

QUALITATIVE EVALUATION OF TRAINING ON HAND AND BASIC HYGIENE USING DIFFERENT TRAINING TECHNIQUES

Şükran KÖSE

Prof. Dr., Dokuz Eylül University

Faculty of Medicine Department of Infectious Diseases and Clinical Microbiology, İzmir

ORCID ID: <https://orcid.org/0000-0002-4228-1213>

sukrankose@yahoo.com

Pembe KESKİNOĞLU

Prof. Dr., Dokuz Eylül University

Faculty of Medicine Department of Biostatistics and Medical Informatics, İzmir

ORCID ID: <https://orcid.org/0000-0002-3459-1828>

pembe.keskinoglu@gmail.com

Ali Günay BALIM

Prof. Dr., Dokuz Eylül University

Buca Faculty of Education, Department of Mathematics and Science Education, İzmir

ORCID ID: <https://orcid.org/0000-0003-2010-1696>

agunay.balim@deu.edu.tr

Ekin KESKİNOĞLU

Doctoral Student, MD, Dokuz Eylül University Institute of Health Sciences, İzmir

ORCID ID: <https://orcid.org/0009-0003-9579-1529>

ekinkeskinoglu0@gmail.com

Selma GÜL SEVER

Assoc.Prof.Dr., Uşak University

Faculty of Medicine Department of Infectious Diseases and Clinical Microbiology, Uşak

ORCID ID: <https://orcid.org/0000-0002-9072-7320>

selma.sever@usak.edu.tr

Received: November 13, 2025

Accepted: January 18, 2026

Published: January 31, 2026

Suggested Citation:

Köse, Ş., Keskinoglu, P., Balim, A. G., Keskinoglu, E., & Gül Sever, S. (2026). Qualitative evaluation of training on hand and basic hygiene using different training techniques. *International Journal of New Trends in Arts, Sports &Science Education (IJTASE)*, 15(1), 1-8.



Copyright © 2026 by author(s). This is an open access article under the [CC BY 4.0 license](https://creativecommons.org/licenses/by/4.0/).

Abstract

Effective implementation of basic hygiene and hand washing trainings in schools and monitoring of their results are important for child health. Basic trainings are important in preventing many infectious diseases that cause childhood deaths and ensuring continuity of education and training. Although the basic hygiene problem in schools is a problem of underdeveloped and developing countries, it is also considered in the foreground in developed countries. The effectiveness of the trainings, which are also accepted as an intervention, is measured quantitatively and qualitatively, contributing to the determination of subsequent educational interventions. In this study, a comprehensive training in Izmir Province 10 years ago, where different educational techniques were applied, was evaluated qualitatively. In the qualitative study, a focus group interview was conducted and the people who took part in the training event participated. The recorded interview was analyzed with content analysis. In the analysis; interviews were collected under 6 themes. Four of the themes were determined as positive, while the themes of useful, interactive, student-focused different educational techniques, the characteristics of schools (basic hygiene education is very necessary for schools), cooperation and sustainability were determined as negative themes. The qualitative study revealed the creation of collaboration protocols and training manuals on basic hygiene as targets for further work.

Keywords: Basic hygiene, hand washing, school training, active training techniques, qualitative study.

INTRODUCTION

Globally, 2.4 million deaths occur in developing countries due to diarrhoea and related malnutrition. These deaths can be prevented by good hygiene practices, adequate and safe sanitation and access to clean drinking water. One meta-analysis reported that effective handwashing reduced lower and upper respiratory tract infections by 21% and gastrointestinal diseases by 31%, while another study reported that soap-related handwashing reduced the risk of diarrhoeal diseases by 42% to 47% (Rabbi, 2013). Hand hygiene is one of the most important actions for the prevention of infectious diseases and the protection of health (WHO, 2009). Basic hygiene rules are important in areas such as food preparation, toilets and bathrooms at home and in common living areas, where pathogens are likely to be transmitted and ingested orally.

