



Designing And Validating a Model for Improving the “Travelling Teachers” Teaching Effectiveness

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Abstract

The present research aimed to design a model for improving the quality of education for students by Traveling Teachers. In terms of data collection, this research is a mixed method research (qualitative-quantitative). In the quantitative phase, a pre-post-test quasi-experimental research method with a control group was applied. The statistical population of the research includes the students of villages with multi-grade classes with Traveling Teachers in Baneh city. The sample size was selected from qualified rural schools, and multi-grade classes in Namshir and Alut districts. Sampling was done in an accessible and purposeful way, and the data collection tool was an interview protocol with experimental questions. The data was analyzed by descriptive and inferential statistics using SPSS. Improving the quality of Traveling Teachers resulting from interviews and theoretical foundations, including goals and missions of primary education, human-moral relations of principals and flight teachers, training and learning of teachers, students, educational environment, educational content, learning, and teaching processes. presentation) and educational infrastructure, each of which includes sub-components. The results show that the use of the model of improving the quality of education can increase the academic progress of the students of the rural schools, including academic grades, communication skills, and positive attitude towards the school. This research emphasizes empowering and improving teachers, which should be on the agenda of education officials.

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Introduction

Nowadays, multi-level classes have received a lot of attention, in other words, in an era when issues such as population control due to the population explosion and as a result of the decrease in the number of students in the distance education community are raised, the necessity of forming multi-level classes in schools is unavoidable.

It seems inevitable, and this is even though parents and society expect schools to educate and educate students appropriately according to the requirements of the time, the relevant authorities must conduct a thorough investigation of multi-grade classes, their weaknesses, and strengths.

A principal knows how to form, arrange, administer, and manage them how to control them, and ways to strengthen their strengths increase their advantages, and reduce their weaknesses and disadvantages. In the primary period, a class that is formed and managed by the presence of students of two or more grades and taught by one teacher in a classroom is called a multi-grade class, considering that the primary period is 6 grades, depending on the conditions different and the population of students of these classes are at least 2 grades and the maximum is 6 grades and the importance of forming these classes is due to their formation, among which we can mention the point that due to the decrease in the number of children who need to be educated, especially in villages and regions population and on the other hand, the necessity of their education, it is necessary that the students in different grades in the same class and together and be educated by the same teacher (Hosseini, Sidramin and Rostami, Razieh, 2022).

In the education system of Iran, to establish educational justice, i.e. to give the natural right to education to all compulsory education children in the country, teaching in multi-level classes is used, but the studies conducted in this important educational and educational category are brief. And they are scattered (Ezzati, 2019). The speed of increasing information and communication in recent decades has made experts reflect more deeply on the role of education. Because education is one of the main and decisive pillars and the determining factor of social development, especially primary education as basic education has a practical and extremely important role (Mehdipour, 2018). The goal of all educational systems is to establish good and high-quality schools;

If the students do not learn the skills and expertise needed to perform their personal and social duties effectively and efficiently, the educational units have not fulfilled their mission. The realization of this mission requires paying attention to the quality of the educational system (Askari, Elahimanesh, and Parizad, 2018).

The quality of education should include all the functions and activities of the school, such as the teaching-learning process, students, teachers, facilities and equipment, etc., or in other words, all the elements of the learning process, including input, process, and output and attention (Bazargan, 2018). To improve the quality of education in multi-grade classes, it is necessary to use expert teachers and create suitable facilities in the classroom space, and students' families should also interact in the education model. Considering the lack of human resources in education especially in Kurdistan province and specifically in the villages of Baneh city, considering that some villages have less than seven students according to the instructions for organizing and organizing human resources of the Ministry of Education It is not possible to assign a teacher to these villages. Therefore, a teacher should cover two villages with education, which may have several educational levels in both villages, and this itself has various aspects, each of which requires expert reviews (Rahimi, 2018).

Multi-grade education is one of the learning solutions for a limited number of teachers, and the education of multi-grade school students is widely carried out in Indonesia and developed countries, but it is difficult due to the lack of teachers, geographical location and the relatively small number of students and limited space. Multigrade education is the integration of a group of students who have differences in age, abilities, interests, and grade levels, taught by one or more teachers.

It is managed (Retchi J. Bresio, 2023). Addressing the unique needs and challenges of multigrade classrooms is critical to ensuring quality education for all students. By acknowledging their existence, redesigning teacher education programs, and strengthening supportive educational structures, we can pave the way for success and enable every child to achieve basic competency (Nippon Bharat, 2023). For the better quality of multigrade classes, beyond holding professional development meetings such as training, facilities, and resources should be provided

regarding the use of different insights learned by multigrade teachers (Augustine, 2022).

Multigrade schooling is a global phenomenon and the existential philosophy of most countries to achieve the international goal of "Education for All" (EFA). Remote, sparsely populated, and remote areas need to develop more educational opportunities and access to quality education. Quality education. The documents of the United Nations Educational, Scientific and Cultural Organization (UNESCO) show that multi-level education is not only to solve the shortage The teachers in educational systems but it is considered as a strategy to improve the quality of education (Shahrabadi, 1400). With UNESCO's emphasis on the quality indicators of education and planning based on that quality, the teaching of multi-level classes has made the work of teachers difficult and the teachers of such classes, while at a certain time with more than one level and students with ages, interests and abilities they work differently, they should provide quality education and training services that are appropriate to the society in which students live, thus their work is specialized and requires professional qualifications and job skills (Abedinia, Moini Kia and Ghorbanzade, 2019).

The harms of education in multi-level classes include lack of time, facilities, and teaching aids, use of unmotivated and inexperienced teachers, inefficient teaching methods, age difference and gender composition, bilingualism, basic academic weakness, and high absenteeism. Problems related to the teacher (lack of time, lack of information and experiences, use of the trial and error method in learning, non-nativeness of teachers, organization of multi-grade classes, and many responsibilities of the teacher (problems related to students), weak knowledge and prerequisite information of students, inappropriate age and gender composition of students and bilingualism of students (problems related to the school environment), lack of facilities, equipment and educational materials, lack of educational space (problems related to parents of students), non-cooperation of parents and problems of the curriculum (Semester & honorary, 2019).

