

Post Natural Disaster Education: In-Service Teacher Training Curriculum In AcehZulbahri bin Nurdin¹, Saedah Bt Siraj¹, Zaharah bt Hussin¹, Muhammad Ridhuan Tony Lim²¹ University of Malaya, 50603 Kuala Lumpur, Malaysia² Universiti Teknologi Petronas, 31750 Perak, Malaysia

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Abstract: The literature holds huge examples on curriculum development for teacher training for all education level and field of studies. However, there is a wide gap in the curriculum development for post natural disaster. This paper proposes an example on how such curriculum for teacher training could be designed which take into consideration the needs of local context. Thus, the purpose of this study is to identify the appropriate curriculum content to develop the in-service teacher-training curriculum for Aceh post tsunami to aid Acehnese teachers who are encountering various challenges in performing their teaching tasks. Delphi technique is utilized to obtain experts' consensus on the types of knowledge, skills and values to be acquired by the Acehnese teachers. The experts at initial phase identified 24 major knowledge, 14 skills, and 12 values to be acquired by the teachers. All identified items were developed into questionnaires that were then administered to 35 senior teachers and education officers in two rounds. The findings were analyzed statistically using Median and Interquartile scores. The Median score was used to consider whether the item is accepted (Md = 4-5) or rejected (Md = 1-2) and Interquartile (IQR) was used to find out whether the respondents have reached the consensus (IQR = 0-1) or no consensus (IQR = 2 above). The results indicate that the Acehnese teachers should acquire some competencies in areas such as: teachers' mastery of the concept of peace education (Md = 5.00, IQR = 1), teachers' ability to link the subject matter with Islamic views (Md = 5.00, IQR = 1), teachers' ability to ease students' trauma (Md = 4.00, IQR = 0), and teachers' interpersonal skills (Md = 5.00, IQR = 1). However, one proposed item- teachers' life-skills needed to accommodate to places which they are posted (Md = 2.00, IQR = 1) was unanimously rejected by the respondents. This rejection certainly holds implication for further research. It is hoped that the identified content would be accepted by the Acehnese education authority to replace the previous practices of in-service teacher training programs which were carried out without a set of curriculum.

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1. Introduction

Over the past three decades since 1976, Acehnese education was beleaguered by the GAM and Indonesian government conflict. According to a researcher of Minority Rights Group International, McCulloch (2005), the conflict resulted in 15,000 deaths. Of this amount, more than 100 teachers in the province were killed and 1,158 schools were burnt down (Kompas, 2004, 22 Jun) resulted in decreasing of graduation rates in Aceh. The damage was further aggravated by the devastating tsunami on 26 December 2004 which demolished a further 1,485 schools, and an alarming 2,835 teachers were either confirmed dead or missing (KiPRAH, VI, 2005).

The conflict and massive natural disaster resulted in social change that may result in the educational changes and following from this, there may be a need for changes to the needs of teachers. In the Education for All (EFA) Report 2001 of UNESCO, it is pointed out that after a conflict or a natural disaster, the changes in a society can be made by means of improving the quality of education.

Similarly, Harris, Bessent, and McIntyre (1969) also state that social and educational changes have made current professional practices out of date and ineffective; accordingly, teachers need to be re-educated through in-service education programs. Harris, Bessent, and McIntyre (1969) state that, "In-service education has become, to a great extent, an instrument for bringing about changes in education" (p. 20). At this point, in-service training program should allow teachers to cope with all the changes and to satisfy the society's needs. Appropriately based on this literature, especially for post conflict and disaster educational continuity plan, the Education Office of Aceh seemed to make the right move by carrying out regular in-service teacher training programs annually under the establishment of the Teacher Training and Development Center (TTDC) of Aceh. The Head of Education Office of Banda Aceh, Ramli Rasyid, further stated that the quality of Acehnese teachers should fit the National standard (KiPRAH, December 2004). To achieve this standard, the Education Office of Banda Aceh had

held a two-day in-house training program focusing on the application of ICT in teaching and learning.

