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Full Length Research Paper

Effect of SESEMAT Program on Professional Competency of Mathematics and Science Teachers: A Case of In-Service Secondary School Teachers in Busoga Region, Uganda

Muhamadi Kaweesi[1]*, Aisha Mbeya[2], and Musa Kasiita[3]

[1]Department of Education, Faculty of Science and Education, Busitema University.
[2]Department of Curriculum and Teaching Methodologies**,** Gezira University, Sudan.
[3]Department of Educational Management and Administration, Islamic University in Uganda.
Corresponding Author E-mail: ahmedkaweesi98@gmail.com/mkaweesi@sci.busitema.ac.ug;
Orcid Id: https://orcid.org/0000-0003-4799-3807

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ABSTRACT: The Professional competencies are required to achieve the institution's goals. As a result, the study looked into the effects of the SESEMAT program on the professional competencies of secondary school mathematics and science instructors. A descriptive survey design with quantitative research methods was used. The study was conducted in the Busoga region, with 270 government and private secondary schools, 1040 science and mathematics instructors, 160 chosen using a selective selection technique, and 10 secondary schools chosen at random. A self-administered questionnaire to instructors was used to collect data. To analyze quantitative data, descriptive statistics were utilized, and chi-square tests were performed using SPSS version 17. SESEMAT exercises, according to teachers' perspectives, strengthened interpersonal relationships with other instructors in schools. There was no difference in how science and mathematics trained teachers perceived the benefits of the SESEMAT activities. Teachers in both private and public schools should be encouraged to attend SESEMAT INSETS to develop the competencies required for classroom delivery. According to the findings, secondary school principals should endeavor to modify teachers' attitudes regarding the implementation of SESEMAT professional competencies.

Keywords: In-service training, SESEMAT, professional competency, secondary schools

INTRODUCTION

Teachers must have workplace qualities such as teamwork skills in order to properly interact with school stakeholders (Scott, 2015). This involves educational systems keeping up with changing times as workplaces transition from an industrial production paradigm to one that is rapidly evolving, technology-driven, and globally interconnected knowledge. According to USA Life (2016), there is more data on how to use technology to improve learning. Today's students want an education system that is more tied to and relevant to their daily lives. As a result, the SESEMAT program emphasizes certain professional abilities such as lesson introduction skills, planning, goal-setting, and communication skills, resulting in a transition from a teacher-centered to a learner-centered approach. Competencies are underlying characteristics that describe how a superior brings knowledge, values, and talents to the workplace (Palan, 2003). The Organization for Economic Cooperation and Development (OECD) has urged governments to make an effort to properly identify and conceptualize the set of skills and competencies needed so that they can be incorporated into educational standards that every student should be able to achieve by the end of compulsory education (Ananiadou and Claro, 2009:5).

The Japanese International Corporation Agency launched SESEMAT in Uganda in 2005 to address challenges of poor performance in biology, physics, chemistry, and mathematics. The program was designed to retrain in-service science and math teachers in order to improve their teaching skills and abilities. As a result of the SESEMAT program, science and mathematics teachers will obtain professional abilities in terms of lesson design and delivery. Teachers, on the other hand, have varying reactions in their departments (Manabi et al., ,2012). In Japan, around 100 instructors were initially trained in current scientific and mathematics teaching approaches. This would improve the quality of science education (Uganda ministry of education and sports report, 2013).

According to the Uganda Ministry of Education and Sports, senior secondary school teachers must have competency, topic understanding, pedagogical expertise, and professional growth in order to help pupils study more effectively. In 2010, Uganda's ministry of education and sports conducted an examination of the educational system's flaws, finding insufficient teaching practice as one of the most important issues in schools.