The issue of improving the quality of education is an important scientific issue that, if achieved, leads to the growth and excellence of the deprived and oppressed community of the villages. The number of students in these schools is small and they are formed in deprived and remote areas. And they have merits and limitations

that are necessary for teachers to know before starting the teaching-learning process. Therefore, the teacher of traveling teachers should have some kind of skill or ability called educational management of multi-grade classes of traveling teachers to be able to carry out the work of education by the conditions of his school and the level of expectation of education. So, the existing needs, demands, and problems lead us to take more serious steps to reduce the problems increase the quality of learning, and reduce educational inequalities how should the education management of these classes be to be able to help students in the teaching-learning process. be effective (Rahimi, 2019).

Education and training as an educational institution that is responsible for science education and citizenship education; should pay attention to all dimensions of human existence. But a look at the history of education in the countries shows that the educational system of the countries is purposeful in the educational and cognitive dimension and other aspects of human existence are either forgotten or if they are seen, they are not very impressive and purposeful (Moro Dolayona, 2023)., while the most important goal of education is to discover the inner strengths of each person and help them identify their mental and practical abilities. General education often teaches teachers and students to read, write, think analytically, count, and achieve their abilities in different ways (Farmunona, Saeed, & Firuza, 2023).

The most important goal of education is to discover the inner strengths of each person and help them identify their mental and practical abilities. General education often teaches teachers and students to read, write, think analytically, count, and achieve their abilities in a variety of ways. In this regard, multi-grade classes are one of the important strategies to access quality education for all schools in less developed and remote areas (Sali, M. and Arriola, 2019). The complexity of this type of teaching requires that every action taken by teachers be done in such a way that their entire activity becomes more efficient: from the arrangement of the educational space, the selection and use of teaching aids and materials, setting the schedule, and organization. and doing activities during one day, one week, and one academic year (Akatrini, 2020, 2021). For a strong society, strong people are needed, and strong and capable people grow in a complete and content educational system, for this reason, in recent years, special attention has been paid to education and policies to improve it and progress in Its application is one of the

most important forward-looking programs of any educational system (Song, 2016).

This educational system includes special considerations and its quality is related to macro, school, and teacher dimensions (Naparar Alinsog, 2021). Teachers whose learning depends on the individual development of knowledge Students are focused. The elementary course is the most important academic course. This set of changes and transformations in the primary period can be seen in the quality of education because the life opportunities of students are affected by the quality of education they see in schools (Olms-Golmes et al., 2020). Education is the most important element of the progress of a society, which should be given special attention in any situation (Hall, 2020). Quality is an important issue in all societies. In low- and middle-income countries, the quality of education is generally low. (Wagner, Castillo & Zahra, 2020). Considering the importance of the elementary period and the most important period of a person's growth, the first six years of school are considered formative years. It is during this period that people's personality is susceptible to influence and as a result, it will be easier to form. Therefore, the government must provide suitable educational opportunities for the development of themselves and students. In addition, the government must support the right of all citizens to quality education at all levels and take necessary measures so that such educational opportunities are available to all (Kabalu, 2019).

In low- and middle-income countries, the quality of education is generally low. Quality is the most important measure of development and according to the UNESCO organization, it is considered the heart of education (Ridge & Keppels, 2019). For various reasons, the educational system is facing many challenges in achieving its educational goals regarding the quality of multi-level classes; On the other hand, multi-grade classes are one of the strategies of education to access high-quality education for all schools in less developed and remote areas (Sali and Arriola, 2019). In addition, the concept of educational quality is not easily defined, and the complexity of the education process and the lack of clarity on how quality is formed in this process have made it difficult to define (Tanuk, 2018). Multigrade classroom formation varies from a lack of students (in rural and mountainous areas) to a lack of teachers (in poor countries) (Cheki and Paula, 2018). In this regard, the present research aims to design and validate the model

of improving the quality of education for the students of the rural schools in Baneh, and its effectiveness.

The most important issue of the current research is that students in remote rural areas do not have quality education. They do not have access to the services of qualified full-time teachers, standard training duration, and appropriate learning time and place. This situation challenges the discussion of educational justice. Working teachers in such a situation do not enjoy work and job justice. They have a heavy burden and do not receive salaries commensurate with their work and are deprived of quality professional development opportunities

RESEARCH BACKGROUND

Due to the importance of evaluating the quality of education, especially in deprived areas, domestic and foreign researchers have conducted significant research in this field, some of these research are mentioned:

In Iran, research has been done on the quality of education in deprived areas. In his research, Vakilzadeh (2022) investigated the role of management in the teaching-learning process of students in multi-grade classes and concluded that the decrease in the population of villages due to the migration of villagers to the cities caused a decrease in the student population and as a result, There has been an increase in multi-grade classes. These issues can include lack of time, large number of students in each grade, lack of knowledge of teaching methods in multi-grade classes, lack of educational materials, inappropriate age composition of students, and lack of concentration. To deal with these problems, it will be necessary to pay attention to how to manage the classroom and effective teaching methods.

Also, Niazi Qaraei Nasrabadi and Masoumeh (2022) investigated the factors affecting the quality of performance of multi-grade teachers in their research and concluded that, in order of these factors, which include: teacher training institution (Farhangian University), courses, and in-service training (professional development of teachers), teaching methods, evaluation system, educational materials and curriculum content of multi-grade classes are effective on the professional performance of multi-grade teachers.

In research, Moradi and Kordalo (2021) investigated the educational damage in multi-grade

classes and concluded that the problems of multi-grade schools include lack of time, facilities and teaching aids, use of less motivated and less experienced teachers, methods Inefficient teaching, age difference and gender composition, bilingualism, basic academic weakness, high absenteeism of teachers. Partly through changing the curriculum of multi-grade classes, 2- Using active teaching methods such as game-based teaching methods, 3- Using the peer-student method, 4- Internship in teacher training courses, 5- In-service training, 6- Multimedia education, 7- Compilation of educational materials for multi-grade classes. In 1400, Badakhshan studied the quality of multi-grade classes in research and concluded that: 1- professional qualifications and characteristics related to the teacher, 2- family model; 3- The situation related to schools; 4-Politicizing educational goals 5-Subjects related to learners (the most important criteria and indicators of quality in multi-grade classes.

