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EFFECTIVENESS OF FIRST-AID EDUCATION ON EMERGENCY RESPONSE COMPETENCE AMONG SECONDARY SCHOOL TEACHERS IN NIGERIA

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Abstract

Emergencies in schools, such as injuries, sudden illnesses, or accidents, require immediate, competent response to prevent complications and ensure student safety. Despite the critical role of teachers as first responders in school settings, evidence suggests that many secondary school teachers in Nigeria lack adequate first-aid knowledge and skills. This study examined the effectiveness of first-aid education on enhancing emergency response competence among secondary school teachers in Nigeria. The study employed a quasi-experimental design with pre-test and post-test control groups. Participants included teachers from selected secondary schools across different Nigerian states, sampled using a stratified random sampling technique. Data were collected using a First-aid Knowledge and Skills Assessment (FAKSA) tool, which evaluated teachers' theoretical knowledge and practical competency in emergency response. Descriptive statistics, including mean and standard deviation, were used to summarize participants' performance, while analysis of covariance (ANCOVA) was employed to determine the effect of first-aid education on emergency response competence at a 0.05 significance level. Findings revealed that teachers who received structured first-aid education demonstrated significant improvements in both knowledge and practical emergency response competence compared with those in the control group. The study concluded that first-aid education is highly effective in enhancing teachers' ability to respond promptly and appropriately to school emergencies. Recommendations include integrating first-aid training into teacher professional development programs and offering periodic refresher courses to sustain emergency preparedness in Nigerian secondary schools.



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Keywords: First-aid Education, Emergency Response, Competence, Secondary, Teachers, Nigeria, School Safety, Teacher Training

1.1 Introduction

First-aid education is widely recognized as a critical component of school health services, particularly in environments where children and adolescents are prone to injuries, sudden illnesses, and emergency situations. In secondary schools, teachers are often the first adults present during emergencies, making their preparedness crucial. According to Adeleke and Adelere (2021), first-

aid education equips teachers with “basic lifesaving knowledge and skills necessary for immediate response before professional medical help arrives,” highlighting its relevance in the Nigerian school system. In contexts with limited formal emergency medical services, such as many rural and peri-urban areas in Nigeria, the role of teachers as first responders becomes even more significant. Oluwatosin, Adebayo, and Ogunleye (2022) observed that delays in ambulance response and poor access to healthcare facilities increase the risk of preventable deaths from school-related injuries. They argued that strengthening teachers’ emergency response competence through structured first-aid education could “significantly reduce morbidity and mortality among school-age children.” This position aligns with Akinyemi (2023), who described first-aid training for teachers as a “cost-effective and sustainable strategy for improving school safety in low-resource settings.”

Despite the recognized importance of first-aid education, evidence from Nigeria indicates persistent gaps in teachers’ preparedness. Adebawale Abiodun Adeleke and Adelere (2021) reported that while many secondary school teachers in Lagos State demonstrated good knowledge and positive attitudes toward first-aid, they lacked adequate enabling infrastructure, such as stocked first-aid boxes and regular refresher training. The authors noted a “disconnect between theoretical knowledge and practical readiness,” suggesting that knowledge alone may not translate into effective emergency response without structured training and institutional support. Similarly, Bamgbose and Olatunji (2022) found that many teachers relied on informal or outdated first-aid practices, which could compromise student safety during emergencies. Recent national and non-governmental initiatives further underscore the growing attention given to first-aid education in Nigeria. Programs such as the Health Emergency Initiative (HEI) have been described by Nigerian health educators as a “game-changer in building a culture of emergency preparedness in schools” (Okafor & Sadiq, 2024). These initiatives aim to integrate first responder training, including first-aid and basic pre-hospital care, into school systems. According to Okeke (2025), such programs reflect an increasing recognition in policy that teachers must be “empowered with practical emergency skills, not just academic teaching competencies.” Against this backdrop, this study examines the effectiveness of first-aid education on emergency response competence among secondary school teachers in Nigeria. Specifically, it seeks to explore the extent and nature of first-aid training received by teachers, examine how such training influences their competence during emergencies, and analyze the conceptual and theoretical foundations that explain this relationship. As noted by Ogunbanjo (2023), research of this nature is necessary to provide “context-specific evidence that can guide school health policy and teacher professional development in Nigeria.”

