and $SD = 1.61$) indicated that the results have a neutral grading. Additionally, the idea that school feeding reminds parents of breakfast and lunch for children at home, thus enhancing regular attendance, was rated cumulatively with 59% of responses in agreement, 10% in neutral, and 31% in disagreement. The evaluation by mean and standard deviation ($M = 3.28$ and $SD = 1.59$) reveals neutral responses. Concerning the issue of courage, findings from one of the headteachers indicated;

When pupils gather for either a break or lunch, the spirit of unity embraces them, and they do everything together. Therefore, it is from such gatherings that they keep encouraging each other to attend school the following days, given that each time they go to school, they meet and share at meal time. Some of these pupils become friends for the first time at meals and extend the union to classrooms, which is vital for academic excellence.

The results receive highlights as per Mastewal, Samson, Carol, and colleagues (2018), revealing that school performance indicators (enrollment, attendance, dropout rate, repetition of grades, school attainment levels, cognitive function, and classroom behavior) have all improved in response to school feeding. This is because the provision of school meals reduces the parents' cost of

sending their children to school, thereby promoting early enrollment and improving attendance.

From the findings as per Table 2, the view that school feeding contributes to the reduction of child labor, which interferes with children's school life and thus encourages enrollment, was rated cumulatively with 68.2% of responses that agreed, 6.8% of neutral responses, and 25% of responses that disagreed. The evaluation of these results using mean and standard deviation ($M = 3.55$ and $SD = 1.49$) places the results in the agreement zone; thus, rather than staying home to carry out agricultural production, children now have the chance to regularly attend and remain in school. In the same vein, the view that school feeding enhances classroom attendance received a cumulative rating of 62.5% for agreeing, 5.7% for neutral responses, and 31.8% for disagreeing. The evaluation of

these results ($M = 3.43$ and $SD = 1.47$) revealed that the results were in the zone of agreement. In this case, school feeding enhances school attendance and, at the same time, classroom attendance. Quoting from McGregor et al. (1998), the more time children spend on learning in response to school meals, the more they will learn and the less they repeat school or drop out. Other studies on school meals have cast doubt on whether there is any positive impact on school participation.

The results in Table 3 were strengthened by correlation coefficients to indicate the relationship between the school feeding program and the enrollment of pupils in public primary schools in Kaliro District. The relationship between the two was determined to serve as a general explanation of the objective.

Table 3: Relationship between School feeding and enrollment of Pupils

| | | Enrollment |
|------------------------|---------------------|------------|
| School feeding Program | Pearson Correlation | .281** |
| | Sig. (2-tailed) | .008 |
| | N | 88 |

** . Correlation is significant at the 0.01 level (2-tailed).

According to findings in Table 3, there is a significant positive statistical relationship ($r = .281^{**}$; $p = .008$) between the school feeding program and the enrollment of pupils in public primary schools in Kaliro District. By implication, the school feeding program contributes to a 28.1% improvement in school enrollment. The percentage contribution is weak due to the realization that some aspects of enrollment resulting from school feeding reflected neutral evaluation and others were evaluated with disagreeable results. There, the school feeding program is still weak at enhancing the enrollment of pupils.

5. Conclusions and Recommendations

5.1 Conclusion

The state of the school feeding program in public primary schools in Kaliro Town Council is to the effect that meals are provided for pupils on a daily basis, there is a policy guideline to make follow-up of implementation of the school feeding program, the international community normally comes in to render necessary support due to inadequate budget capacity, community mobilization of resources is a priority, and teachers are served meals at appropriate hours of the day. This creates an understanding that many schools in Kaliro Town Council demonstrate the availability of the school feeding program. The school

feeding program has some favorable effects on the number of students enrolled in public primary schools. Effective enrollment is defined as increasing enrollment, improving regular school performance, decreasing early departure from school, stimulating parents' desire to send their children to school due to the positive environment, inspiring students to follow programs geared toward schooling, and reducing child labor as well as classroom attendance.

5.2 Recommendations

It is important to ensure that the meals provided are nutritious and meet the dietary needs of the children. Additionally, implementing a regular and consistent feeding program can help to establish routine and encourage attendance.

Moreover, involving the local community and parents in the planning and implementation of the feeding program can help to create a sense of ownership and support. Monitoring and evaluating the program's impact on enrollment can provide valuable insights for continuous improvement.

By regularly assessing the program's impact on enrollment, it becomes possible to identify any potential gaps or areas for improvement. For instance, if there is a significant

increase in attendance following the implementation of the feeding program, it could indicate that the meals are indeed meeting the children's dietary needs and acting as an incentive for them to come to school.

On the other hand, a decline in enrollment might suggest that further adjustments are needed to ensure the program's effectiveness. Successful monitoring and evaluation can ultimately lead to a more refined and efficient feeding program that not only nourishes the children but also contributes to their overall educational experience.

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