Torbatinejad, and Hatami (2021) in their research titled *Identifying Factors Affecting Educational Quality in Multi-grade Classes Elementary (A Case Study of Multi-grade Schools* concluded that teachers' professionalism, students' participation and cooperation, teacher-student relationships, equipping and smartening, the culture of the people and the region, and the quality of teachers' work life are effective.

Dehbarzian (2019) in a study under the title *improving teaching in multi-grade Classes*, it was concluded that the most appropriate teaching methods in multi-grade classes are: lecture, question and answer, and collaboration,... and are better for managing classes The following factors should be implemented by the teacher: 1-Establishing sincere communication between the teacher and the learner 2- Delegating responsibility among the students 3- Planning and managing the class according to the abilities of the students 4-Class arrangement 5-The role of parents in education.

Mahdiun et al. (2016) in their research titled *Identifying the factors affecting the quality of schools using the point of view of education experts* investigated the current status of the quality of schools from the students' point of view. came to the conclusion that 25 sub-categories and 10 main categories were counted, which are: 1- environmental factors, 2- teacher characteristics, 3- facilities and equipment, 4- school principal, 5- student

characteristics, 6- relationships Human 7- Family, 8- Educational goals and teaching content, 9- Resources, 10- Teaching method. Based on the data obtained from the qualitative part, a questionnaire was created and implemented among 288 male high school students of Azarshahr city who were selected by simple random sampling. The results showed that the current mean of the quality of schools is significantly higher than the mean of the society and is in a favorable condition. The two factors of facilities and equipment and the factor of educational goals and teaching content were lower than the community mean and unfavorable.

Among the international research related to the quality of education in disadvantaged areas, the following can be mentioned: Ndava (2022), in research that examined the quality of education and the lived experiences of students with disabilities in selected primary classes in Lusaka district. It concluded that learners' experiences are limited due to teachers' heavy workload, management issues, poor reading materials with small text for learners with visual challenges, and teachers' lack of sign language knowledge. Also, this research showed that the lived experiences of students with disabilities in selected elementary classes in Lusaka lack the necessary quality to promote effective inclusive education.

Naparan and Alinsong (2021) in their research titled *Quality Assessment of Multigrade Classes*, came to the conclusion that the strategies of multigrade teachers' classes include: classroom management, cooperative learning, use of differentiated instructions, connecting the population of villages due to the migration of villagers to cities, The decrease in the country's population growth has led to a decrease in the number of students and as a result, an increase in multi-grade classes.

Sharifa (2021) in her research titled *Using Different Instructions in multi-grade Classes*, which she conducted from a small school in the Maldives, concluded that there is a high level of differentiated instruction that takes place in multi-grade classes and it has several advantages that are related to the academic progress of students as well as the psychosocial development of students. Also, the findings identified the lack of competence of teachers, lack of time for high workload, and assessment of students' learning as the most important challenges of using different instructions in multi-grade schools.

Okamoto (2020) in his research titled "Opportunities and Challenges in Multigrade Education Using Direct and Indirect Teaching Methods with Philippine Watari and Zorashi Approaches: Experiences of Kagai Anon Riya Schools in Japan" concluded that Teachers have learned new concepts in multigrade education, improve teaching skills, increase self-esteem, increase structure and organization in lesson planning, understand the dynamics of lesson study, take preventive measures. They start for language learners, which include: shared responsibility through the student facilitator of learning, receiving technical assistance from the superior, and being capable in the field of initiative and creativity. However, teachers confirmed that they faced challenges in their classrooms such as physical discipline, class size, blackboards, and text message preparation. Despite the challenges, multi-grade teachers have seen positive changes in learners' behavior. It is recommended that identified challenges be addressed with the help and support of internal and external stakeholders as well as other existing professional learning communities.

Msimanga (2019) in his research on the use of different types of teaching resources for multi-grade classes concluded that it exposes students to a variety of topics, and the use of effective resources enables teachers to attract and retain the attention of learners more quickly.

Throughout the article, the term "traveling teacher" will be used, and it refers to those elementary teachers who, due to the lack of teachers and the small number of students, teach in several villages during the week and teach all their teaching hours full-time. During the week, they will not spend the week in a certain village and they will be moving to several villages close to each other.

Research Questions

1- How is the fit of the identified model for the quality of education in traveling Teachers?

2- Is there a difference in the views of educational leaders and flight teachers regarding the educational quality model in these schools?

3- What effect does teaching through the educational design model of flight classes have on the quality of students' reading concepts?

4- Is the educational progress of students who use this model different from others?

5- Is there a difference in the communication skills acquired in the two groups?

RESEARCH METHODOLOGY

In terms of practical purpose and terms of data collection and nature, the current research was a pre-post-test quasi-experimental research method with a control group. The statistical population of the research includes all students of multi-level flight classes in rural schools in two parts of Baneh city.

The research tool was a researcher-made questionnaire based on qualitative findings. This questionnaire had 2 dimensions, 11 components, and 81 indicators, which were graded in a range of 5 options (1- I completely disagree, 2- I disagree, 3- I have no opinion, 4- I agree, and 5- I completely agree). The validity of the questionnaire was examined with face validity (testing professors) convergent validity (mean-variance extracted: AVE) Cronbach's alpha test and composite reliability were used for reliability (Table 3). In the present study, the structural equation method with a partial least square approach (SEM-PLS) was used to analyze the data and present the model. SEM-PLS is one of the second-generation approaches to structural equations that is component-oriented and has higher accuracy with a smaller sample size.

Table (1): The list of Participates In The Validation Of The Traveling Teachers Model

Interviewee Code	Gender	Edu. Degree	Workplace	Position
1	Male	MA	NemehShir District	Supervisor
2	Male	MA	Nanur district	Supervisor
3	Male	MA	Village	Traveling Teacher
4	Male	MA	Alut District	Supervisor
5	Male	MA	Village	Traveling Teacher
6	Male	BA	Village	Traveling Teacher
7	Male	MA	Village	Traveling Teacher
8	Male	MA	Village	Traveling Teacher
9	Male	BA	Village	Traveling Teacher
10	Male	BA	Village	Traveling Teacher
11	Male	MA	Village	Traveling Teacher
12	Male	MA	Village	Traveling Teacher
13	Male	BA	Village	Traveling Teacher
14	Male	MA	Village	Traveling Teacher
15	Male	MA	Alut District	Traveling Teacher
16	Male	MA	Village	Traveling Teacher
17	Male	MA	Central District	Traveling Teacher
18	Male	MA	Village	Traveling Teacher
19	Male	MA	Village	Traveling Teacher
20	Male	MA	Village	Traveling Teacher
21	Male	MA	Alut District	Traveling Teacher
22	Male	MA	Village	Traveling Teacher
23	Male	BA	Village	Traveling Teacher
24	Male	BA	Village	Traveling Teacher
25	Male	MA	Village	Traveling Teacher
26	Male	MA	Village	Traveling Teacher
27	Male	MA	Village	Traveling Teacher
28	Male	MA	NemehShir District	Traveling Teacher
29	Male	MA	Alut District	Traveling Teacher
30	Male	MA	Central District	Traveling Teacher

Question 1: How is the fit of the identified model for educational quality in traveling Teachers?

