THE REAL STATE OF IN-SERVICE TEACHER TRAINING FOR SCIENCE TEACHERS AT SECONDARY SCHOOL FROM THE POINTS OF VIEWS OF TEACHERS SUPERVISOR AND EDUCATION EXPERTS IN KHARTOUM STATE

Dr. Bannaga Taha Elzubair Hussen[1], Dr. Alajab Mohammed Alajab[2],
Dr. Hanan Mohammed Osman Alfadlabi[3]
[1&3]University of Khartoum (SUDAN)
[2]Arabian Gulf University (BAHRAIN)

Abstract

The present study aimed to reflect the real state of the in-service training for science teachers at Sudanese Secondary School Level, from the teachers, the educational supervisors, and the educational specialist at Khartoum state point of views. The researchers used the descriptive analytical method on a sample of 998 male and female teachers and 25 male and female supervisors in Sudanese public schools. A stratified random sample of 404 male and female teachers and 13 male and female supervisors participated in the study. Data collection tools included a questionnaire for the teachers and the interview approach was used with the supervisors. For the data analysis, the Statistical Package for Social Science (SPSS) was used for testing ;(average, t-test, chi-square test, standard deviation and percentage). Data analysis has come out with many findings; the most important of which are; the training courses available now meet the teachers' needs but they are insufficient. The planning for training is not flexible and enervative as required and finally, the objectives of those training courses are not formulated in a procedural manner, and could not be measured, and its content is not balanced between academic and professional preparation, as well as, the evaluation of training courses is carried out using a form by the end of courses. In the light of these findings some recommendations were generated, the most important of which are; connecting the training courses with the teachers' real needs. Planning for training should be carried out by experts, constructing learning objectives in a procedural manner, and they should be measurable, and the evaluation of training courses should include theoretical and practical aspect. The authors proposed conducting studies to reflect the reality of training for teachers of other subjects.

Keywords: In-service training, planning, learning objective, content analysis, and evaluation.

1 INTRODUCTION

In service teachers training gained special importance, because it is considered completive for their pre-service preparation, hence training comes after a teacher practical teaching to be able to deal the educational issues that he is encountering and to equip him with experience and skills that enable him to perform his continuing task. The American scholar (John Dewy) confirmed the importance of in-service teacher training in his comment All educational Enovation's are connected with the kind of the workers and their personalities in the profession of education (Atawi, 2001).

Ramsey, (2014), examined the ways in which the very idea of teacher education in the United States was

transplanted from foreign lands. Teacher education, particularly normal school training, was based on a model imported from despotic Prussia, a model that was popularized by French and American visitors to the northeastern German land. Although normal schooling naturally was altered in the American context, the subsequent forms of teacher training, particularly in the emerging universities, owed a great debt to international models as well. His article also explored the ideology of the common school movement, which sought social cohesion, because that ideology helps explain why the Prussian model of teacher training became so attractive to conservative educational reformers in a democratic society.

It could be said that teachers need training during service more than they need it before, because pre-service training is just a beginning for a service of developmental actions and activities that should go on with the teachers as long as he is in-service and as long as there are new knowledge's and technologies (Abu Alrus:2001).

Looking at the importance of in-service teacher training, a great care has been given to it in all developed and developing countries. In 1988 the Japanese government issued a decree concerning the compulsory in-service training in all schools. In China, new teachers are trained for three to five years and experienced teachers should be involved in training course programs during service (Ibraham, 1997).

There are several conferences that are held about teacher training (The Arabia teacher training conference) beside the Egyptian committee for curricula and teaching methodology which privatized teacher training and development. Along with those two, the second international conference of education and information technology, (Mosko:1996) which recommended training teachers on the new roles that help to him understand like such challenges that are brought about by technology development of information. The UNESCO(45TH) conference under the title strengthening teacher's role in a changing world confirmed the importance of in-service training of teachers, according to their own special needs and their study programs through a well-supervised training as well as confirming the concept of continual learning (Ibrahim,1997).

The expectation in education today is that pre-service teachers should graduate from teacher education adequately prepared to teach with Information Communication Technologies (ICTs) that have potential to enhance curriculum delivery, hence improving quality of education. However, research shows that pre-service teachers are graduating from teacher education underequipped to teach with ICTs. Chigona, (2015) conducted a study aimed to understand why, given the deployment of ICTs for teaching and learning in teacher education, the new teachers remain underprepared to teach with ICTs. Qualitative research approach was employed, whereby randomly selected pre-service teachers were interview respondents. Written reflections on their preparation to teach with ICTs also formed part of the data collected. Technological Pedagogical and Content Knowledge (TPACK) theory was embraced to guide the study. Analysis of the data showed that the main contributing factor of the new teachers' under-preparedness to teach using ICTs is the quality of instruction they receive during their training.