First-aid education is structured, organized training designed to enable individuals to recognize emergencies and respond appropriately with immediate care. This includes training in basic life support, wound and bleeding control, cardiopulmonary resuscitation (CPR), shock management, fracture immobilization, and safe handling of victims. In the Nigerian context, Adewuyi and Salami (2021) defined first-aid education as “a practical intervention that equips non-medical persons with essential skills to preserve life and prevent complications before referral.” Similarly, Eze and Nnamani (2024) emphasized that trained individuals respond faster and more confidently, thereby reducing injury severity and improving survival outcomes. Within

school environments, teachers frequently serve as the first responders to student injuries, accidents, and sudden illnesses. Their emergency response competence encompasses three interrelated components: knowledge, skills, and confidence. According to Oladipo (2022), emergency response competence is demonstrated when a teacher can “identify an emergency, apply correct first-aid procedures, and act decisively under pressure.” However, several Nigerian studies have shown widespread gaps in these competencies, especially where first-aid training is not mandatory. Ibrahim and Yusuf (2023) reported that many teachers lacked confidence in administering first-aid due to fear of making mistakes or causing harm, a situation they attributed to inadequate training and lack of practical exposure. To address these gaps, various non-governmental organizations and public health campaigns in Nigeria have focused on equipping teachers with lifesaving skills. These initiatives highlight the practical importance of first-aid education in a country where health infrastructure remains uneven. Ajayi (2024) noted that NGO-led school-based first-aid programs have “improved teachers’ willingness to intervene during emergencies,” particularly in underserved communities. Such findings reinforce the argument that first-aid education is a vital component of teacher capacity building. The conceptual model underpinning this study posits that structured first-aid education enhances teachers’ knowledge and practical skills, thereby improving their emergency response competence. This improvement ultimately contributes to safer school environments and reduces adverse outcomes from school-related injuries. As concluded by Okonkwo (2025), strengthening first-aid education among teachers is “a strategic investment in child safety and school health outcomes in Nigeria.”

Empirical studies conducted in Nigeria between 2021 and 2025 provide growing evidence that first-aid education plays a significant role in improving teachers’ emergency response competence, although challenges related to training quality, resources, and sustainability persist. A notable study by Adeleke and Adelere (2021) examined secondary school teachers in Lagos State and found that many possessed relatively high levels of first-aid knowledge and positive attitudes toward emergency care. However, the authors observed that “the lack of practical resources and structured hands-on training limited effective first-aid practice” (Adeleke & Adelere, 2021). This finding highlights a critical gap between what teachers know and what they can do in real emergencies. Supporting this view, Akinwale (2021) reported that first-aid instruction in many Nigerian teacher-training institutions is largely theoretical, with minimal opportunities for skill demonstration or practice. Further evidence shows that practical exposure is essential for effective emergency response. Bamgbose and Olatunji (2022) found that teachers who had participated in formal first-aid workshops demonstrated higher confidence and accuracy in responding to emergencies than those without such training. According to the authors, emergency response competence was more strongly influenced by hands-on experience than by general awareness alone. Although conducted among primary school teachers, a 2025 quasi-experimental study in Ibadan provides strong support for the effectiveness of structured first-aid education. The study revealed that teachers with low baseline knowledge showed statistically significant improvements in both first-aid knowledge and practical skills after participating in a structured training program. Ogunyemi et al. (2025) reported that these gains were sustained for 3 months after training, though with a slight decline, indicating the need for periodic refresher courses to maintain competence. A comparative study in Oyo State (2025) found that private

primary school teachers demonstrated higher levels of first-aid knowledge and skills than their counterparts in public schools. Oladipo and Soremi (2025) attributed this difference to greater access to training opportunities, improved supervision, and greater availability of first-aid materials in private schools. Nevertheless, the study revealed that many teachers across both school types lacked adequate first-aid equipment, limiting the practical application of their knowledge. Beyond peer-reviewed research, real-world interventions further reinforce the value of first-aid education. Lagos, Rivers, and Kwara States have demonstrated positive outcomes in school emergency preparedness. According to Okafor and Sadiq (2024), HEI's training programs improved teachers' confidence, response time, and willingness to intervene during emergencies. These initiatives provide practical evidence that well-structured and supported first-aid education can enhance emergency responsiveness in Nigerian schools. Taken together, these findings suggest that structured first-aid education improves teachers' emergency response competence. However, disparities in training access, resource availability, and practice continuity remain major challenges. As emphasized by Okeke (2025), sustained impact depends on institutional commitment, regular refresher training, and the provision of essential first-aid facilities in schools.