The PLS method, which is one of the approaches of the SEM method, was used to check the fit of the model and analyze the data. This analysis requires the

examination of two structural parts (internal model) and measurement (external model), in the structural part of the model, Cronbach's alpha criteria, composite reliability, and mean shared variance (AVE) were examined, which should be greater than 0.7. In Table 3, the results of the structural section are presented.

Table (2): Cronbach's Alpha Coefficient, Composite Reliability, and Mean Shared Variance

Factor	Cronbach's Alpha	Composite Reliability	AVE
Goals and Missions of Education	.83	.85	.76
Student Analysis	.81	.83	.74
Educational Spaces	.71	.79	.72
Human Ethical Relations	.82	.84	.78
Teaching and Learning Process	.71	.73	.73
Participation with Family	.75	.81	.77
Empowering Teachers	.75	.77	.75
Management and Leadership	.73	.76	.85
The Content of Training	.85	.86	.76
Teaching and Learning in Mobile Schools	.82	.88	.86
Politics	.71	.73	.87
Monitoring and Evaluation	.91	.73	.74

In Table 2, the factor loading at the level of one percent for the components of each part of the research variables has been calculated. The factor load determines the intensity of the relationship between the latent variable (construct) and the manifest variable (indicator) during the process of path analysis. In the confirmatory factor analysis, the questions that are not sufficient to explain the variables of the model are eliminated after being identified by the standardized coefficients; So if it is more than 0.4, the adequacy of the questions is confirmed and the fit of the measurement model is

confirmed. It should be noted that to control the significance of the relationships between each question and the corresponding variable (fit of the measurement model), if the significance coefficients (t-value) of each sub-component decrease from 1.96, that question should be removed. Because that question is weak in explaining the related variable its presence in the model increases the measurement error in the subsequent calculations. According to Table 2, the significant coefficients (t-value) related to all questions are greater than the criterion value of 1.96.

Table (3): Statistical Factor Loading At One Percent Level For Research Components

Thems	Sub-them	Factor Loads	Coefficients
The goals and missions of	Determining the goals of the primary course by the fundamental transformation document and other upstream Documents.	.844	11.29

elementary education	Setting and compiling goals and a comprehensive annual program for traveling Teachers	.862	12.57
	Determining the goals of the academic course (special flight) for all flight teachers and educational leaders.	.922	19.37
	Creating a connection between education and learning with social and life realities	.894	16.5
	Determining the person responsible for the implementation, time, and credit required for the actions of the school's operational plan.	.866	15.7
	Counting and prioritizing the needs, determining the expected current situation, setting goals in setting the annual program	.846	8.2
Human relations	creating an atmosphere of trust and confidence, expressing opinions and feelings, and feeling belonging to traveling Teachers.	.895	13.7
	Creating the right opportunity and environment for developing and cultivating their talents, abilities, and flourishing	.842	10.71
	Creating an atmosphere of trust and confidence, expressing ideas and opinions, and feeling of belonging to traveling Teachers	.842	8.85
	Regular and purposeful interaction with flight teachers of other departments and cottages	.901	12.54
	Acquaintance with citizenship rights and creating opportunities for active school participation in community issues	.883	14.12
	Increasing the quality of principals' education	.895	11.32
	Meritocracy in the appointment of principals	.878	12.08
Teaching and learning	Psychological and educational expertise of teachers	.856	10.03
	Increasing the knowledge and professional skills of teachers, such as holding educational workshops	.852	7.200
	Empowering teachers and students in the field of artistic subjects and fostering creativity	.867	12.86
	The attitude of the teacher towards the learner.	.900	13.56
	Strengthening schools with emphasis on group research of flight teachers with educational leaders	.884	11.59
	Employment of expert teachers	.859	9.097
	Development and strengthening of basic courses and skill training for students of Traveling Teachers	.894	15.19
	Teachers' motivation	.868	11.98
	Emotional relationship with students	.847	7.305
	Teacher's critical thinking	.835	10.25
	Evaluation of teachers	.836	9.08

Analyzing students Educational environment (school)	Identifying students to measure their readiness to accept change and learning	.889	16.78
	Selection of their most important factors based on the degree of importance and influence in Traveling Teachers	.914	16.08
	Traveling Teachers should take care of the individual differences of students	.846	11.59
	Two-way communication and interaction between students and teachers	.782	7.81
	Teacher's attention to students, answering questions, along with emotional needs	.874	13.08
	suitable educational environment	.881	14.14
	Attention to the potential of educational spaces and schools	.865	16.1
	Physical space of schools	.820	6.82
Educational content	Learning the content is equal to reaching the educational goals	.915	17.39
	Learning is considered an intellectual and cognitive growth	.866	11.83
	Creativity and innovation in using educational texts	.861	11.55
	Updating educational content	.863	11.70
	Compilation of the objectives of the basic courses for Traveling Teachers	.880	11.49
	Consistency of content with students' abilities	.873	12.32
Presenting	Breaking down the curriculum into smaller subjects	.860	11.66
	Identifying the longitudinal and transverse relationship between bases	.856	9.78
	Using the best educational models	.776	6.85
	Identification of common subjects, determination of prerequisites	.899	16.38
Educational infrastructure	Educational facilities and equipment	.886	15.76
	Using educational technologies	.885	16.45
	Strengthening infrastructure	.874	10.95
	Accessing to social media	.886	14.42
	The use of group penance to strengthen educational facilities	.777	8.60
Family- school Cooperation	Families' cooperation with school	.872	14.96
	Strengthening interactions at the regional level between traveling Teachers and multi-grade schools	.881	11.77
	Holding the general assembly and elections of the parents and teachers' association for two schools	.893	16.97

Question 2: Is there a difference between the views of educational leaders and flight teachers regarding the educational quality model in Traveling Teachers?