However, the practices of in-service teacher training program by TTDC are ineffective to improve the quality of Acehese teachers, based on the significant increase of failure rates among Acehese students in the National Examination. For example, 76 percent of students failed in Aceh Jaya, 74 percent in West Aceh, and 70 percent in North Aceh (Serambi Indonesia, 5 July 2005). This stresses the point that quality of students depends very much on quality of teachers especially in a conflict and disaster ridden state like Aceh. President of New York's Bard College, Leon Botstein (in Pushkin, 2001, p.4) wrote in New York Times on 26 July, 1999 that, "No amount of effort to improve the quality of our schools will succeed unless we end up with better teachers." This is an instance of a realistic view because the quality of teachers indicates the quality of education. Similarly, Henson (2001) also stressed that, "teachers are the key to the success or failure in reforming the schools" (p. 23) because they are the curriculum implementers. Thus, we cannot deny that any move in quality improvement of education cannot be separated from the teachers' quality improvement.

In the matter of Acehese education, it was neither wise to suspend the students for their low achievement nor to blame teachers for their low accomplishment. The wise approach to encounter such cases is to focus on teacher quality improvement as McRobbie (2000) asserts that the smartest investment is to ensure high-quality teaching. It emphasizes that generating high quality teachers is by the provision of sustainable professional development. In the light of professional development of teachers, the researchers discovered that the failure of the teachers' training program is greatly caused by the absence of a curriculum for in-service teacher training by TTDC. The existence of a curriculum is very important to direct an educational institution. The earlier and the present educational experts have agreed on the importance of a curriculum. For instance, Pratt (1994) analogizes curriculum with "the set of blueprints from which a house is constructed" (p. 5). Thus, he defines curriculum as "a blueprint for instruction." It functions as a compass, which navigates the direction of an institution in achieving the desired outcomes. Most of the previous practices of in-service teacher training by TTDC focusing solely on mastery of subject matter, while other aspects of teaching like knowledge, skills, and values were totally ignored. Such practices are rejected by Garcia and Ariza (2004), explaining that in-service teacher training not only focuses on subject matter, but also on other

teaching aspects such as curriculum knowledge; pedagogical content knowledge (Shulman, 1986); knowledge about learners and learning (Boyles, 2006; Tubbs, 1996); classroom management skills (Hewett, 1971); research skills (Bredeson, 2003); and information technology skills (Sharp, 2005). Regarding the curriculum, W. Mohd Rashid W. Ahmad (2004) stated that in providing qualified teachers, all aspects of professional development should be considered to achieve the goals of an institution. Based on this perspective, as the Teacher Training and Development Center (TTDC) of Aceh is to provide in-service training for the local teachers, then the curriculum content should be planned appropriately to suit the needs of the local teachers. Therefore, this study is urgently required to ensure that the curriculum content for in-service teacher training at the Teacher Training and Development Center (TTDC) of Aceh are paralleled with the purpose of this institution.

What is pertinent at this point is what social changes have occurred and what local teachers' needs require to be fulfilled is still questionable. Hence, the researchers attempt to take the initiative to identify the teachers' needs in coping with social changes specifically in identifying the appropriate content to be included in the curriculum for the Teacher Training and Development Center (TTDC) of Aceh. These needs would be compiled into the curriculum content of in-service teacher training and would later be proposed to the Education Office of Aceh.

2. Aims of the Study

This study aims to identify the appropriate content to be included in the curriculum for the Teacher Training and Development Center (TTDC) of Aceh. In the present study, the researcher has gathered the educational experts' opinions and those who were directly involved in policy-making of Acehese education. The experts' opinions would allow the researcher to better understand what subjects should be included in the curriculum of Teacher Training and Development Center. As this study involves gathering opinions from various experts, the researcher has applied the Delphi technique. This study was conducted in Aceh involving senior teachers, principals, and lecturers whom were selected especially for their rich understanding of the current situation of the research site in order to inform better the most suitable contents needed to be included in the curriculum design for teacher training.