The ongoing theory vs practice debate reinforces the problems facing teacher training institutions which need to challenge traditional programs and work towards a tighter coherence between coursework and practical experience. Working more closely with schools to restructure teaching practice is necessary in order to create better tuition experience for students. Phillips, and Chetty, (2018) discussed these issues. A sample of four South African education faculties was included. Semi-structured and focus group interviews were used to collect data from fourth-year BE.d students, lecturers and in-service practitioners. Findings: The findings indicated that the participants believed that the lack of actual classroom experience, and ineffective organization of teaching practice, resulted in students feeling ill-equipped. Suggestions are made to improve the organization of teaching experience and mentorship programs.

Starting from the views that are dictated by general education needs and teacher training, in particular, continual training should be given attention for all in-service teachers. Its scope should be expanded and its ways and sources should be varied such things became the most important standards and condition to achieve comprehensive quality in an educational system which could not achieve its goals or realize its objective, unless. It represents a basic dimension of training policies and academic and education reform and development by looking at the role and the importance they play in the variation in the performance between the current practices of teachers who are in service and those who are new. What stimulated the researchers to conduct this study is that there are several problems facing the teachers of secondary schools in Sudan as they are mentioned in the studies of (Abu Bakar:1990), (Magzoub:1993) and (Tamadur:2002) such problem are: -

1. Teachers lack with standard and condition of quality in education.

2. Secondary school's teachers lack awareness of secondary schooling objectives.

3. The scarcity of training courses and educational workshop.

4. Insufficiency of in-service training courses and how far successful the method and ways used in training and how to deal with the problem facing in-service training process.

Based on these problems, this study statement of the problem could be formed in the following question: ***What is the real state of in-service science teachers training in secondary level from the points of views of teachers and supervisors in Khartoum state?***

The following questions are emerging out from the main above question:

1. What is the planning for training of in-service science teachers at secondary schools of Khartoum state?

2. What are the objectives of those training programs?

3. What is the content of those training programs?

4. What is the evaluation methods used in those training programs?

1.1 Objective of The Study

This study aims to identify:

1. The planning for training of in-service science teachers at secondary schools of Khartoum state.

2. The objective of those training programs.

3. The content of those training programs.

4. The evaluation methods used in those training programs.

1.2 Significance of The Study

This study came as a response to the recommendations and findings of several field studies and conferences that called for the necessity of education system development in all its sectors, especially in the aspect of in-service teacher training. And this study will present recommendations, suggestions, and visions in teacher training programs developed for decision makers at the ministry of education in Khartoum. And this study might enrich the Sudanese educational literature with regards to in-service training for teachers of secondary schools.

1.3 Limits of The Study

1.3.1 Subject: this study is limited to the evaluation of secondary school's in-service teachers' training programs in Khartoum state from teachers, supervisors, and educational expert's points of view with regard to planning, objective, training content and evaluation of those in-service training courses programs.

1.3.2 Population: it includes science teachers at secondary schools 'principles, and supervisors, in Khartoum state.

1.3.3 Area limits: Khartoum state- Sudan

1.3.4 Time limits: the academic year 2018.

1.4 Key Terms

1.4.1 Training; it is a process that depends on presenting experience, skills, and knowledge so as to give training service for individuals and groups in social and service organizations for achieving higher performance to encounter barriers and obstacles facing teachers (Mohammed,2000).

1.4.2 In-service Teachers Training: it is any planned program of education opportunities that realizes professional development for teaching board which would result in developing each individual professionally. Or it can be defined as a planned program for more behavioral and cultural experience of teachers in the co-operative and collective framework to ensure that they are coping with scientific development of education methodologies which would result in more production (Yousuf, 1993).

In the present study, in-service teacher training refers to the training programs (planning, objective, content, evaluation) offer to science teachers in Khartoum state from the point view of teachers, supervisor, and

education experts in Khartoum state.

1.4.3 Secondary Education: it is the last stage in general education that lasts for three years, which students enroll after they had finished the basic level school. The students' ages in this stages range between (15-16 years) and by its end, the student takes the Sudanese certificate exams.