This issue was attributed to a lack of coordinated continuous in-service education training as well as insufficient initial teacher training. As part of the SESEMAT program, teachers in government and private secondary schools in the Busoga sub-region receive in-service training, which is a sort of professional development, at the end of each year. Teamwork, attitudes, and hands-on and mind-on activities are among the subjects covered by teachers. They learn how to organize, administer, and revise lessons as a group in order to improve their scientific and mathematics skills (message from the SESEMAT chairperson).

The SESEMAT program has several goals, including analyzing existing science and mathematics teaching techniques in secondary schools in order to develop strategies for utilizing teamwork for effective science and mathematics teaching and learning, as well as shifting from teacher-centered to learner-centered teaching and learning. However, a classroom observation evaluation exercise conducted in March 2008 by the SESEMAT national office in the pilot districts of Iganga, Butaleja, and others found little evidence of collaboration. The examination also discovered that the teachers did not apply their SESEMAT professional competencies. The skills of lesson introduction, communication, inventiveness, preparation and planning, and team teaching were not done effectively. This could be because of a change in their attitudes or the impact of SESEMAT in-service training on their teaching.

According to Ishola (2015), the method taken by science teachers in the classroom, as well as recent poor performance on national science and mathematics assessments, are strong evidence that learning is not taking place successfully, as intended under the SESEMAT program. As a result, an immediate evaluation of the SESEMAT program's influence on the professional competence of mathematics and science instructors is required. This is due to an apparent mismatch between what teachers do in the classroom and what they are meant to accomplish in terms of planning, teaching, organizing hands-on activities, and ensuring that students learn the necessary skills in the appropriate manner. The goal of this study was to see how SESEMAT exercises affected the professional competency of in-service mathematics and science teachers in Uganda's Busoga region.

The study was guided by the following research question:

1. What is the perception on the benefit of SESEMAT activities on professional competencies of mathematics and science teachers in secondary schools in Busoga Region?
2. What is the difference between mathematics and Science trained secondary school teachers in the Busoga Region's perception on the benefits of SESEMAT professional competency?

Literature review

This section contains a review of the literature on the SESEMAT program's activities and secondary school teachers' professional competencies. According to Boyatzis et al. (2002), competence is a basic attribute of a person that includes intentions, traits, abilities, aspects of image or social role, and information that a person may use. The SESEMAT program was introduced to improve the teaching abilities of science and mathematics teachers at the secondary school level. Science, in this case, is an umbrella term for biology, chemistry, physics, and mathematics (Katamei and Omwono, 2015).

SESEMAT program and professional competencies of Teachers

The SESEMAT curriculum consists of a series of workshops for in-service science and math instructors. It provides requirements for teachers to follow, including teamwork, hands-on activities, and innovativeness. This study assessed secondary school teacher competencies based on teacher responses to how they prepare and plan lessons; the clarity of lesson objectives; the appropriateness of the lesson introduction; lesson content; teacher communication; the use of appropriate teaching resources; student support and encouragement; classroom management; consolidation; and evaluation. Several scholars have also studied teacher in-service training and professional competency.