To investigate this question, based on a questionnaire, the views of 30 flight teachers and educational leaders were investigated. The items of the questionnaire are listed in table (4).

Table (4): Questionnaire items of the proposed model for Traveling Teachers

Row	Item
1	To what extent is the proposed model suitable for training in flight classes?
2	To what extent are the relationships between model elements suitable for these classes?
3	To what extent is the arrangement of model elements suitable for these classes?
4	To what extent are the dimensions of the proposed model complete?
5	To what extent are the mentioned elements related to the subject of the research?
6	In general, how much of this model do you suggest for Traveling Teachers?
7	To what extent is the mentioned model comprehensive and an obstacle for Traveling Teachers?

Table (5): Sample t-test of Internal Validity Of The Model for Traveling Teachers

Item No.	Frequency	M	SD	SME	The Hypothetical Mean Value =3			
					Md	t	df	Sig.
1	30	3.77	1.01	.18	3.76	2.50	29	0.00
2	30	4.03	.93	.16	4.03	23.80	29	0.00
3	30	3.97	1.09	.20	3.96	19.7	29	0.00
4	30	3.77	1.07	.19	3.97	19.2	29	0.00
5	30	3.97	1.03	.18	3.96	21.02	29	0.00
6	30	4.10	.85	.15	4.10	26.6	29	0.00
7	30	3.77	1.16	.21	3.76	17.70	29	0.00

According to the means obtained in Table (5), it is clear that the experts have evaluated the designed model positively in all dimensions to investigate whether the mean answers of the participants to each question are significantly higher than the mean scores in each question (3) or not. The results of each sample were analyzed. Based on the results obtained from the one-sample test, the mean obtained from the items is higher than the hypothetical mean (3). According to the single-sample t value for each sample at an error level of less than (0.01), this mean difference is statistically significant ($p \leq 0.01$). The mean difference indicates that the actual mean is higher than the hypothetical mean; Therefore, from the point of view of educational leaders and flight teachers, the credibility of the flight classes training model is at a high and favorable level.

Question 3: What is the effect of teaching through the educational design model of flying classes on the quality of students' reading concepts?

Table. (6): The results of the Shapiro-Wilk test to check the normality of learning

Group	N.	Shapiro-Wilk statistic	Significance Level
Experiment	20	.933	.176
Control	20	.939	.234

The significance level of the Shapiro-Wilk test for the research variable is greater than the first type error of 0.05, and as a result, it shows that the scores obtained from the research questionnaires follow the normal distribution at the level of the first type error. Therefore, it is valid to use the parametric test of covariance analysis to test the hypotheses of the research. Another assumption of the variance analysis test is the assumption of equality of variance of the scores of each variable in the studied groups (experimental and control), which can be done using Levine's test. Table 6 shows the results of the equality of variances of the scores of each variable between the experimental and control group shows.

Table (7): Results of homogeneity of variance scores of variables

variable	F statistic	Significance Level
Learning	2.59	0.12

Based on the findings of Table 7, it can be seen that the significance level of the equality of variance test for the dependent variable is greater than the first type error of 0.05, it can be said that there is a condition of equality of variances. The use of covariance analysis in the research data is unimpeded and the reliability of the results obtained from it is confirmed. In the following, the descriptive statistics of the students' learning between the two experimental and control groups will be mentioned first, and then the results of the covariance test will be mentioned. The mean and standard deviation are as follows:

Table (8): Descriptive statistics of Pre-Test and post-test learning Scores

Groups	N.	Pre-test		Post-test	
		M	SD	M	SD
Control	20	3.26	1.76	4.14	1.75
Experiment	20	2.69	2.003	4.46	2.03

As can be seen in Table 8, the mean learning scores of students in the control group in the pre-test stage is 3.26 with a standard deviation of ± 1.76 and in the experimental group, it is 2.69 with a standard deviation of ± 2.003 . Is. While in the post-test, the mean score in the control group is 4.14 with a standard deviation of ± 1.75 and finally in the experimental group it is 4.46 with a standard deviation of ± 2.003 . Descriptive results (means) in Table No. 8 show that the student's learning in the experimental and control groups, the mean scores of the post-test have changed compared to the pre-test.

Determining and Controlling Synchronous and Unwanted Variables: Given that in this research, a pre-test, post-test research design with a control group was used, and in such designs, the effect of an independent variable on another dependent variable is measured, what is important Synchronous and intervening variables are controlled, in fact, that part of the variance of the dependent variable, which is caused by the variance of the synchronous and intervening variables, is subtracted from the total variance so that group differences can be examined in terms of the adjusted variance, so in this research, The effect of the pre-test has been controlled using covariance analysis in the

post-test. Considering the assumptions of the normality of the distribution of scores, homogeneity of variances, and multivariate covariance analysis to obtain Inferential results were presented.

Table number (9): The Results Of The Covariance Analysis Of The Effect Of The Educational Model In Multi-Level Traveling Teachers

Variables	SS	MS	F	df	Sig.	Eta Squared	Power
Pre-test	371.17	17.37	5.47	1	.059	.13	.625
Group membership	61.88	61.88	19.49	1	.001	.34	.99
Error	3.17	117.14	-	37	-	-	-

As shown in Table No. 9, after removing the effect of the pre-test on the dependent variable and considering the calculated F coefficient, it can be seen that between the adjusted means of students' learning scores according to group membership (experimental group) and the control group (in the post-test stage ($F=19.494$)) there is a significant difference ($P=0.001$). Therefore, this research is approved. Therefore, the training based on the flight class training model (experimental group) in the post-test The intensity of this effect is 34.5% in the post-test stage. In other words, the learning rate of multi-level flight students who are exposed to training using the multi-level flight class design model is more than knowledge. Flight students are not exposed to this method.

Question 4: The effect of the model of improving the quality of education on the academic progress of traveling teachers' students in the villages of Baneh city.

In the present research, the meaning of academic progress is academic progress, communication skills, and the positive attitude of the students towards the flight school, which is analyzed separately.