2 THEORETICAL FRAMEWORK AND PREVIOUS STUDIES

The concept of in-service training; -it's a regulated continual process required by the individual, the work he does and the community within which the whole society works.

Gafar Alabid defines it as planning activities with aim of making a change of individuals and groups who we teach. This activity considers their knowledge, opinions, behaviors, and attitudes which makes them fit to do their work or jobs efficiently as well as productively (Darweesh, 2009).

2.1 The Objectives of In-Service Training

In-service training for teachers has developed mainly in the latest decades; however there is a long history of actions undertaken for teacher professional development within the Sudanese Educational System. Eduwen (2016) and Abdalhaleem, (1992), stated the objectives of in-service teacher training as follows

1. To equip the teachers with the latest content or subject matter their specialized fields.

2. To help the teachers learn economical and effective methods of teaching.

3. To help the trainee to acquire new skills that are required for his career.

4. It leads to the acquisition of positive attitudes towards his career resulting in better morale and more productivity.

5. To lead the trainee to acquire new horizons about his career, through enlightening him with his careers issues and challenges and the reasons behind them as well as to handle them or lessen their effects on his work. This is through equipping him with up to date methods and ways to practice his work and be more productive.

6. Seeking for implementing the continual learning strategies in training through enabling the trainees of positive attitudes towards joining training programs to develop their abilities.

7. Opening chances to know others from the teaching profession with the aim of exchanging experience between individuals in a co-operative.

8. To help on how to make use of ideas, opinion, and solutions that are yielded from studies, which lead to bridge the gap in researchers as well as increasing efficiency in educational attitudes in general.

9. To develop suitable and varied program to meet individual needs, school needs, needs of the state with regard to educational extension.

10. To follow-up the teachers who undergo in-service education to reinforce the objective training.

2.2 The Concept of Planning

It's a futuristic vision based on scientific principles, starting from the reality and inspired by the past experiences, it seeks to analyze the internal and external environment of the educational institutes as well as making suitable strategies to move from a present situation to a better one in the future (Alaga. 2005). Program development and planning must be grounded in a systems thinking approach.

It is also defined as the art of dealing with the future, and it is the starting points in an administrative process and it includes setting and modifying objective, choosing the best of them to determine how to reach them through time schedules and programs utilizing specific materials. Those objectives are set (especially if they are quantitative) to be standards according to which the actual performance is measured (Syed, 2008).

2.3 The Principles And Standards Of In-Service Teacher Training Programs (Hisham, 2008)

1. Conducting a comprehensive survey in the area intended to apply for the training programs in to know every teacher's condition and level.

2. The importance of setting training programs on the principle of teachers need, and on the principle of

priorities after which, we can go toward new special training programs that are characterized by creativity.

3. The importance of training programs to include several aspects of experiences which, in total achieve increasing professional experiences and rising up performance adequacy.

4. Preparing training programs in a cooperative manner rather than individually.

5. Preparing a high-efficiency cadre of distinguished experience of supervisors, curricula specialist, book anthers, workers in planning- administrations.

6. Advertising for training programs and its merits as well as encouraging them to engage in these programs willingly.

2.4 The Standards for Training Programs Content Selection (Hisham, 2008).

1. The content should be associated with the trainee's job.

2. It should be of value to develop the desired performance.

3. It should stress on continuity.

4. The training syllabus should satisfy the trainees need.

5. Specifying training methods and strategies.

6. Specifying the teaching aids to be used.

7. Specifying human resources.

8. Specifying financial resources.

9. Training programs execution.

10. Evaluation phase.

2.5 The Concept of in-Service Teacher Training Evaluation

An in-service program is a professional training or staff development attempt, where professionals are trained and discuss their work with others in their peer group. It represents a key component of continuing teachers and other educational medical professionals. It's a methodological process that is based on the scientific principle that aims at an objective judgment on the input, processes, and outputs of any training programs. It's also defined as making a scientific decision about training processes in the light of findings that are reviled by field experiences (Hassan:2002).