Gacohikiman et al. (2005) conducted a study in Kenya to determine the extent to which teachers practiced the principles, skills, and knowledge they learned in the SMASS INSET program during their teaching and whether there was a relationship between teacher characteristics and the level of adoption of the principles, skills, and knowledge learned. The study found that instructors used the principles, skills, and information they learned while teaching, and that individual teacher characteristics had no effect on the adoption of SMASSE INSET. According to the report, principals should put in place procedures to guarantee that teachers apply all of the principles, skills, and information learned at SMASSE INSET. Mareike (2013) investigated teacher pedagogical topic matter, professional rewards, work-related motivation, and self-control as a professional competency trait. It investigated how these characteristics, in particular, affect instruction. The study discovered that teachers' pedagogical content knowledge, excitement, and self-regulation abilities improve instructional quality. One of the most important activities in the SESEMAT program's classroom is the teacher's understanding of the topic content. In 2014, Safi conducted a survey in Afghanistan to learn about Afghan teachers' perceptions of the efficiency of in-service training courses offered by the teacher education department. The study discovered that it is vital to assess the demands of teachers before producing any type of training materials. In order to build and run effective programs, scientific methodologies should be used to analyze needs, select materials, and assess training. Similarly, the SESEMAT program trains teachers to be resourceful in the classroom. This facilitates the implementation of hands-on and mind-on activities. According to Smith's (2015) research at the University of Canterbury in New Zealand, a positive relationship between teachers is critical when implementing collegial feedback and a community of learning approach to professional development. Teachers can also benefit greatly from sharing their own experiences and being open to criticism. This relates to the critical thinking ability of the SESEMAT program. Furthermore, the study discovered that developing a culture of trust through teamwork is essential, but it requires strong relationships among teachers. In an Austrian study on the rise of teaching quality, Gore et al. (2017) investigated the impact of a pedagogy-based collaborative professional development method on teaching quality. The study shows strategies for improving teacher learning in order to increase teaching quality and morale. The study focuses on collaborative professional development, which is also emphasized by SESEMAT program activities such as team-teaching abilities, which are a vital competency. Iwuagwu and Aiwuyo (2017) investigated principals' assessments of the effects of in-service training on effective classroom supervision and teacher-student relationships. According to the findings, in-service training was employed as a tool to assist educators in achieving their educational goals of learning and skill development. It was proposed that teachers participate in a structured in-service training course on a regular basis to keep their skills up-to-date, motivate them, and improve their teaching talents. It is evident during SESEMAT courses when the teacher offers student assistance and encouragement to all pupils. In-service Professional Development (IPD) is a contributing factor to students' higher level of academic performance, according to Ajani, Samantha, and Maluleke (2018) study in Lagos State, Nigeria; it empowers teachers with instructional tasks and delivery skills that make them competent, thereby achieving the expected goals of education. Workshops, seminars, lesson studies, and conferences can all be used to foster the necessary skills, knowledge, attitudes, and values for delivering great education in the classroom. Based on the reviewed literature, Gacohikiman et al. (2005) focused particularly on the extent to which teachers applied the principles, skills, and knowledge they learned in the SMASSE INSET program in the course of their teaching. Mareike (2013) conducted research on teacher pedagogical topics, professional rewards, work-related motivation, and self-control as a feature of teacher competency. However, in the current study, instructors used a closed-end questionnaire to grade themselves on how the SESEMAT program, which consists of a series of workshops, influences their teamwork, hands-on mind-on activities, and innovativeness in their departments. The effect of the SESEMAT program on the professional competency of the mathematics and science teachers in secondary schools in the Busoga sub region was studied through their responses. This may help to bring out new revelations among the teachers of the SESEMAT program.

Major objective

This paper seeks to establish the effect of SESEMAT Program on Professional Competency of Mathematics and Science Teachers: A Case of In-Service Secondary Schools Teachers in Busoga Region, Uganda.

METHODOLOGY

Research design

According to Claybaugh (2020), research design is an overarching strategy for research that offers a succinct and logical method for answering identified research questions through data gathering, interpretation, analysis, and discussion. A descriptive survey design with quantitative research methods was used. Using this approach saved time and ensured that all respondents were represented. It was also useful to collect information regarding teachers' attitudes and behaviors, as well as firsthand knowledge of the anticipated answers (Kakooza, 2000). This design acquired quantitative data,

Table 1: Selection of teachers of science, mathematics and school.

Category of teachers/Schools	Population	Sample Size	sampling technique
Science and mathematics teachers	1040	160	Purposive sampling
Secondary schools	270	40	Random sampling

Table 2: Reliability statistics

Cronbach's Alpha	N of Items
0.859	47

which was subsequently analyzed scientifically and descriptively.