1-1- The difference in the variance of the grades of the two groups was investigated to check the academic progress of the students, which was not statistically significant. Assuming equality of variances, the academic progress of students of the two groups was compared based on their GPA at the end of the academic year using a t-test. Considering that the calculated t-index, in four mean tests (separated by educational level) is greater than the critical t-index in the tests of one domain, taking into account a percentage of error, therefore, the hypothesis of the equality of the mean educational progress of the experimental group and the control group Rejected with 99% certainty; In other words, the difference between the mean academic progress of the experimental group and the control group was statistically significant. The available data show that the mean scores of the experimental group are higher than the mean of the control group. The mean academic achievement of the experimental group was higher than the mean of the control group in all four grades of the studied sample, as well as the mean of the experimental group in all four grades; Therefore, it can be concluded that the quality improvement model has increased the academic progress of students.

Table (10): Statistical Indicators and Mean Test Of Two Independent Groups For Academic Progress By Educational Level

GRADE	GROUP	VARIANCE	RESULTS	MEAN	P	t	RESULTS
3	Experimental	.822	.83<.37	17.74	.001	6.35	2.33<6.35
	Control			15.09			
4	Experimental	1.53	1.53<.29	17.78	.001	7.98	2.33<7.98
	Control			14.78			
5	Experimental	2.26	2.67<.143	14.76	.001	7.95	2.33<7.95
	Control			17.55			

6	Experimental	1.30	1.30> .263	14.97	.0001	8.15	2.33<8.15
	Control			14.72			

1-2- The communication skill in two groups was checked and compared with the skill grading scale. After completing the final draft, the mean score of the students of the experimental group and the control group was compared using the t-test of independent groups. The level of students' participation was checked using 12 related questions in the draft. Considering that the t-index calculated for skill (24.809) and participation (16.65) is greater than the critical t-index, with 99% confidence, the null hypothesis that the mean communication skill and the level of the rejected the students' participation in the teaching-learning process. Therefore, the quality improvement model has increased students' communication skills and their participation.

Table (11): Statistical indicators and mean test of two independent groups for communication skill score (total questionnaire)

Variable	Communication skills				Mean Test				
	group	M	SD	MSR	t	df	P	Md	SED
Total Questionnaire	Trial	3.4	1.02	.018	24.8	198	.001	.64	.026
	Control	2.76	1.03	.018					

Table: (12) Statistical indicators and mean test of two independent groups for participation score (14 questions)

Variable	Participation				Mean Test				
	group	M	SD	MSR	t	df	P	Md	SED
Participation	Trial	3.4	1.04	.03	16.65	198	.001	.69	.04
	Control	2.89	.99	.029					

The effect of the designed model on students' emotional attitude to school was also investigated. The attitudes of the two groups were examined and compared with the researcher-made attitude meter with 50 questions. We used the factor analysis method to check the construct validity of the attitude gauge questionnaire. Before implementing the factor analysis, two issues of sampling adequacy and assurance that the correlation matrix underlying the factor analysis in the society is not equal to zero were studied; The results of the investigation are given in Table 13:

Table (13): Test size (KMO) and Bartlett's sphericity test of the correlation matrix of the questions

Keyser-Meyer-Olken sampling adequacy scale		0.896	
Bartlett's sphericity test	X squared		29881.8
	Df	1225	
	P	.001	

Factor analysis of five factors with 86% variance explanation led to identification (learning/grade, application of learning, activity in class, attendance at school, and gender/self-concept). The mean scores of the students of the experimental group and the control group in each of the questions and also in each of the five factors were compared by using the mean test of two independent groups. The results show that the mean attitude scores of the experimental

and control groups have statistically significant differences in all five factors of attitude toward school. The mean score of the students of the experimental group and the control group in the entire questionnaire was also compared using the test of independent groups, and considering that the calculated t-index (378.23) is greater than the critical t-index 33.2, with 99% confidence of the hypothesis The zero based on the equality of the mean positive attitude towards the school of the experimental group and the control group is rejected and the effect of the quality improvement model on the positive attitude of the students towards the school is confirmed.

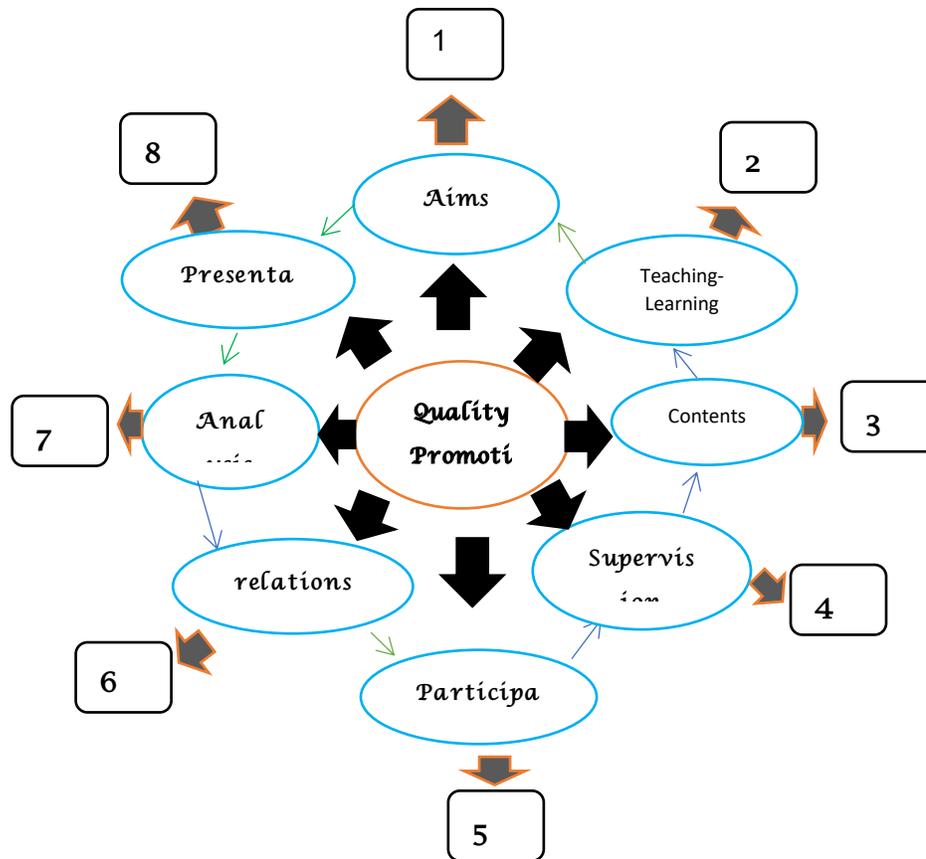
Table (14): Statistical indicators and mean test of two independent groups for the score of positive attitudes toward school