3. Theoretical overview of curriculum elements for in-service teacher training

Many educational experts have attempted to define curriculum (Smith, 2000). As a result, curriculum today has come in various definitions. The differences of definitions are due to curriculum experts' will to put their ideal notion about education into the stake of successful education. According to Ornstein and Hunkins (1998), the definition was originated from the experts' perceptions about people and education. These perceptions were then elaborated into interrelated and interdependent curriculum elements to be put into practice. The elements of a curriculum can simply be the desired goals or intended learning outcomes. Yet, the consideration of what desired elements are to be integrated depends much on how one defines curriculum (Taba, 1962). She maintains that all curricula contain such elements as statements of aims and specific objectives, selection and organization of content, patterns of learning and teaching, and evaluation of the outcomes. Besides considering the appropriate definition, the purpose of an institution must also be taken into account. Hewett (1971), states that in the process of planning "the curriculum of an institution has to be related to its purpose" (p. 81). Plainly, the curriculum design must correspond to the purpose of institution, as the success of an educational institution is dependent on a curriculum (Saedah Siraj, 2008). Among all curriculum definitions discussed earlier, the researcher has selected Doll's (1996) definition for the purpose of developing a teacher training program because he defines curriculum as "the formal and informal content and process by which learners gain knowledge and understanding, develop skills, and alter attitudes, appreciations, and values under the auspices of that school" (p. 15). Based on this definition, it is clear that the content and process of curriculum may be formal and informal, while the desired outcomes are knowledge, understanding, skills, attitudes, appreciations, and values. However, for the purpose of in-service teacher training program or staff development, Doll (1996) suggests focusing on knowledge, skills, and values. Doll (1996) stated that the real product of curriculum is the teachers' behavioral changes in dealing with learners. Further, she points out that, "If we want teachers to behave differently we must re-educate them to believe differently" (p. 517). Most of the time teachers are confronted with lots of problems and challenges in their daily teaching tasks such as contents selection; methods of teaching selection, classroom management and other things, thus, in-service education is very crucial to bring about changes in teachers' behavior.

A consideration of the challenges encountered by the teachers is a good starting point in curriculum planning. Interestingly, regarding the teachers' needs, Bisset (2001), raises a very important question: "What kind of knowledge do teachers need for teaching?" (p. 8). In his book, Expert, Bisset (2001) reveals that teachers need to have professional teaching knowledge which includes subject knowledge, processes, skills, beliefs, values and attitudes.

Bredeson (2003) states that looking into the characteristics of content; successful professional development should be related to primary work; deep professional knowledge (content and pedagogy) and skills; and in the end lead to improved practice. In addition, W. Mohd Rashid W. Ahmad (2004) defines professional development as one training or workshop, which is related to the development of knowledge and skills. To conduct teaching effectively, teachers actually need a variety of knowledge, skills, and values. These elements are very necessary for teachers in dealing with formal teaching and other informal professional tasks.

Briefly, in keeping with the definition and the purpose of curriculum content and teacher in-service training program as earlier discussed, the main elements discussed earlier can be divided into three areas: knowledge, skills, and values.

4. Conceptual Framework

The study as claimed is based on Doll's (1996) definition of curriculum. Doll (1996) defines curriculum as "the formal and informal content and process by which learners gain knowledge and understanding, develop skills, and alter attitudes, appreciations, and values under the auspices of that school" (p. 15). The researcher believes that it is a suitable definition of an approach to develop curriculum content of in-service teacher training for the Teacher Training and Development Center of Aceh.

Doll's curriculum definition is applicable because, firstly, it focuses on content and process. Secondly, the desired outcomes are clearly mentioned such as: gaining knowledge and understanding; developing skills; and altering attitudes; appreciations and values. In the matter of staff development, Doll (1996) suggests that the curriculum should focus on knowledge, skills, and values. These three aspects are infinitely required by teachers in performing their day-to-day routines. Similar perspectives are also stressed by W. Mohd Rashid W. Ahmad (2004) maintaining that the three aspects should be definitely acquired by teachers. Therefore, the proposed curriculum content of in-service teacher training for

the Teacher Training and Development Center of Aceh should include these three elements.

The inputs of curriculum content can be from various sources. Doll (1996) believes that the ideas about curriculum content were derived from the local community. As for Tyler (1949), one of the sources of curriculum inputs is subject specialists or experts. Thus, in this study, the inputs of curriculum content are based on these two perspectives.

In a curriculum planning, Doll (1996) suggests that some successive steps, namely: determining needs; stating objectives; stating program; identifying evaluation means; choosing a type of design; selecting contents; determining and organizing learning experiences; and evaluating programs. However, the present study only focuses on selecting content of in-service teacher training for the Teacher Training and Development Center of Aceh.