2.6 Barriers of Training Programs Evaluation (Darweesh: 2009)

1. The unavailability of simple and applicable evaluation methods.

2. Limiting evaluation only on tests.

3. The scarcity of financial sources that help in using more than a method in the evaluation.

4. The scarcity of experts in evaluation field beside the incompetence of those available.

5. Trainers and trainees consciousness of the importance of the evaluation.

6. Unavailability of accurate information and statistics that help in training program evaluation.

3 RELATED PREVIOUS STUDIES

AMEEN 1997 The study aimed at identifying the reality of secondary school teachers training, The researcher used the descriptive methods, The findings of the study were: - insufficient financing, scarcity of available resources and the number of the trained teachers are few compared to the total number of teachers as a result of training chances, Also it's a must to update the training plans in secondary school in Sudan to cope with the developed countries.

MUSTAFA 2008 The study aimed at identifying in-service teachers training barriers and the way to overcome them. The descriptive method was used. The findings were: There are difficulties because the ministry did not provide motivation and financial support for trainee teachers. Teachers are not consulted concerning their needs. There is also confusion in work and training timing, besides lack of use of the computer in training.

SEED AHMED 2002 study aimed at identifying the importance of in-service training for biology teachers in secondary schools in Omdurman locality. The researcher used the descriptive methods, the findings of the study were: There is no continual teacher training session and lack of use of modern means and strategies in in-service training. There is a lot of problem stand in the way of training which affect the educational process negatively.

PETERSON 1994 the study aimed at identifying the effect of in-service training in using technology in schools. The researcher used the descriptive methods, the findings of the study were: - the importance of taking care of teachers training. Training is an important way to enable teachers to learn modern methods in education.

EGOLF 1984 the study aimed at identifying the effect of in-service training on secondary school's teachers. The descriptive method was used. The important findings were: - The number of current teachers is insufficient to face like these changes so the researcher recommended increasing the ratio of information, skills, and directions as for teachers.

3.1 COMMENTS ON RELATED PREVIOUS STUDIES

Through viewing of previous studies and their main findings, it is possible to mention a lot of similarities and differences between them and this study. And which has a great effect in making this study. From previewing of those previous studies the researcher found that their findings and recommendation include the following:

1. Eliminating the barriers that face trainees.

2. The teachers need for training according to their needs and want.

3. The continuity of training program evaluation even after the end of the teaching program.

4. The diversity in the methods of training programs effect.

5. Considering time duration of training programs and developing as well as chaining them.

The researchers also benefited from previous studies informing the state of the problem, choosing the methodology and the suitable means of analysis.

4 THE FIELD STUDY

4.1 Methodology

The descriptive method was used.

POPULATION: Study population consists of male and female teachers of science at secondary schools of Khartoum state in the following localities (East Nile, Omdurman, Ombada) the sample of study is 998 male and female teachers, it also includes 35 supervisors of science subjects in the above-mentioned localities. The sample of the study also included some experts from the ministry of education Khartoum state and the federal ministry of education.

SAMPLE OF THE STUDY: It is represented in male and female teachers of science at secondary schools at Khartoum state. Supervisors, school's principals and some education experts from the ministry of education of Khartoum state and federal ministry of education are also included.

SAMPLE SELECTION PROCEDURE: As the total population is clearly determined, the researchers selected the sample randomly. The selected sample is 404 male and female teachers that represent 40% of the total population. The supervisors, educationalists and experts sample is 13 participants.

4.2 Data Collection Tools

1. Questionnaire for teachers.
2. Interview with supervisors, experts, and schools principals.

4.3 Questionnaire Assessment

VALIDITY: The researchers viewed the questionnaire to a number of professors in the Sudanese universities who have experience in teachers training. They assessed the questionnaire in terms of expressions clarity and how those expressions are relevant to the item they belong to. This is regarded as face validity.

RELIABILITY: it is the capability of performance to give the same results when applied to the similar

population, to measure the reliability of questionnaire, the researchers used (SPSS). The reliability was measured with (Alfa Crunbakh) factor of 0.97.

5 Results and Findings

To answer the study, questions the researchers checked the responses of participants in terms of questionnaire phrase. Then using (chi-square) and comparing all results of (chi-square) value.

Question 1: What's the reality of in-service teachers training at secondary schools from the point of views of teachers, supervisors, and educationalist of Khartoum state? Table (1) shows the frequencies and the calculated value of (chi-square) and the analysis and findings that were discovered by the researchers from the responses of teacher's sample about the reality of in-service teachers training of science teachers at secondary schools of Khartoum state from that teacher's point of view.