Access to drinking water, sanitation and hygiene (WaSH) in schools has been shown to improve child health, educational outcomes and teacher satisfaction (Jasper, 2012). Providing water, sanitation, general hygiene and menstrual hygiene management for girls in schools reduces school absenteeism rates, diarrhoea and other gastrointestinal diseases, especially among girls (Hunter, 2014; Ellis, 2016). Access to basic hygiene and safe drinking water (WaSH) in schools is a universal issue and is addressed in the Sustainable Development Goals (Goals 4 and 6) in national water and education policies in many countries (Glass, 2018; Hunton, 2016). Despite the health, education and development benefits of effective WaSH application in schools, service levels remain inadequate in many countries, particularly in rural areas (WHO, 2018). Primary school is the developmental stage for children, where they learn basic life and behavioral skills. Health behavior formation programs in the school environment have been shown to have a significant impact on later life (Lee, 2010). If health and prevention programs are integrated into the education system at an early stage, the results can be promising (Mbakaya, 2020; Gizaw, 2020).

It is possible to measure the effectiveness of education given at school on hand washing and basic hygiene in the field of health quantitatively. Qualitative studies also contribute differently in determining the effectiveness of education and the remarkable issues in education. Qualitative research is carried out with methods such as observation, interview, and document review to explain the individual or social events experienced by individuals and to investigate their perception on the individual. The aim of qualitative research is to understand the tendencies and experiences of individuals or society on a certain subject (McCusker, 2015). It focuses on “why and how” questions rather than results explained by numerical data. Purposive sampling (typical, outlier, unverifiable cases, etc.) is preferred in qualitative research (Devers, 2000; Sarfo, 2021).

Evaluating the status of hand washing and basic hygiene trainings reaching the desired goals, their determinants, and how future planned trainings should be structured, especially a qualitative study in which trainers will share their experiences and perceptions with their participation, will contribute to these trainings. Basic hygiene information is provided within the scope of routine training programs in primary schools. However, supporting these trainings with trainers from the health field and intersectoral cooperation issues for the trainings to be permanent cannot be provided.

In this study; It was aimed to evaluate the education qualitatively with the trainers in the hand washing and basic hygiene trainings carried out in Izmir Province Boarding Regional Schools 10 years ago. With the results of the qualitative study; It is aimed to define the need for future studies planned together with health and education, deficiencies related to education, and issues that need to be drawn attention.

MATERIAL and METHODS

This study was planned as a qualitative study investigating the experiences, perceptions and evaluations of hand washing and basic hygiene education trainers regarding the training. Purposeful sampling method was applied with typical cases in the study. For example, typical cases are; trainers who actively participate in the training and establish dialogue with the trained children and people

who are involved in the planning and implementation of the training. Six people who participated in the training conducted 10 years ago were included in the study. Two researchers who helped manage and record the focus group interview. Semi-structured form was used with the trainers in the interview. Content analysis of the responses was performed.

The method and data content are reported in detail below.

Qualitatively asked about the characteristics of hand washing and basic hygiene education conducted 10 years ago:

The education program was supported by the TÜBİTAK 4005 program. It was carried out in İzmir Province Boarding Regional Schools. The reason for choosing boarding regional schools is that they are schools attended by children from families with low socioeconomic status and are located in rural areas, they are 7/24 communal living areas, and the support of the Provincial Directorate of National Education is provided for the implementation of education outcomes.

Selection criteria; includes both the difficulties and advantages related to this education. 5367 students participated in the education in 6 schools, and different approaches were applied in the education. Education methods were student-centered, learning by active experience, theater-composition competition, rewarding for hygiene, and learning by gamification. In addition, teachers who could continue the effectiveness of the education in these schools were contacted after the education, and willing teachers were included in the education.