The following is a model of Curriculum Design process:

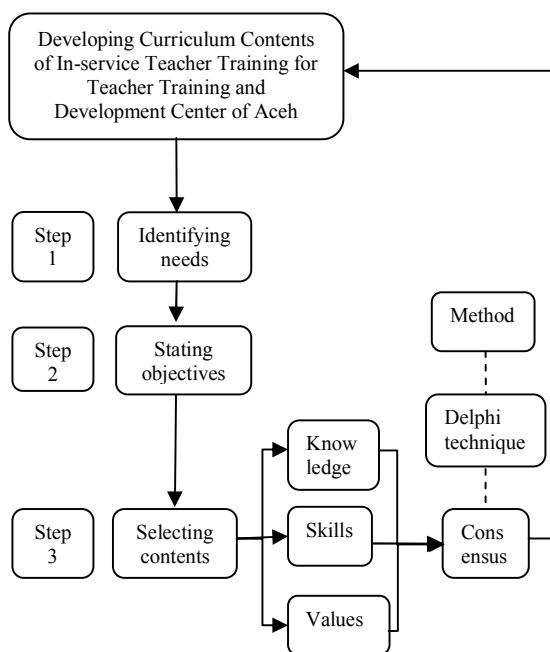


Figure 1. Doll's Model for Process of Curriculum Design- Developed from Curriculum improvement: Decision making and process (Doll, 1996)

Regarding the appropriate method for curriculum contents selection, the researcher only uses the Delphi technique. This technique has several

stages to achieve consensus among experts (Ali Fлахati & Rahman Mirzaeian, 2012 & Parvaneh Zivyar, 2013).

5. Research Questions

Deliberating on the research objectives, scope of the study, literature review and conceptual framework, the researchers chose to direct this study by seeking answers to the following research questions:

1. What are the curriculum objectives of in-service teacher training for the Teacher Training and Development Center of Aceh?
2. What types of knowledge are needed in curriculum content of in-service teacher training for the Teacher Training and Development Center of Aceh?
3. What skills are needed in curriculum content of in-service teacher training for the Teacher Training and Development Center of Aceh?
4. What values are needed in curriculum content of in-service teacher training for the Teacher Training and Development Center of Aceh?

6. Research Objective and Research Methodology

The purpose of this study is to identify the appropriate content to be included in the curriculum for the Teacher Training and Development Center (TTDC) of Aceh. Delphi technique was employed to gain educational experts' opinion via survey method to better understand what subjects should be included in the curriculum. This technique was selected because experts' consensus is a very effective way in making future policies (Saedah Siraj, 2008). This study was conducted in Aceh involving senior teachers, principals, and lecturers whom were selected using purposeful sampling procedure based on their rich understanding of the current situation of the research site (Creswell, 2005). Prior to the survey, in anticipation of low response rate and reduction of the sampling error, the researcher invited five expert panelists who were interviewed to identify the curriculum content of in-service teacher training for the Teacher Training and Development Center (TTDC) of Aceh as initial input to the study. This initial input would answer research question 1. Each of the experts was requested for his opinions on the role of Acehese teachers in Aceh's rehabilitation and reconstruction programs after the GAM and Central Government conflict, tsunami and what knowledge, skills, and values the Acehese teachers needed to support their roles. All identified roles and needs were listed into objective statements, which then developed into items in the survey questionnaire. This survey was then administered to 35 respondents consisted of university lecturers, senior teachers, and other education stakeholders of

Aceh, in two rounds. In Round One, the expert panelist were requested to respond towards the input in the questionnaires either by choosing or/and adding his/her own additional comments or ideas which they considered appropriate to be incorporated into the curriculum content for in-service teacher training of the Teacher Training and Development Center (TTDC) of Aceh. When an item had achieved the experts' consensus, the item was considered resolved. However, the items with insufficient agreement were reformulated if the respondents provided their comments; otherwise, such items were redistributed without any changes. This process was repeated two times until the experts achieved the consensus. Findings revealed from the analysis of the survey would answer research questions 2, 3, and 4.

6.1. Development of Instruments

The survey questionnaires were divided into two parts. Part 1 contained the demographical description of the sample. Part 2 consisted of a list of objective statements of Acehnese teachers' needs (as resulted in the interview of five experts). This part was divided into 3 categories: knowledge, skills, and values. Besides that, the questionnaire was also provided with additional space in case the respondents intended to add their own opinions. The score of each item is obtained by using 5-point Likert's Scale namely 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree.