Population and sampling of the study

The research was carried out in the Busoga sub-region, which has 270 secondary schools and 1040 science and mathematics teachers. The ministry of education and sports provided the list of secondary schools (Uganda School Guide, http://ugandaschoolguide, p.1). These schools were chosen through a random sampling process. Yamane's formula (1967) was used in the calculations to determine the most acceptable sample size, n = N1 + N(e)2, where n is the sample size to be determined, N is the mother population, which is, 1 represents likely omissions, and (e) stands for acceptable error, which is typically taken to be 5% or 0.05. The target sample of physics, biology, chemistry, and mathematics teachers was chosen using a purposive selection procedure, resulting in a sample of 160 respondents. Table 1 shows the selection of teachers of science and mathematics and the category of schools selected.

Instruments of the study

A self-administered, closed-ended questionnaire served as the study's tool for teachers. This was chosen because it has the potential to eliminate discrepancies and save time (Amin, 2004). The questionnaire was designed to examine both the instructors' responses to the SESEMAT program and their professional competencies. It would also generate normative data that would be useful for study. These sub-sections contained the responses. Section A focused on respondents' bio-data, while Section B included statements about SESEMAT activities and teachers' professional competencies. C had statements for SESEMAT mathematics teachers, while D contained statements for SESEMAT science teachers. To have quantities, the Likert scale measurements of Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), and Strongly Agree (SA) were utilized.

Validity of the research instruments

The content validity of the instruments was accomplished through the judges' reasonable study of the questionnaire. The judges were familiar with the concept of interest, and the judges specifically assessed all of the items for readability, clarity, and comprehensiveness, reaching some level of agreement on which items were included in the final instrument. Before it was ready for a pilot test, the questionnaire was given to a researcher assistant and two other judges to see if the questions were appropriate in connection to the variables and objectives of the study.

Reliability of the instruments

This was computed using Cronbach's Alpha Coefficient. Specifically, coefficient alpha was calculated in the study because it was typically used during scale development with items that have several response options (1-strongly disagree to 5-strongly agree). The reliability scale analysis was established as seen below:

$$CVI = \frac{\text{Agreed items by all the judges as suitable}}{\text{Total number of items being judged}}$$

The content validity index (CVI) computed for the questionnaire was approximately 0.859 by SPSS. For the instrument to be accepted as valid, the average index should be 0.7 or above (Amin, 2004). The data was tested for reliability and it was found that the Cronbach's Alpha was 0.859, which is approximately 85.9%, implying that the tool was reliable for data collection. Table 2 shows the reliability of the research instrument.

Statistical treatment of the data

Data analysis

The analytical approach of the statistical package for social scientists (SPSS) program was used to conduct quantitative data testing, which comprised descriptive statistics and the computation of chi-square tests. These were chosen because they aided the researcher in

Table 3: Responses on SESEMAT Activities and professional competences of Teachers

Competences of teachers	Disagree		Neutral		Agreed	
	Freq.	%	Freq.	%	Freq.	%
SESEMAT teachers gain skills and knowledge	26	16	13	08	121	76
Head teacher determines SESEMAT activities	6	04	21	13	133	83
Participating in annual SESEMAT workshops affect teaching skills.	10	06	8	05	142	89
SESEMAT improves interpersonal relationship	3	2	8	05	149	93
Participating in workshop help in attaining skills	5	03	10	06	145	91
Teachers reflect on experience of other teachers in the SESEMAT training	5	03	15	09	139	87
Eager to change teaching methodologies in class	5	03	20	13	135	84
SESEMAT methodologies require a lot of time in terms of planning and scheduling	5	03	16	10	139	87
SESEMAT mentoring encourage experiential learning	6	04	12	08	142	88
Motivated to use new methodologies of team teaching	8	05	14	09	138	86

determining the effect of the independent variable (SESEMAT program) and dependent variable (professional competency of teachers).