Implementation steps of qualitative evaluation of training

1. Purposeful sampling: For the purpose of the study, 6 of the trainers who were trainers of the training 10 years ago were reached, one of the people reached was an active project manager in the past. These people were allowed to take part in the qualitative study.
2. Interview technique: A focus group interview was conducted with the trainers who agreed to participate in the qualitative study. Semi-structured questions were applied by the manager who had knowledge and experience about the trainings and qualitative studies that were the subject of the focus group interview.
3. Data collection: A data collection form was created that included semi-structured and/or open-ended questions. Although the personal information of the trainers was not included in the data collection form, their basic demographic characteristics, their participation in similar trainings in the last 10 years and their current job status were recorded. 8 questions were created about the training 10 years ago to encourage their participation. The focus group interview manager was the trainer who did not take part in the trainings. The administrator asked questions asking about the experiences of the educators regarding education, their impact on students and perceptions of change in the school, and their implications for structuring subsequent education. The answers and reactions in the environment were recorded by an assistant assisting the administrator. The focus group interview duration was planned as a maximum of 2 hours and was carried out in accordance with this duration.
4. Analysis of the responses: The records and notes kept by the assistant and the administrator regarding the 2-hour focus group interview were transferred to the database in an orderly manner according to the interview order. Codes were created from the opinions obtained from the participants, themes were created from the codes and interpreted with the participant opinions. First, the main themes were determined with thematic analysis. The sentences listed under the themes were determined with descriptive analysis and how they described which themes. Content analysis was performed in the final stage. In the content analysis; the research team interpreted the data, which was first themed and then given meaning with descriptions. In the interpretations, attention was paid to descriptions that were repeated or different from all descriptions.

This study was approved by the Non-Interventional Ethics Committee of Dokuz Eylül University Faculty of Medicine with approval number 2025/20-30.

RESULTS

The descriptive characteristics of the 6 individuals who participated in the focus group interview in the study are presented below. Of the 4 educators who participated in the training evaluated in the focus group interview, 2 were from the health field and 2 were from the education and theater field. In addition, 2 educators who were involved in the organization and education processes were also in the focus group. The manager was from the education field, and the researcher who assisted was from the health field.

Table 1. Characteristics of the participants in the focus group interview

Characteristics	Group	n
Gender	female	2
	male	4
Age group	50 years old and under	2
	50 years old over	4
Education	graduate	2
	postgraduate	1
	academic	3
Working Year	25 years and under	1
	25 years over	5
Having participated in such trainings in school before	yes	4
	no	2

All 6 people in the focus group interview have postgraduate education. 2 of the trainers are professors and associate professors in the academic staff. All trainers have long years of experience in the fields of education, health, and theater arts.

Except for the education evaluated in the interview, all participants reported that they had worked on similar topics in different school educations from time to time. It was thought that all the people in the focus group were experienced with school educations and could observe the educations well and make inferences. The semi-structured questions recorded in the interview provided the structuring of the themes determined by the coding in the Table 2.

Table 2. Determination of themes through coding of participants' statements

Themes	Codes	n
Training is very effective and useful	All training is useful	6
	Different and detailed training techniques	5
	Training content, techniques are interesting	6
	Theatre, games and learning by doing are permanent	6
Interaction in training is mutual	Participatory active learning	6
	Learning with games together	4
	Encountering a theater play for the first time	4
	The duration of training allows interaction	2
Different training techniques are effective	Age-appropriate interesting games	3
	Messages were conveyed with theater and drama	6
	Competitions, active learning encountered for the first time	5
	Encountering different training techniques for the first time	6
Evaluation of trainings	Boarding regional school, has problems with hygiene	3
	Students have problematic families or without families	6
	Encountering different training techniques for the first time	6
Characteristics of students and schools	Perception of trainers as inspectors	5
	Limited participation of teachers in trainings	4
	Inability to carry out training of trainers	6
	Positive return of teachers at the end of trainings	4
Support and participation of school management-trainers in trainings	Theatre, games, active trainings, competitions are effective in a short time	6
	Theatre, games, active trainings, competitions have limited permanence	5
	Continuous trainings-problem of integration into curriculum	5
Effect of trainings, permanence and sustainability		

Some descriptive sentences for the themes:

“The most important feature of these trainings was that the children felt the value given to them and we touched their lives.”

“The trainings were not ordinary, those who saw theater for the first time, we made a song about germs and hand hygiene with the children, those who repeated the song would show by imitating them by saying “look, I learned”.”

“We were learning a lot from the children. When we asked what they wanted to be, there were those who wanted to be theater actors. We saw that touching the children got an immediate response.”