The respondents' understanding of the language used determined the accuracy of the findings. Piaw (2006), suggested that the language used in the instruments should be the spoken language of the respondents. As this study was conducted in Aceh where the respondents were used to Bahasa Indonesia, the use of Bahasa Indonesia enabled them to get the maximum understanding of the items provided and accordingly, they provided the best response to each item. Thus, the language used in the questionnaire is Bahasa Indonesia.

6.2. Procedure for Data Analysis

The data collected was analyzed statistically and the procedure was divided into four phases (see, details in Figure 2).

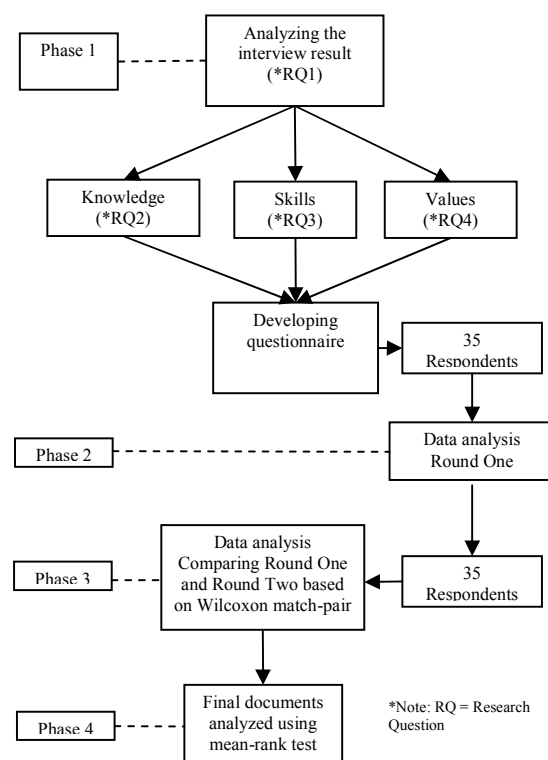


Figure 2: Summary of data analysis procedure

Phase 1: Analyzing the results of interview to seek the answer to research question 1. Each record of the panelists was transcribed into interview protocol. These interview protocols were developed into the questionnaire by analyzing every input given. Similar opinions were combined into one statement; every statement of different opinions was included individually.

Phase 2: Seeking the answers to research questions 2, 3, and 4. The data collected from Round One was analyzed statistically using frequency, percentage, mean (M), median (Md), and Interquartile (IQR). In analyzing the data for Part 1, the researcher used frequency and percentage. These statistics were used to show the demographical description of the respondents. In analyzing the data for Part 2, the researcher used Mean, Median and Interquartile. Mean (M) was used to observe the level of preference of the items. Next, Median (Md) was to find out the level of agreement among the experts. And, Interquartile (IQR) was used to investigate the level of consensus. Saedah Siraj (2008), classified the level of consensus into three categories. Firstly, when the Interquartile range is between 0 – 1, it means that the item has achieved high consensus. Secondly, when the Interquartile range is 1.01 – 1.99, it means that the consensus is moderate. And lastly, if the

Interquartile range is 2.00 and more, it means that there is no consensus.

Phase 3: was the comparison of the results between the Round One and Round Two to find out the consistency of the respondents. This analysis was conducted using Wilcoxon matched-pairs test (Z). The respondents were said to be consistent if the value of Z was ranging from 0.0000 to 1.999 (0.0000 to -1.999 for two-tailed test). It means that there were no significant changes taking place in the responses between the two rounds. However, if value of Z was ≤ 2.000 (≥ -2.000 for two-tailed test), the responses were considered inconsistent. It means that there were significant changes taking place in the responses between the two rounds.

Lastly, the final documents of this study were analyzed using Mean-Rank test. This analysis was conducted to rank all items ranging from the most preferable to the least preferable. It was aimed to find

out what items should be given priority. The whole process of statistical analysis was done by using the computer program, the Statistical Package for Social Sciences (SPSS).