Variable	attitudes towards school				Mean Test				
	group	M	SD	MSR	t	df	P	Md	SED
Total Questionnaire	Trial	3.47	1.41	.021	23.37	198	.001	.69	.049
	Control	2.8	1.33	.020					

DISCUSSION

The project of flying teachers is one of the important innovations of the education system in Kurdistan province (Baneh city), which can provide a new face of the necessary goals and tools, the lack of primary experts in the education system and fundamental and extensive changes in other components of education and Education that creates literacy. The evaluation of traveling Teachers is a new model that tries to provide an environment for students to learn better, more and more deeply the subjects (reading, writing, and math) in the classroom. However, the design of this type of school has been done without considering the special conditions of multi-grade classes and mostly focusing on flying classes in two villages. Based on this, the model of quality improvement in the present study was first designed by using the research method and the results of effective research in improving the quality of education and analyzing the existing situation (Bane City of Kurdistan province). Presenting the model and validating it with the help of structural equations. After fitting the model, the opinions of the educational leaders and flight teachers regarding internal validation were conducted experimentally in two experimental and implementation control and external validation groups. According to survey questionnaires, structured interviews, as well as behavioral observation based on the obtained coding and classification programs, and the review of documents and books, review and study of the document of transformation in education, national curriculum, frameworks Theoretically, theses, nine factors were identified to improve the quality of mobile schools; which includes: goals and missions of primary education, human-ethical relations of flight principals and teachers, training, and learning of teachers, students, educational environment (school), educational content, learning and teaching processes (presentation) and educational infrastructure, each of which includes sub-components There are also

In this section, while presenting the calculated factors depicted in Figure 1, the description, reasoning, and analysis of the questionnaires are reflected. In this research method, after categorizing and preparing information for processing, statistical, mathematical, or computational techniques were used to model the behavior of phenomena.



1. The goals of the academic course for all teachers and educational leaders - Compilation and adjustment of the school's action plan - Compilation of the charter of traveling teacher - Vision and action plan of the school

2. Establishing constructive communication in teaching - Developing the efficiency of information technology in teaching - Strengthening schools with emphasis on group research

3. Learning the content is equal to reaching educational goals - reasonable and good content should be in line with achieving the goal - the main goal in traveling Teachers is to achieve knowledge and information

4. Analysis of classroom observations - Supervision of teaching implementation process by educational leaders - Complete and accurate implementation of administrative and executive affairs of the school - Continuous supervision and guidance of officials in the direction of self-evaluations

5- the quality of the council - holding meetings with parents and educational leaders - participation of employees in decision-making - attracting public participation - information from parents to identify their capacity and capabilities in the affairs of traveling Teachers.

6. Regular and purposeful interaction with flight teachers - application of beneficial innovations to improve school performance - the opportunity to grow and provide creativity and initiative of the beneficial -. Creating opportunities and a suitable environment for developing talents and abilities

7. Examining the incoming behavior, identifying the ability of the learners, - identifying the cognitive, emotional, psychological, and social characteristics of the students - creating a suitable platform for development

8. Integration of related contents in different levels - interactive and active teaching methods - identification of common topics, determination of prerequisites - identification of longitudinal and transverse relationships between levels

Figure 1. The Design Of The Final Model For Improving The Traveling Teacher's Teaching

The quality of the educational system in multi-grade schools is always one of the most important and basic concerns of the educational system officials, that the flying teacher can be considered as a solution to eliminate the shortcomings in multi-grade schools, so the present study aims to provide a model for improvement. The quality of the education system in

multi-grade schools with an emphasis on teachers was poor.

According to the analyses related to the fit of the model, the findings from the expert's point of view are divided into 2 main dimensions (internal and external factors) and 9 components (goals and missions of primary education, human communication, teaching

and learning of teachers, analysis of students, educational environment, educational content, learning and memorization processes (presentation), educational infrastructure, family and school participation) were the results. This analysis requires the investigation of two structural parts (internal model) and measurement (external model), which is the structural part of the model, the criteria of the structural part of the model, Cronbach's alpha criteria, composite reliability, and mean shared variance (AVE) should be checked, which should be more than 0.7. For the external validation of the model, a researcher-made test was used. As a result, data analysis with PIs Smart structural equations also showed that the identified components can predict 0.83 of the educational quality variables ($R^2=0.83$), and the overall fit of the model was also confirmed. (GOF 0.52)

The findings of this research with some research results such as Najafi al., (2021), Mahdiun et al. (2016) who considered the role of facilities, equipment, educational goals, and teaching content as important in the educational quality model; Zagirnejad (2016) who concluded that paying more attention to educational quality depends on more financial resources, improving the status of teachers and reforming management and administrative affairs; Zamani (2015) who found that the general capabilities of the teacher/professor, the organization of educational content and the facilities and equipment are among the factors that influence the quality of education. Yaqoubi and Soltanizarandi (2018) considered the teacher's professional capabilities, assessment skills, personal characteristics, communication skills, and ethics as important elements of the educational quality model;

In explaining the proposed model, it should be said that the presentation of any model depends on many factors, which mainly depend on the culture and values of the societies and their way of looking at the subject of education. So the quality of education in more developed countries can be seen as more than learning and knowledge, and in less developed countries, more knowledge and information increase, Hopkins (2015). The ruling culture of our country is mainly a purely educational (information and cognitive knowledge) view of learning. In other words, quantity and grades still have a high place in our educational system, and a huge number of families still look at grades and GPA as the main indicators of academic success and quality of education. It can be said that families have a more

quantitative than a qualitative perspective on education (learning various life skills) from the very beginning. The presence of teaching aid books even in elementary school is in this direction.