Table 1; Frequencies and the calculated value of (chi-square)-reality of teacher in service-training

Statements	Responses					Chi-square calculated	Interpretation	Result
	S A	Agree	Don't know	D A	S D A			
There is a weak participation of teachers in training	164	163	28	38	11	344.93	indicative	agree
The available training session are insufficient for science teachers	162	181	28	26	7	144.83	indicative	agree
Experts participate in training programs content	62	134	141	48	19	204.19	indicative	agree
The training strategies in use don't achieve the desired objectives	108	172	33	82	9	213.25	indicative	agree
The current training is not considered a standard for development	127	170	44	53	10	88.475	indicative	agree
Availability of financial support (incentive) for trainees	39	139	74	107	45	104.09	indicative	agree
Availability of encouragement	63	147	70	100	24	179.36	indicative	agree
The timing of training session is not suitable for trainees	141	147	50	55	11	61.990	indicative	agree
There is a well-equipped training center	41	89	85	133	56	99.837	indicative	Don't agree
Evolution strategies were all units of training program	44	105	81	142	32	159.78	indicative	agree
Those training programs contributed in developing teachers abilities	86	172	46	77	23	140.05	indicative	agree
Training programs are evaluated by experts	63	165	90	65	21	286.76	indicative	agree

These statements could be discussed as follows:

All the mentioned in the above statements point to an agreement with what's been mentioned in the

questionnaire except statement no (9) which indicated that there is no well-equipped training center.

It's clear from the findings that the reality of in-service teacher training of science teachers at Khartoum State Secondary Schools could be represented in the several points the researchers try to arrange them according to the average of sample consent through their responses in total –which are; the available training session is not sufficient for science teacher's needs (4.15).weakness of teacher's participation in training program (4.06). The training session timing is not suitable for trainees (3.87). Current training is not considered a standard for development (3.86). Evaluation strategies in use for current training programs are weak and don't achieve the desired objective (3.71).

All participants of the interview agreed on that there are weakness and shortage in the process of in-service teachers training for science teachers at secondary schools. And that all available is short session varies between weak and two and don't include the entire curriculum.

Sometimes those training sessions are specified for teaching methods but there is a minor percentage of study samples say that the training is conducted using modern technology. An individual from the study sample sees that there are some obstacles which are represented in that there is a shortage in financing the training, the school environment, and training centers are not well equipped to go with technology its application. The gap between the training and the practice, the vagueness of training administrations tasks and inappropriate planning for training. The inappropriate timing of in-service teachers training compared to teacher's time.

Question 2: What is the planning for in-service teachers training for science teachers at secondary school from points of views of teachers, and supervisors in Khartoum state?

Table (2) shows the frequencies and the calculated value of (chi-square) and the analysis and findings that were discovered by the researchers from the responses of teacher's sample about the planning of in-service teachers training of science teachers at secondary schools of Khartoum state from those teachers' point of view.

Table 2: Frequencies and the calculated value of (chi-square)-planning in-service-teachers training

Statement	Responses					Chi-square calculated	Interpretation	Result
	S A	Ag.	Don't know	D A	S D A			
The planning for training programs depends on clear educational principles	69	165	72	81	17	286.76	indicative	agree
The experts participate in planning the those programs	61	140	110	71	22	344.93	indicative	agree
The planning is associated with total quality	54	122	93	112	23	144.83	indicative	agree
When conducting training there's sticking to planning	43	144	76	113	28	204.19	indicative	agree
Conducting a survey before planning	55	116	117	83	33	213.25	indicative	agree
Planning include followed strategies evaluation	65	151	76	89	23	88.475	indicative	agree
Planning include those individuals evaluation who share in training	68	140	88	88	20	104.09	indicative	agree
Planning is characterized by flexibility	68	157	73	91	15	179.36	indicative	agree

	S A	Agree	Don't know	D A	S D A	Chi-square calculated	Interpretation	Result
Planning is characterized by innovation	74	149	56	107	18	61.990	indicative	agree
Planning aims at making positive change in trainees	94	174	57	54	24	159.78	indicative	agree
Experts participate in training session planning	69	172	65	78	20	286.76	indicative	agree

It's clear from the table above table that all of what's mentioned in the statements indicates to an agreement to what's been mentioned in the questionnaire. And it's clear from the findings that the planning for in-service training could be represented in many points: The researchers try to arrange them according to an average of the individual's consent through their responses in total. They are as follows: - Planning aims at making a positive change in trainees (3.68). Including a vision for predicting the future needs of trainees, (3.47). Experts participate in training session planning (3.46). Planning is characterized by flexibility (3.42). Planning is conducted according to society's philosophy (3.40). Planning is characterized by innovation (3.38).