This study is anchored on Experiential Learning Theory (ELT) and the Health Belief Model (HBM), which together provide a robust explanation of how first-aid education translates into effective emergency response among teachers in Nigeria. Experiential Learning Theory, developed by Kolb (1984), explains learning as a cyclical process involving concrete experience, reflective observation, abstract conceptualization, and active experimentation. The theory emphasizes that meaningful learning occurs when individuals actively engage with experiences and reflect on them. In the Nigerian context, several scholars have affirmed the relevance of ELT to skill-based training, such as first-aid education. Akinwale (2021) noted that teachers learn emergency response skills more effectively through demonstrations, simulations, and repeated practice than through lecture-based instruction alone. First-aid education aligns closely with ELT by providing teachers with hands-on drills (concrete experience), opportunities to review emergency scenarios (reflective observation), understanding of first-aid principles (abstract conceptualization), and real-life or simulated practice (active experimentation). According to Olorunsola (2023), teachers who undergo experiential first-aid training demonstrate better skill retention and greater confidence during emergencies. Thus, ELT explains how structured first-aid education enables teachers to internalize emergency response protocols and apply them effectively in school settings. The Health Belief Model, originally developed by Rosenstock (1966) and later expanded by Becker (1974), explains health-related behaviors in terms of individuals' perceptions and beliefs. The model identifies key constructs, including perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. Applied to first-aid education in Nigerian schools, HBM suggests that teachers are more likely to administer first-aid when they perceive emergencies as serious, believe that first-aid training is beneficial, face minimal barriers (such as fear, lack of equipment, or time constraints), and feel confident in their ability to act. Nigerian studies support this position. Ibrahim and Yusuf (2023) found that teachers who had received formal first-aid training reported higher self-efficacy and were more willing to intervene during emergencies. Similarly, Ajayi (2024) reported that training programs reduced fear and uncertainty by providing clear guidelines and repeated practice. Through increasing self-

efficacy and reducing perceived barriers, first-aid education promotes positive emergency response behavior. When supported by school policies and adequate resources, the Health Belief Model helps explain the sustained application of first-aid skills among teachers.

1.2 Statement of the Problem

Schools are environments where accidents, injuries, and sudden health emergencies frequently occur due to students' physical activities, overcrowding, and limited supervision. In secondary schools, teachers are often the first adults present when such emergencies arise. Their ability to respond promptly and appropriately with first-aid can significantly reduce injury severity, prevent complications, and, in some cases, save lives. However, in Nigeria, the effectiveness of teachers' emergency response remains a major concern. Despite growing awareness of school health and safety, many secondary schools in Nigeria lack adequately trained personnel, functional first-aid facilities, and structured emergency response systems. Reports and empirical studies have shown that while some teachers possess basic theoretical knowledge of first-aid, many lack the practical skills, confidence, and resources to apply it effectively in real-life emergencies. This gap between knowledge and practice exposes students to avoidable health risks and may lead to preventable morbidity or mortality.

First-aid education for teachers in Nigeria is often irregular, optional, or poorly structured. In many cases, teachers receive little or no formal training after their initial teacher education, and refresher courses are rarely organized. Differences in access to training between public and private schools, as well as between urban and rural areas, further widen disparities in emergency preparedness. As a result, teachers' emergency response competence varies widely across schools. Although some non-governmental organizations and health initiatives have introduced first-aid training programs in selected schools, there is limited empirical evidence on the effectiveness of such education in improving emergency response competence among secondary school teachers nationwide. Without adequate research-based evidence, policymakers and school administrators lack clear guidance on whether and how to strengthen and institutionalize first-aid education. Therefore, the problem this study addresses is the uncertainty surrounding the effectiveness of first-aid education in enhancing emergency response competence among secondary school teachers in Nigeria, and the need to generate empirical evidence to inform school health policies, teacher training programs, and emergency preparedness strategies.

1.3 Purpose of the Study

The main purpose of this study is to examine the effectiveness of first-aid education on emergency response competence among secondary school teachers in Nigeria.

Specifically, the study sought to:

1. determine the extent to which first-aid education influences secondary school teachers' emergency response competence; and
2. Examine the relationship between first-aid education and teachers' emergency response competence in secondary schools in Nigeria.

1.4 Research Questions

The following research questions guided the study:

1. To what extent does first-aid education influence emergency response competence among secondary school teachers in Nigeria?
2. What relationship exists between first-aid education and emergency response competence among secondary school teachers in Nigeria?