According to the analysis related to the quality strategies of Traveling Teachers, a researcher-made questionnaire was used to evaluate the internal validity of the model between the views of educational leaders and flight teachers. This questionnaire included seven questions on a Likert scale to examine different dimensions of the proposed model. The questions of the questionnaire included the following: 1- To what extent are the dimensions of the proposed model complete? 2- To what extent is the arrangement of the elements of the model appropriate? 3- To what extent is the proposed model suitable for teaching in multi-grade classes? 4- In general, to what extent do you suggest the use of this model for multi-level classes? 5- To what extent are the mentioned elements related to the subject of the research? 6- How appropriate are the relationships between the elements of the model? 7- To what extent is the mentioned model comprehensive and a barrier? The results of the answers to the questions of the questionnaire were examined and analyzed after the comments of 30 respected experts and professors in the field of educational design and curriculum planning. The mean scores in all questions except questions 3 and 7 (94.3) were higher than 4.

The results of the analysis of the internal validation questionnaire were calculated according to t , which is significant at the confidence level of 99% for all the questions, and to answer this question the use of the model of multi-level classes is effective in increasing students' learning. is, after analyzing the qualitative content with an inductive approach, 9 components were extracted. Based on the opinion of experts, consultation with supervisors and advisors, and the implications obtained from the literature of past research, the elements were placed next to each other in the form of a pattern. (Chart 1) After internal validation of the model, to determine its validity in practice, the model was implemented through a quasi-experimental method in two groups of flight class students in two different villages who were willing to cooperate, for 8 sessions. Before the implementation, two groups were pre-tested, and after the implementation of the model in the experimental group, a post-test was taken. The mean pre-test scores were 26.3 in the control group and 69.2 in the experimental group, and the mean post-test scores

were 14.4 in the control group and 46.6 in the experimental group.

In this research, multivariate covariance analysis was used for the inferential analysis of the results. As can be seen from the grades, there is a significant difference between the mean scores of students' academic progress based on group membership (experimental group and control group) in the post-test stage ($p=0.001$). Therefore, the application of the training model in flying classes has affected the students' learning. The results of the research by Lainehan (2013), Azizi and Hossein Panahi (2013), Rahimi et al. Wilkinson and Hamilton (2003), Anderson (2003), Kindt et al. (2013), Smith and Angeli (2015).

Regarding the effect of the model of improving the quality of education, on the academic progress of students of traveling Teachers in the villages of Baneh city, improving the quality of education means achieving the performance expected from the learner and satisfying him. Many elements and factors can be examined in the quality axis; The axes that have been taken into consideration in the current research and the design of the quality improvement model are: the learner, the content, the educational environment, the process of teaching, learning, participation and human communication, and after their pathology, effective solutions to reduce the existing barriers and quality improvement were presented. The interventions were carried out based on the presented model and its educational package, to activate teachers and encourage them to use active and cooperative teaching methods, increasing the participation of students in various departments, especially in Class activities, and helping each other in learning deeper concepts have been applied.

The increase in the academic progress of students in this research confirms Bruner's developmental model that if the course material is presented according to the student's cognitive capacity, they will be able to understand it. Also, this finding is consistent with the researchers' findings that the use of collaborative methods is more effective on academic progress (Santrak, 2008), and the effectiveness of the use of various restorative procedures such as study sessions, student collaboration groups, One-student teaching confirms re-learning and alternative teaching materials (Lefrancois, 2010). The results of using this model with the success program for all (Esalvino Madon, 2001) which is a combination of effective teaching

programs providing hints and feedback and using the cooperative program and individual education and has been effective in the progress of students in completely deprived areas., is also consistent. In the quality improvement model, Vygotsky's scaffolding and Bandura's social-cognitive theory were also used, stating that models can be a facilitating or inhibiting factor of behavior; More efforts of students to learn and help each other, considering the significant difference in the level of participation of the studied students, supports this approach. The findings of the current study are in line with the findings of Enthai Arani, Vasifian, Beigi, Bahadran, Khosravi, and Pushneh (2021).

In explaining the results of this research, it can be said that the implementation of the model of improving the quality of traveling Teachers gives teachers and educational leaders more access to documents and become more aware of the provisions contained in the fundamental change document and the mission of education strategies. The culture of study and research is developed among the teachers of multi-grade classes and traveling Teachers, and it promotes the promotion of the rural teachers' council, occupational and specialized training is expanded, and the principals exchange more experiences. Educational and educational space and equipment are used appropriately, active and creative methods and diverse environments are used in the teaching-learning process, and scientific and correct educational evaluation methods are used to measure the learning rate of these types of schools. Students will have an active participation in the administration of the school, and this will make the student organizations and councils among the traveling Teachers have a favorable activity, as a result, the spirit of teamwork and teamwork will be strengthened in the students and the necessary ground for more participation of the students in the activity. Educational programs, festivals, scientific, cultural, and artistic competitions should be provided, and parents of students should also be encouraged to participate in the program and implementation of educational and educational affairs of the school, their awareness about educational issues should increase, and finally, the quality of the schools would increase. base and flight upgrade.

The proposed model of this research with various components can be suitable for evaluating the educational quality of rural multi-grade schools. However, the research results have limitations; Among other things, this research was a case study and

it was not possible to investigate on a larger level due to the lack of facilities and financial ability of the researcher. Another limitation is that there are no other models to compare with the current model to compare and match the results. Looking at the results obtained, the following are suggested to improve the quality of education and achieve effective teaching: Given that the quality of any educational system ultimately depends on the quality of the teachers of that society. The most important strategy for continuous professional development of teachers is in-service training. It is suggested to organize a festival of best teaching models regarding teaching in mobile and multi-level classes and introduce successful figures and best experiences in the form of books and publications (modeling successful teaching), to exchange creative, efficient, and effective experiences among flight teachers to improve their qualifications. Their professional actions should be taken. Creating grounds for increasing the participation of learners in the teaching-learning process and using various educational strategies and active and cooperative teaching methods; Design patterns of the number of experiments in response to quality for whom and with what purpose and examine the extent of their effectiveness and to revise and revise the content of the specialized courses of Farhangian University with the approach of improving the quality of education. Wider use of this model and checking its effectiveness in various situations with an emphasis on attracting the participation of the local community and the cooperation of students in the teaching-learning process. Paying more attention to solving the problems of flying teachers from the authorities and people so that they can find more motivation for education.

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