Ethical considerations

Throughout the study, the researcher operated ethically by remaining anonymous in order to protect respondents' identities and by keeping private information private. There was no collection of any personal information, such as names, phone numbers, or email addresses. The researcher made a point of never causing harm to the respondents during or after data collection. On March 31, 2019, the university notified schools that the study would be continued, informing them of the project aims and supervisors. Permission was also sought from the relevant district educational authorities in 2019.

RESULTS AND DISCUSSION

This focused on the description and interpretation of data analyzed in correspondence with discussion of the research question and verification of research hypothesis.

What is the perception on the benefit of SESEMAT activities on professional competences of Mathematics and Science teachers in secondary schools in Busoga Region?

This was the study's initial research question.

Respondents were asked to self-rate their perceptions of the benefits of SESEMAT activities on professional skills in schools using a questionnaire. The ratings on the 5-Likert scale were: SD= Strongly Disagree, D = Disagree, N = Neutral, A = Agree, and SA = Strongly Agree. Table 3 shows the total number of people who disagreed after adding the responses of strongly disagree and disagree. Additionally, the percentages of respondents who agreed and strongly agreed were added together.

The findings of the responses to the perceptions of the benefits of SESEMAT exercises on teacher competence are shown in Table 3. To indicate responses, the words "agreed," "neutral, and "disagreed" were employed. According to 149 (93 percent) of 160 respondents, SESEMAT improves interpersonal interactions with instructors from other schools. This implies that when different teachers meet for SESEMAT INSETS, they exchange and reflect on their experiences. This assists teachers in getting more knowledge and skills in dealing with pupils in their subjects.

According to Salas et al. (2011), interpersonal skills are also important for academic and professional success. Several interpersonal skills, such as working creatively with others, talking clearly, and collaborating with others, should be developed by students as they progress from pre-school through post-secondary education. Teachers must be able to communicate, empathize, and motivate students, as well as use effective and positive body language and humor (Graziano and Navarrete, 2016).

Participation in annual SESEMAT seminars has an impact on instructors' classroom teaching skills, according to 142 teachers (89%). This means that if teachers have enough time, they can employ lesson study, team teaching, and co-teaching in the classroom. Participation in SESEMAT influences how a teacher develops his or her objectives as well as the planning and delivery of the lesson to students. Teachers typically prepare and plan outside of the classroom, according to Kyriacou, (2019). They also use weekends to properly prepare, or they arrive at school early and stay late. Solomon, (2021) defines lesson planning as the process of identifying objectives and determining how to achieve them. According to 139 responses, the SESEMAT procedures take a lengthy time to organize and schedule (87%). This implies that it takes a long time because planning is the first phase in the teaching and learning process; before a teacher enters the classroom to conduct a lesson, he or she plans it, and education administrators develop policies and curriculum for the school to adopt (Solomon, 2021). A teacher will fail if he or she does not plan ahead of time. A good teacher is

always over prepared, always planning and preparing for the next lesson. Teachers' preparation and planning time should be added to their working hours (Ecole, 2021). 135 of the respondents were eager to change their classroom teaching practices (84%). This means that throughout the SESEMAT INSETS, teachers are taught how to use novel teaching strategies such as team teaching, lesson study, and improvisation of teaching aids to demonstrate the hands-on-minds-on teaching technique. According to Wikipedia, learning aids are items that can help someone do some aspects of their job better as part of the professional development process, whether pre-service or in-service (Barber and Mourshed, 2007). This is critical since teacher quality has been identified as the most important factor in influencing the efficacy of a school system.

What is the difference in perception on the benefits of SESEMAT professional competency of Mathematics and Science SESEMAT-trained teachers?

This was the second research question of the study. Respondents were asked to rate the difference in professional competency between mathematics SESEMAT trained and science SESEMAT trained teachers using a questionnaire. The rating was done according to the 5-Likert scale and the rating was SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree and SA = Strongly Agree (Likert 1932). In the table, the responses of strongly disagree and disagree were added to obtain the total of respondents that disagreed. The responses of the respondents that agreed and strongly agree were also summed up to get those that agreed for the mathematics teachers (45) and biology, chemistry, and physics (115) out of 160 sampled.