In a definition that concerns many themes; a participant working as a project expert in the R&D team of the Provincial Directorate of National Education; “We decided on the selection of boarding schools. Because there was a need to raise awareness for hygiene, there was a great need for these trainings in a family-free, distant, collective boarding living area.”

A participant from the national education department said, “The training content was appropriate for the age of the trainees and the curriculum. It was compatible with the curriculum by taking into account the manual skills, visual abilities and interests that the age group could understand and apply. Therefore, the success of the project was very high.”

“We spent all day in schools during trainings, but we did not observe the situation of creating behavioral change in a single day. Behavioral change can be observed by teachers who see children every day. I had an observation about active learning, they learned that microbes grow in media other than microscopes, and that useful microbes leaven bread with very interesting experiences.”

“School administrators and teachers were supportive, but some were also anxious. When we visited the school and made suggestions for school cleaning outside of the trainings, they perceived it as criticism and became anxious. There was no teacher participation who would constantly and willingly participate in the trainings and ensure the continuity of these trainings. There were also curious and interested teachers, but there was no cooperation for the continuity of the trainings.”

The statement “Since we went to the regional boarding school in the morning and came back in the evening, we had more interaction with teachers, administrators and students” emphasized the importance of the interaction period.

An educator who participated in these trainings reported that a pre-test was applied for knowledge level before some trainings. However, when asked about the test evaluations and whether it was applied to all children, he reported that the test results were not evaluated and the test was not applied to all classes. In the interview regarding this issue, all participants agreed that the most important problem was not measuring the effectiveness of the training and the other important problem was ensuring the continuity of these trainings.

When the motivations and outcomes of this qualitative study were evaluated together; The main objective was to develop training guidelines for basic hygiene in schools at the regional level (Izmir Province) through cooperation between sectors, primarily in the field of education and health, and to ensure continuity of education. These results are visually presented in the figure below.

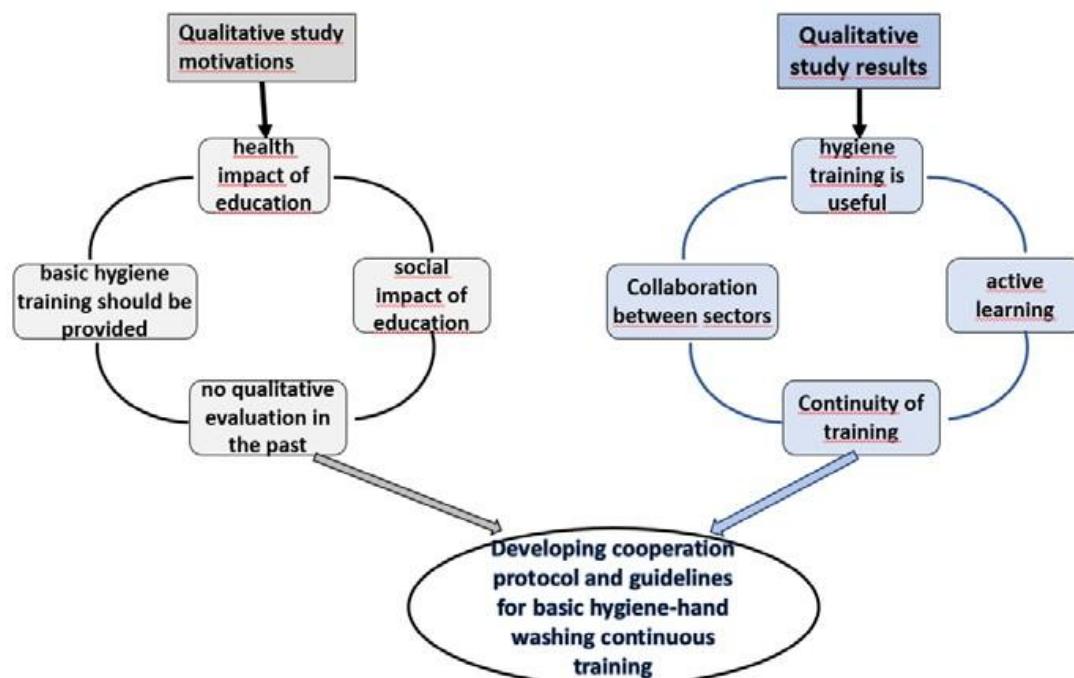


Figure 1. From motivation and results of qualitative study to the target

DISCUSSION and CONCLUSION

There are a lot of many studies, including large-scale intervention studies, on the prevention of oral-fecal transmitted diseases through hand washing (Chittleborough, 2013; Mbakaya, 2017; Lee, 2015). These intervention studies also include educational interventions. Studies on hand washing and basic hygiene generally focus on practices in underdeveloped countries (Null, 2018).