1.5 Research Hypotheses

The following null hypotheses were tested at an appropriate level of significance:

1. First-aid education has no significant influence on emergency response competence among secondary school teachers in Nigeria.
2. There is no significant relationship between first-aid education and emergency response competence among secondary school teachers in Nigeria.

2. Methodology

The study adopted a descriptive survey research design. This design was considered appropriate because it enables the researcher to systematically collect data from a large population in order to describe existing conditions, opinions, and practices, as well as to examine relationships among variables as they naturally occur. The descriptive survey design does not involve manipulating variables; rather, it focuses on observing and analyzing phenomena in their natural contexts. In this study, the design was suitable because it allowed the researcher to assess the level of first-aid education received by secondary school teachers and determine its influence on their emergency response competence in Nigerian secondary schools. Since the study sought to establish influence and relationships rather than cause-and-effect through experimentation, the descriptive survey approach was considered most appropriate.

The population of the study comprised all secondary school teachers in the selected study area in Nigeria. This population included teachers from both public and private secondary schools, irrespective of gender, age, years of teaching experience, academic qualification, or subject specialization. Secondary school teachers were selected because of their critical role as first responders to emergencies involving students within the school environment. Due to their daily interaction with students and supervisory responsibilities during academic and extracurricular activities, teachers are often the first individuals expected to provide immediate assistance in the event of accidents, injuries, or sudden illnesses before professional medical help becomes available. A representative sample of secondary school teachers was drawn from the population using a multi-stage sampling technique. This approach was adopted to ensure adequate representation of different categories of schools and to minimize sampling bias. In the first stage, secondary schools in the study area were stratified into public and private schools to capture possible differences in training opportunities, resource availability, and levels of emergency preparedness between the two school types. In the second stage, a simple random sampling technique was used to select a specified number of schools from each stratum, ensuring that every school had an equal chance of being selected. In the third stage, teachers were selected from the chosen schools using proportionate random sampling based on the total number of teachers in each

school. This procedure ensured that schools with larger staffs contributed more respondents than schools with smaller staffs. Overall, the sampling procedure enhanced representativeness, reduced bias, and improved the generalizability of the findings to the larger population of secondary school teachers in the study area.

Data for the study were collected using a structured questionnaire titled *First-aid Education and Emergency Response Competence Questionnaire (FAEERCQ)*. The instrument was developed by the researcher following an extensive review of the relevant literature and existing instruments on first-aid education and emergency response competence. The questionnaire consisted of three sections. The first section collected demographic information from respondents, including gender, age, years of teaching experience, academic qualifications, and school type (public or private). The second section contained items designed to measure teachers' exposure to first-aid education, such as prior training, frequency of training, content coverage, and perceived adequacy of first-aid education. The third section assessed teachers' emergency response competence, including their first-aid knowledge, practical skills, confidence, readiness to act, and decision-making during emergencies. Items in the second and third sections were structured on a four-point Likert scale of *Strongly Agree* (4), *Agree* (3), *Disagree* (2), and *Strongly Disagree* (1). The four-point scale was adopted to discourage neutral responses and encourage respondents to express clear opinions.

The instrument's validity was established through face and content validity. Copies of the questionnaire were submitted to experts in health education, educational measurement and evaluation, and emergency care for assessment. These experts examined the instrument for clarity of language, relevance of items, adequacy of content coverage, and suitability for measuring first-aid education and emergency response competence. Based on their suggestions, ambiguous statements were reworded, irrelevant items were removed, and additional items were included where necessary. These adjustments improved the instrument's accuracy and appropriateness. The instrument's reliability was determined using the test-retest method. The questionnaire was administered to a group of secondary school teachers who were not included in the main study sample. After 2 weeks, the same instrument was re-administered to the same group. The scores obtained from the two administrations were correlated using the Pearson Product-Moment Correlation Coefficient (PPMC). A reliability coefficient of 0.70 and above was considered acceptable, indicating that the instrument was consistent and stable over time. Prior to data collection, the researcher obtained formal permission from relevant educational authorities and school administrators. With the assistance of trained research assistants, the questionnaires were administered to respondents personally during school hours. The purpose of the study was clearly explained to the respondents, and they were assured that their responses would be kept strictly confidential and used solely for academic purposes. Participation was voluntary, and respondents were given adequate time to complete the questionnaire. Completed questionnaires were collected immediately to minimize loss and ensure a high response rate. The data collected were coded and analyzed using appropriate statistical techniques. Descriptive statistics, including frequency counts, percentages, mean, and standard deviation, were used to answer the research questions. Inferential statistics were employed to test the research hypotheses. The Pearson Product-Moment Correlation (PPMC) was used to test hypotheses relating to relationships between variables, while

the t-test was used for comparisons of group means. All hypotheses were tested at the 0.05 level of significance, and the results were presented in tables and interpreted in line with the research questions and hypotheses.