The conclusions of the study analysis are shown in Tables 4 and 5, which reveal that 35 (78%) mathematics teachers gained knowledge, resulting in favorable changes in their teaching. According to 98 percent of the scientifically educated instructors, SESEMAT promotes the development of professional abilities and knowledge. According to the findings, teachers regarded the influence of in-service training on their attitudes, talents, and knowledge as above average (Pirmentar and Omidian, 2014). From the standpoint of sixth-grade teachers, this demonstrated that in-service courses improve professional knowledge and skills. According to mathematics teachers, SESEMAT activities promote knowledge exchange through teamwork with 33 (73%).

According to 89 (77%) of science-trained instructors, collaborative science education reduces isolation through collegial social support. Furthermore, the study by Fazilet, (2013) found no discernible variations in teachers' opinions regarding in-service training based on the number of in-service events they participated in. According to the survey, keeping up with the latest educational achievements and advances is crucial for instructors. As a result, seminars and courses for in-service teacher training should be designed with their needs and desires in mind. Through social support, this may result in increased and improved teacher participation in the lifelong learning process. Teachers' concerns about employing SESEMAT procedures included the fact that organizing and scheduling 27 students takes a long time (60%). As a result, teachers are unable to teach according to SESEMAT guidelines. Others refuse to use the new SESEMAT methods, stating that they will not be able to complete the mathematics course. Science teachers, on the other hand, claimed that planning and scheduling the SESEMAT techniques takes a large amount of work, with 90% agreeing. As a result, they predict SESEMAT will have little impact on high school science education.

Furthermore, Nikhat and Khan (2017) discovered that in-service training, particularly refresher courses, is unreliable for improving teaching quality in senior secondary school teachers. However, it is proposed that following training, participants be given printed materials, up-to-date teaching guides, and productive and inventive teaching aids to help them illustrate the teaching content. According to science teachers, SESEMAT encourages the use of practical items in the classroom, with 94% approving. This is in line with Smith, 2020, who discovered that a teacher can utilize items like a seed to begin a discussion on a topic in a science subject such as biology. SESEMAT activities, according to mathematics teachers, foster experiential learning with 33 (73%). SESEMAT exercises also encourage science teachers to collaborate, with 98 percent agreeing. When working as a group, collaboration with other members is advantageous (Kat, 2015). He also says that operating as a group requires collaboration and the participation of all members in a collaborative effort to attain common goals. As a result, (Turkmen, 2013) agreed to use a student-centered model for teaching science courses in their research to increase collaboration.

Ho_1 There is no significant effect of SESEMAT activities on professional competences of mathematics and science teachers in secondary schools

To further answer the research questions, the hypothesis of whether there is no significant effect of SESEMAT activities on professional competences of mathematics and science teachers in secondary schools, the researcher used the chi-square tests obtained from the data using the SPSS. The analysis comprised all the teachers of the study.

Tables 4-6 demonstrate that the P-value of whether instructors trained by the SESEMAT program had effective competence was 0.000 0.05, showing that it was statistically significant, implying that teachers' competencies depend on their attendance at the

Table 4: Responses of professional competency of Mathematics SESEMAT teachers

RESPONSES OF MATHEMATICS TEACHERS	DISAGREED	%	NEUTRAL	%	AGREED	%
SESEMAT activities facilitate sharing of knowledge through collaboration	00	00	12	27	33	73
Reflect on the experience of others mathematics teachers	00	00	13	29	32	71
SESEMAT workshops mathematics teachers gain knowledge and skills leading to positive changes.	00	00	10	22	35	78
SESEMAT activities affect lesson planning	01	02	16	36	28	62
SESEMAT methodologies in mathematics require sufficient time in planning and scheduling	01	02	17	38	27	60
Through SESEMAT activities mathematics teachers are active in improving instruction strategies.	01	02	12	27	32	71
SESEMAT involves teachers working together for professional competence	03	07	09	20	33	73
SESEMAT facilitates guidance and social support	01	02	12	27	32	71
In SESEMAT, there's experiential learning which encourages teaching of mathematics	01	02	11	25	33	73

Source: Researcher 2019 % percentage.