However, studies on handwashing education are limited compared to intervention studies. However, one of the important points in the study estimating the global oral-fecal transmitted disease burden

and handwashing is that in 2015, globally, handwashing with soap was estimated to be approximately 26% after possible fecal contact events, 51% in areas with high access to handwashing facilities, and approximately 22% even after possible fecal contact in areas with limited access (Wolf, 2019).

In other words, although there are opportunities for hand washing, the practice is lacking. All these evaluations show the necessity of trainings on hand washing. The evaluation of handwashing trainings with qualitative studies is very limited. Qualitative studies on the subject may provide important clues for educational interventions. In our study, it was found that although information about hand washing and basic hygiene was given in classical education in schools, effective education methods were not applied. The educational activities evaluated in the qualitative study showed that the trainings were effective when intersectoral cooperation was made and student-oriented, active interactive learning methods were applied. In the literature, it is reported that it is important to use interpersonal communication as part of the communication strategy in a comprehensive study, and that studies using one-way communication and hygiene-sanitation messages are not sufficient to achieve long-term effects (De Buck, 2017).

As shown in the figure presented at the end of the findings; the motivations and results of our qualitative study shaped the goals of planning for effective school education and developing education guides to ensure continuity of education. The results of this qualitative study, in which we evaluated hand washing education, are important in terms of guiding future studies and collaborations on basic hygiene and hand washing education in schools.

REFERENCES

Chittleborough, C. R., Nicholson, A. L., Young, E., Bell, S., & Campbell, R. (2013). Implementation of an educational intervention to improve hand washing in primary schools: process evaluation within a randomised controlled trial. *BMC Public Health*, 13, 1-11. <https://link.springer.com/article/10.1186/1471-2458-13-757>

Curtis, V., & Cairncross, S. (2003). Effect of washing hands with soap on diarrhoea risk in the community: a systematic review. *The Lancet infectious diseases*, 3(5), 275-281.

De Buck, E., Van Remoortel, H., Hannes, K., Govender, T., Naidoo, S., Avau, B., ... & Young, T. (2017). Approaches to promote handwashing and sanitation behaviour change in low-and middle-income countries: a mixed method systematic review. *Campbell Systematic Reviews*, 13(1), 1-4. <https://onlinelibrary.wiley.com/doi/full/10.4073/csr.2017.7>

Devers, K. J., & Frankel, R. M. (2000). Study design in qualitative research—2: Sampling and data collection strategies. *Education for health*, 13(2), 263-271. <https://www.proquest.com/docview/214066906?fromopenview>

Ellis, A., Haver, J., Villasenor, J. O. N., Parawan, A., Venkatesh, M., Freeman, M. C., & Caruso, B. A. (2016). WASH challenges to girls' menstrual hygiene management in Metro Manila, Masbate, and South Central Mindanao, Philippines. *Waterlines*, 306-323. https://www.jstor.org/stable/26600767?casa_token

Gizaw, Z., & Addisu, A. (2020). Evidence of households' water, sanitation, and hygiene (WASH) performance improvement following a WASH education program in rural Dembiya, Northwest Ethiopia. *Environmental health insights*, 14, 1178630220903100. <https://journals.sagepub.com/doi/full/10.1177/1178630220903100>

Glaas, U. W. (2017). Financing universal water, sanitation and hygiene under the sustainable development goals. Geneva: World Health Organization. https://www.unwater.org/sites/default/files/app/uploads/2020/04/UN-Water-Global-Analysis-and-Assessment-of-Sanitation-and-Drinking-Water-GLAAS_2017_eng.pdf