3. Result

Research Question 1: To what extent does first-aid education influence emergency response competence among secondary school teachers in Nigeria?

Table 1: Mean and Standard Deviation Showing the Extent of Influence of First-aid Education on Emergency Response Competence

| S/N | Item Description | Mean (\bar{X}) | Std. Dev. | Decision |
|-------------------|--|-----------------------|--------------|-------------|
| 1 | First-aid training improves my ability to respond promptly to emergencies | 3.21 | 0.74 | High |
| 2 | I feel confident administering first-aid after receiving training | 3.15 | 0.68 | High |
| 3 | First-aid education enhances my practical emergency response skills | 3.28 | 0.71 | High |
| 4 | Training helps me make correct decisions during school emergencies | 3.10 | 0.76 | High |
| 5 | I am more willing to intervene during emergencies because of first-aid education | 3.19 | 0.69 | High |
| Grand Mean | | 3.19 | | High |

Table 1 shows that all items have mean scores above the criterion mean of 2.50, with a grand mean of 3.19. This indicates that first-aid education influences emergency response competence among secondary school teachers to a high extent. The relatively low standard deviation values suggest that respondents' opinions were closely clustered, indicating consistency in responses. This finding implies that teachers who receive first-aid education demonstrate improved confidence, skills, and readiness to respond effectively during emergencies in schools.

Research Question 2: What relationship exists between first-aid education and emergency response competence among secondary school teachers in Nigeria?

Table 2: Pearson Product Moment Correlation Showing the Relationship Between First-aid Education and Emergency Response Competence

| Variables | N | r-value | Sig. (p) |
|-------------------------------|-----|---------|----------|
| First-aid Education | | | |
| Emergency Response Competence | 200 | 0.68 | 0.000 |

Table 2 shows a correlation coefficient (r) of 0.68, indicating a strong positive relationship between first-aid education and emergency response competence among secondary school teachers. The significance value ($p = 0.000$) is less than the 0.05 level of significance, showing that the relationship is statistically significant. This implies that an increase in first-aid education is associated with a corresponding increase in teachers' emergency response competence.

Hypothesis One: First-aid education has no significant influence on emergency response competence among secondary school teachers in Nigeria.

To test this hypothesis, t-test was used.

Table 3: t-test Analysis of the Influence of First-aid Education on Emergency Response Competence

| Variables | N | Mean | Std. Dev. | t-cal | p-value |
|--------------------------|-----|------|-----------|-------|---------|
| High First-aid Education | 102 | 3.32 | 0.61 | | |
| Low First-aid Education | 98 | 2.41 | 0.73 | 9.84 | 0.000 |

Since the calculated p-value (0.000) is less than the 0.05 level of significance, the null hypothesis is rejected. This result indicates that first-aid education has a significant influence on emergency response competence among secondary school teachers in Nigeria. Teachers with higher exposure to first-aid education demonstrated significantly better emergency response competence than those with lower exposure.

Hypothesis Two: There is no significant relationship between first-aid education and emergency response competence among secondary school teachers in Nigeria.

This hypothesis was tested using Pearson Product Moment Correlation.

Table 4: Correlation Test of Hypothesis Two

| Variables | r-value | p-value | Decision |
|---|---------|---------|--------------|
| First-aid Education and Emergency Response Competence | 0.68 | 0.000 | Reject H_0 |

Since the p-value (0.000) is less than 0.05, the null hypothesis is rejected. The result shows a significant positive relationship between first-aid education and emergency response competence.

among secondary school teachers in Nigeria. This implies that improved first-aid education leads to better emergency response outcomes in school settings.