Most of interview sample individuals think that planning made through counting male and female teachers of the state, and knowing their previous training so as to move on to sessions that they did not takes, specifying training needs for science teachers at secondary schools, equipping training centers with the most current means and equipment's, specifying inputs and outputs of training process, and observing the weakness and shortage from teachers ideas then making plans not for amending mistakes only but also for development.

Question 3: What are the objectives of in-service teacher training?

Table (3) shows the frequencies and the calculated value of (chi-square) and the analysis and findings that were discovered by the researchers from the responses of teacher's sample about the objective of in-service teachers training of science teachers at secondary schools of Khartoum state from those teachers' points of view.

Table 3. Frequencies and the calculated value of (chi-square)-Objectives of in-service training

statement	Responses					Chi-square calculated	Interpretation	Result
	S A	Agree	Don't know	D A	S D A			
Training objective are clear from for teachers the beginning	65	177	64	82	16	173.1	indicative	agree
Objectives are formulated procedurally	68	169	82	69	16	152.0	indicative	agree
Objectives of training are measureable	69	164	69	92	10	152.7	indicative	agree
Objectives of training meet the actual needs of trainees	68	158	62	104	12	145.4	indicative	agree
They introduce Muslims to the scientific achievements	74	174	66	75	15	164.7	indicative	agree
They enable trainees to understand the theoretical concepts in work situations	87	185	40	76	16	207.7	indicative	agree
They help teachers to acquire their standards positive directions	83	195	52	61	13	233.4	indicative	agree
Objectives are formulated to enable trainees from creative	74	191	54	70	15	214.7	indicative	agree

thinking								
They enable teachers to equipping their students with knowledge structure	81	200	45	68	10	255.7	indicative	agree
They enable trainees to constrict objective according to the educational essentials	87	204	43	56	14	268.8	indicative	agree
They enable trainees to use the scientific strategies to teach their students	66	207	38	78	15	276.1	indicative	agree

It's clear from the table above table that all of what has been mentioned in its statements indicates an agreement to what's been mentioned in the questionnaire. It's also clear from the findings that training programs of science teachers aims are represented in several points the researchers try to order them according to the average of sample agreement through their responses in total. Those points are: Those programs enable teachers to form teaching objective based on educational essential 3.72, They enable teachers to equip their student with the component of knowledge structure 3.67, They help to equip their students to use theoretical concept in real life specification 3.62, They enable them to develop creative thinking as for their students 3.59, Training objective is formulated to enable teachers from using specific strategies to stimulate their students to acquire knowledge 3.57. They introduce teachers to support strategies to help students acquire the scientific achievements of Muslim 3.53, training objectives are formed operationally 3.50, most individuals of the study sample agreed that the objective should emerge from the general objective of education. The objective should link between theories and their application. The objectives should be formed according to actual training needs of teachers. They should be aiming to develop the abilities and skills of science teachers. Eliminating the difficulties that face science teachers of secondary schools.

Fourth question: what's the content of in-service teachers training from the points of views of teachers, supervisors and education expert of Khartoum state?

Table (4) shows the frequencies and the calculated value of (chi-square) and the analysis and findings that were discovered by the researchers from the responses of teacher's sample about the training content from the points of views of teachers of Khartoum state

Table 4: Frequencies and the calculated value of (chi-square) - Training content

Statements	Responses					Chi-square calculated	Interpretation	Result
	S A	Agree	Don't know	D A	S D A			
The content depends on the educational philosophy of the society	73	167	68	79	17	145.15	indicative	agree
The content focuses on specialized knowledge	58	186	67	81	12	204.34	indicative	agree
The actual need of teachers are considered when designing up the content	67	155	56	102	24	123.59	indicative	agree
The content contributes in building up the science teachers personalities	77	151	77	83	16	113.37	indicative	agree
It is characterized by balancing between academic	69	158	66	90	21	123.50	indicative	agree