Table 5: Responses of professional competency of SESEMAT Science Teachers (Biology, Chemistry and Physics) SESEMAT.

RESPONSES OF SCIENCE TEACHERS BIOLOGY, CHEMISTRY AND PHYSICS)	DISAGREED	%	NEUTRAL	%	AGREED	%
SESEMAT activities encourages science teachers to work together	04	04	13	11	98	85
SESEMAT Activities facilitates improvement in performance	04	04	07	06	104	90
SESEMAT work-based learning with others	04	04	23	20	88	76
SESEMAT encourages acquisition of professional skills and knowledge	05	05	14	12	96	83
SESEMAT encourages use of practical items in a lesson	05	05	16	14	94	81
SESEMAT prepares teachers for new roles in science departments	08	07	21	18	86	75
SESEMAT activities require adequate planning in time	06	05	18	16	91	79
SESEMAT help teachers to learn to trust each other	11	10	23	20	81	70
Collaborative teaching of sciences reduces isolation through SESEMAT activities and social support.	09	08	17	15	89	77
Little can change as a result of SESEMAT activities	42	36	09	08	64	56

Source: Researcher 2019 % percentages.

Table 6: Chi-Square tests on SESEMAT activities professional competences of teachers.

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	182.292[a]	30	0.000
Likelihood Ratio	37.368	30	0.167
Linear-by-Linear Association	0.234	1	0.629
N of Valid Cases	160		

a. 36 cells (85.7%) have expected count less than 5. The minimum expected count is .01.

SESEMAT Program numerous times. This suggests that there is a statistically significant association between the SESEMAT program and teacher skills in science courses. According to Gacohikiman et al. (2005), teachers apply the ideas, skills, and information they learned while teaching. However, their individual teachers' characteristics had no bearing on the adoption of SMASSE INSET. According to Iwuagwu and Aiwuyo (2017), in-service training was also employed as a method to help educators achieve their educational goals of learning and skill development. Teachers should attend a structured in-service training course on a regular basis to keep their skills up-to-date, stay motivated, and improve their teaching talents. As a result, teachers' competencies are determined by how they respond to the SESEMAT program activities.

Conclusion

The study was conducted to determine teachers' perceptions of the benefits of SESEMAT activities on professional competences and to investigate differences in perceptions of the benefits of SESEMAT activities on professional competences of secondary school mathematics and science teachers. Teachers' perception

was that SESEMAT activities improve interpersonal relationships with other teachers in schools. In conclusion, provided with enough time, the teachers are positive about implementing SESEMAT methodologies learnt during in-service training. However, there was no difference in perceptions of science-trained and mathematics-trained teachers on the benefits of SESEMAT activities on professional competence. Given enough support from administrators, they are positive about implementing and following SESEMAT methodologies.

RECOMMENDATIONS

Based on the findings of this study, discussions, conclusions, and recommendations are made addressing teachers' opinions of the benefits of the SESEMAT activities and the professional competency of teachers in the Busoga Sub-region. To begin, the report recommends that instructors in both private and public schools attend SESEMAT insets in order to obtain a better grasp of the skills required for class delivery. The study also suggests that secondary school principals try to change teachers' attitudes toward the implementation of SESEMAT professional competencies such as lesson introduction skills, planning, goal setting, communication skills, and a shift from a teacher-centered to a learner-centered approach as much as possible in order for the program's benefits to be realized. Attending departmental meetings where teachers share their successes and challenges might help.

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