Hunter, P. R., Risebro, H., Yen, M., Lefebvre, H., Lo, C., Hartemann, P., ... & Jaquenoud, F. (2014). Impact of the provision of safe drinking water on school absence rates in Cambodia: a quasi-experimental study. *PloS one*, 9(3), e91847. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0091847>

Hutton, G., & Chase, C. (2016). The knowledge base for achieving the sustainable development goal targets on water supply, sanitation and hygiene. *International journal of environmental research and public health*, 13(6), 536. <https://www.mdpi.com/1660-4601/13/6/536>

Jasper, C., Le, T. T., & Bartram, J. (2012). Water and sanitation in schools: a systematic review of the health and educational outcomes. *International journal of environmental research and public health*, 9(8), 2772-2787. <https://www.mdpi.com/1660-4601/9/8/2772>

Lee, R. L., Leung, C., Tong, W. K., Chen, H., & Lee, P. H. (2015). Comparative efficacy of a simplified handwashing program for improvement in hand hygiene and reduction of school absenteeism among children with intellectual disability. *American journal of infection control*, 43(9), 907-912.

Lee, R. L., Loke, A. Y., Wu, C. S., & Ho, A. P. (2010). The lifestyle behaviours and psychosocial well-being of primary school students in Hong Kong. *Journal of clinical nursing*, 19(9-10), 1462-1472. https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2702.2009.03057.x?casa_token

Mbakaya, B. C., Kalembo, F. W., & Zgambo, M. (2020). Use, adoption, and effectiveness of tippy- tap handwashing station in promoting hand hygiene practices in resource-limited settings: a systematic review. *BMC public health*, 20(1), 1005. <https://link.springer.com/article/10.1186/s12889-020-09101-w>

Mbakaya, B. C., Lee, P. H., & Lee, R. L. (2017). Hand hygiene intervention strategies to reduce diarrhoea and respiratory infections among schoolchildren in developing countries: a systematic review. *International journal of environmental research and public health*, 14(4), 371. <https://www.mdpi.com/1660-4601/14/4/371>

McCusker, K., & Gunaydin, S. (2015). Research using qualitative, quantitative or mixed methods and choice based on the research. *Perfusion*, 30(7), 537-542. https://journals.sagepub.com/doi/full/10.1177/0267659114559116?casa_token

Null, C., Stewart, C. P., Pickering, A. J., Dentz, H. N., Arnold, B. F., Arnold, C. D., ... & Colford, J. M. (2018). Effects of water quality, sanitation, handwashing, and nutritional interventions on diarrhoea and child growth in rural Kenya: a cluster-randomised controlled trial. *The Lancet Global Health*, 6(3), e316-e329. [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(18\)30005-6/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30005-6/fulltext)

Rabbi, S. E., & Dey, N. C. (2013). Exploring the gap between hand washing knowledge and practices in Bangladesh: a cross-sectional comparative study. *BMC public health*, 13, 1-7. <https://link.springer.com/article/10.1186/1471-2458-13-89>

Sarfo, J. O., Debrah, T., Gbordzoe, N. I., Afful, W. T., & Obeng, P. (2021). Qualitative research designs, sample size and saturation: is enough always enough. *Journal of Advocacy, Research and Education*, 8(3), 60-65. <https://d1wqxts1xzle7.cloudfront.net/101557437/jare.2021.3-libre.pdf?1682592945>

Unicef. (2018). Drinking water, sanitation and hygiene in schools: global baseline report 2018.

<https://www.who.int/publications/m/item/drinking-water-sanitation-and-hygiene-in-schools-global-baseline-report-2018>

Wolf, J., Johnston, R., Freeman, M. C., Ram, P. K., Slaymaker, T., Laurenz, E., & Prüss-Ustün, A. (2019). Handwashing with soap after potential faecal contact: global, regional and country estimates. *International journal of epidemiology*, 48(4), 1204-1218. <https://academic.oup.com/ije/article/48/4/1204/5238107>

World Health Organization (2009). *WHO Guidelines on Hand Hygiene in Health Care: A Summary*, WHO/IER/PSP/2009.07 ed.; WHO Press: Geneva, Switzerland, 2009. <https://www.who.int/publications/i/item/9789241597906>

IJTASE