Statement	SA	Agree	DK	DA	SDA	Chi-square calculated	Interpretation	Result
and career preparation								
It develops positive attitudes towards science teaching	64	173	66	74	27	147.80	indicative	agree
It realizes the chances of scientific research for teachers	67	163	57	89	28	128.32	indicative	agree
It balances between theoretical and professional experiences	60	147	73	91	33	89.911	indicative	agree
It is characterized by being up to date	62	133	67	108	34	76.718	indicative	agree
It is characterized by being developed	69	138	69	92	36	70.332	indicative	agree
It helps students to develop their autonomous	65	164	64	83	28	126.81	indicative	agree

It's clear from the table above table that all of what has been mentioned in above statement indicates to an agreement to what's been mentioned in the questionnaire. It's also clear from the study findings that the content of the training program could be represented in many points; the researcher's tries to order them according to the average of agreement of the sample through their responses in total. Those points are: The content depends on the educational philosophy of the society 3.49, The content focuses on specialized knowledge 3.42, It contributes to building up the science teacher personality 3.47, it develops positive attitudes towards teaching science 3.43, It is characterized by balance between academic and professional preparation 3.40, Its also helps students to develop their autonomous learning skills 3.38, It offers the chance for scientific research 3.37, The sample see that it's possible to develop the training content through engaging technology in scientific learning contents, The content should suit the locale environment. It should be linked with student's life. Conferences should be held for scientists and teachers to benefit from their experiences and to be familiar with international new advances. Contact with universities with concerns about using advanced technology then designing advanced training content.

Question 5: What's the evaluation of training program?

Table (5) shows the frequencies and the calculated value of (chi-square) and the analysis and findings that were reached by the researchers from the responses of teacher's sample about the training evaluation from the points of views of teachers of Khartoum state.

Table 5: Frequencies and the calculated value of (chi-square)-teachers training evaluation programs

Statement	Responses					Chi-square calculated	Interpretation	Result
	SA	Agree	DK	DA	SDA			
The evaluation trains teachers to their students need	55	142	65	115	27	107.98	indicative	agree
The evaluation includes strafes that are designed to students need	62	148	48	120	26	129.76	indicative	agree
It depends on comprehensive evaluation strategies	57	144	66	118	19	123.55	indicative	agree
The training program	65	128	83	106	22	81.371	indicative	agree

includes evaluation strategies at the end of each unit								
There is a diversity of evaluation method for each objective	53	160	68	104	19	143.15	indicative	agree
Evaluation gives enough time for its execution	52	152	69	112	19	134.04	indicative	agree
Evaluation strategies are characterized by being applicable in real life	44	145	69	122	24	130.43	indicative	agree
They are characterized by their being objective	58	135	74	117	20	105.33	indicative	agree
Availability of tools for evaluation of theoretical part	60	162	73	89	20	134.29	indicative	agree
Evaluation trains science teachers on evaluating professional part	64	141	70	107	22	101.07	indicative	agree
Science teachers are trained for diversifying evaluation methods	48	152	75	105	24	123.64	indicative	agree

It's clear from the table above table that all of what has been mentioned in above statements indicates to an agreement to what's been mentioned in the questionnaire. It's also clear from the study findings that the evaluation of the training program content would be represented in several points the researchers try to order there according to the average of sample individual agreement through their total responses. Those points are: Evaluation strategies are characterized by being objective 3.37, Training program includes evaluative strategies by the end of each unit 3.31, The availability of tools for evaluation of theoretical part 3.29, It depends on comprehensive evaluation strategies 3.27, There is a diversity of evaluation method for each objective 3.26, The evaluation includes strategies for stimulating teachers thinking 3.25 The majority of study participants agreed up on suggesting several evaluation strategies focused on that the evaluation should be characterized with comprehensiveness Evaluation should be characterized by being objective and continuity and it should be characterized with flexibility.

5.1 Main Findings

1. The available teachers training are not sufficient for teacher's needs.

2. Planning is not characterized by the desired flexibility and creativity.

3. The objectives of the training program are not formed operationally and they aren't measurable.

4. Training content isn't characterized by balancing between academic and professional preparation.

5. Evaluation for the training program is conducted using a format its end only.

6. There are problems and issues facing teachers' in-service training.

6 RECOMMENDATIONS & SUGGESTIONS

1. Linking training programs to the actual needs of the trainees.

2. Planning should be carried out by specialized experts of in-service training.

3. Setting objective for in-service training in an operational and measurable way.

4. Training programs evaluation should include both theoretical and practical parts.

5. Setting to solve the issues facing teachers regarding in-service teachers training.

Based on the driven results the study, suggests that conducting similar studies for in-service teachers training for the teachers of other subjects.

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