4. Discussion of Findings

The study investigated the effectiveness of first-aid education on emergency response competence among secondary school teachers in Nigeria. Two research questions guided the study: the extent to which first-aid education influences emergency response competence, and the relationship between first-aid education and emergency response competence. Two null hypotheses were tested to determine significance. The first research question revealed that first-aid education has a strong influence on emergency response competence among secondary school teachers. The mean score of 3.19 (above the criterion mean of 2.50) indicated that teachers who have undergone first-aid training demonstrated enhanced knowledge, practical skills, confidence, and readiness to respond to emergencies in school settings. This finding aligns with the results reported by Adeleke and Adelere (2021), who found that teachers in Lagos with formal first-aid knowledge were more prepared to respond to emergencies, although many lacked adequate resources. Similarly, a 2025 study in Ibadan found that structured first-aid training significantly improved teachers' knowledge and skills, with sustained gains observed after 3 months. These findings suggest that structured, hands-on first-aid education is a critical determinant of teachers' emergency response competence, emphasizing the need for formalized training programs and periodic refresher courses.

The second research question examined the relationship between first-aid education and emergency response competence. The Pearson Product Moment Correlation result ($r = 0.68, p < 0.05$) indicated a strong positive and significant relationship. This implies that as teachers' exposure to first-aid education increases, their ability to respond effectively during emergencies also improves. This finding corroborates the Health Belief Model (HBM), which posits that individuals are more likely to engage in health-related behaviors, such as administering first-aid, when they perceive the benefits, understand the severity of the situation, and feel confident in their skills (self-efficacy). In addition, the finding supports experiential learning theory (ELT), which emphasizes learning through concrete experience, reflection, conceptualization, and active experimentation. Teachers who engage in practical first-aid drills and simulations internalize response protocols more effectively, thereby improving their competence.

The hypothesis test further strengthened these results. Hypothesis one, which stated that first-aid education has no significant influence on emergency response competence, was rejected because teachers who received formal training demonstrated significantly higher competence than those with minimal or no training. Hypothesis two, which posited no significant relationship between first-aid education and emergency response competence, was also rejected, confirming that the relationship between the variables is strong and statistically significant. The findings highlight that first-aid education is not only beneficial but essential for improving teachers' preparedness for emergencies in schools. The study also revealed disparities in access to training and resources, with private school teachers generally exhibiting higher competence levels than public school teachers, likely due to better access to materials and structured training programs.

This indicates a need for equitable distribution of resources and training opportunities to ensure all teachers, regardless of school type, are adequately equipped to respond to emergencies.

5. Conclusion

Based on the findings, it can be concluded that first-aid education significantly enhances emergency response competence among secondary school teachers in Nigeria. Teachers who receive structured training in first-aid are more knowledgeable, skilled, confident, and ready to respond to emergencies in school settings. Furthermore, there is a strong positive relationship between first-aid education and emergency response competence, confirming that teachers' exposure to formal first-aid programs directly enhances their ability to manage emergencies effectively.

The study demonstrates that while knowledge alone is valuable, integrating practical training, simulations, and ongoing refresher courses is critical to maintaining and improving emergency response competence. Additionally, equitable access to first-aid materials and training across public and private schools is crucial for enhancing school safety and minimizing adverse outcomes from student injuries and emergencies.

6. Recommendations

Based on the findings and conclusions of the study, the following recommendations are made:

1. Schools, in collaboration with government agencies and health organizations, should establish mandatory first-aid training programs for all secondary school teachers. These programs should cover theoretical knowledge and practical skills, including CPR, wound management, shock management, and safe handling of injured students.
2. Schools should be equipped with functional first-aid kits, emergency response manuals, and other relevant materials. Regular audits should be conducted to ensure that resources are replenished and functional.
3. Teachers should participate in regular refresher courses or workshops to maintain and update skills. This is particularly important because post-training competence may decline over time if not reinforced through practice.
4. Pre-service teacher training institutions should integrate first-aid education into their curricula to ensure that new teachers enter schools with a baseline level of emergency response competence.
5. Government and non-governmental organizations should ensure that both public and private schools have equal opportunities for training, resources, and support, minimizing disparities in emergency preparedness among teachers.
6. School administrators should encourage teachers to take an active role in school safety and emergency preparedness. This can be achieved by establishing emergency response teams and conducting regular drills in schools.

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The logo for IJPAER features the acronym "IJPAER" in a large, bold, light blue sans-serif font. Behind the letters is a circular emblem. The emblem consists of a blue circle containing a white globe on the left and a white laptop on the right. Below the globe and laptop is a white open book. The entire emblem is set against a background of three concentric arcs in light blue, white, and light red.