7. Results And Discussion

7.1. Analysis of Interview

In seeking the answer for research question, "What are the objectives of curriculum for in-service teacher training at the Teacher Training and Development Center of Aceh?", the expert panelists proposed a range of curriculum objectives of in-service teacher training, which are considered appropriate for the Teacher Training and Development Center of Aceh especially in view of teachers' role in rehabilitation and reconstruction of Aceh. The overall results of the interviews are summarized in the following areas (Table 1):

Table 1. Experts' views on curriculum objectives of in-service teacher training for the Teacher Training and Development Center of Aceh

| Areas | Experts' Opinions/Suggestions Objectives |
|---|--|
| A. Knowledge Subject Knowledge | Teachers should be able to understand the important concept of each subject that they are teaching; ability to relate one expert's concept with other experts' concepts; ability to simplify subject content to be easily understood by students; and ability to relate each subject with real life and with Islamic views. |
| General Knowledge | Teachers should be able to have sound mastery of general knowledge to enrich and support other knowledge. |
| Psychology of Learners | Aceh needs teachers who are able to motivate the learners who were victims of GAM-Central Government conflict and the 2004 tsunami so that they are able to deal with the future challenges confidently. |
| Curriculum Knowledge | Teachers should understand the principles of curriculum; be able to adapt curriculum with the school; be able to arrange lesson plans to match with curriculum; and be able to organize more meaningful teaching and learning activities. |
| Pedagogical Knowledge Knowledge on Evaluation | Help teachers to understand various teaching strategies; select suitable teaching strategy that match with individual differences; and understand various learning strategies; diagnose students' learning problems; and able to solve students' learning problems. Link curriculum and whatever they evaluate |
| Peace Education | Teachers understand peace concept and deliver peace message to their students in classroom activities especially due to the aftermath of three decades of GAM-Central Government conflict. |
| B. Skills Counseling Skills | Teachers could assist in reducing the traumatic condition as well as giving positive views to the learners. |
| Writing Skills and Research Skills | Both acquiring writing and research skills are equally important in the teaching profession to enable teachers to write simple research proposal and reports on new ideas and innovation for teaching improvement. Besides this, they could also develop new ideas on scientific writing. This will certainly be added values to |

| | |
|---|--|
| ICT Skills and Other Instructional Media | <p>their credit point for their career development.</p> <p>Using ICT in the classroom during subject presentation would arouse the learners' interest and accelerate students' subject understanding. Teachers are also expected to be able to develop simple media such as utilizing television programs etc as well as using them effectively.</p> |
| Presentation and Communication Skills | <p>Effective presentation and good command of communication skills would certainly be able to bridge students' understanding and teacher's delivery of subject matter.</p> |
| Interpersonal Skills and Decision-Making Skills | <p>Acquiring interpersonal skills would facilitate teachers in student – teacher interaction in classroom as well as interact with other teachers in school. Acquisition of decision-making skills would aid teacher to share students' problems and treat them fairly in coping individual and public stress and distress.</p> |
| Life Skills | <p>Acquiring this skill would assist teachers to build a close relationship with the surrounding community. In performing their professions, teachers certainly need the community support to succeed in coping with students' problems. Hence, capability of rapport building with the community is considered important.</p> |
| C. Values | <p>The expert panelists considered that a teacher should have a range of values in carrying out daily professional tasks. They proposed the values required as the following:</p> <ol style="list-style-type: none"> 1. Having a high moral and ethical character; 2. Ability to deal affectionately with learners; 3. Act as parents of learners; 4. Ability to get along with learners of all ages; 5. Having a sincere spirit and dedication; 6. Being models to both learners and members of the surrounding community; 7. Ability to get along with other fellow teachers; 8. Being sensitive to problems encountered by learners; 9. Giving equal treating to all learners; and 10. Dressing well and speaking politely. |

All of the above findings have been formulated into the questionnaires which had been distributed to the respondents (n=35) in Round One and Two. The analysis of the responses to these questionnaires would render feedbacks for research questions 2, 3, and 4 as illustrated below:

7.2. Knowledge

Responding to research Question 2: What types of knowledge are needed in curriculum content of in-service teacher training for the Teacher Training and Development Center of Aceh?; Table 2 shows that the respondents had reached consensus on most items proposed by the panelists (IQR = 0 and 1). From the items proposed, it is important to note that there were strong consensus across the respondents on items no. 18, 11, 1, and 4 (IQR = 0) for both rounds. It indicates that these four items are the most preferable among the respondents. The respondents considered that teachers are able to motivate students (item no. 18). Besides, teachers are also required to know how to organize lesson plan to match with the curriculum (item no. 11). Next, teachers' mastery of the core concept of subject matter (item no. 1) and teachers' ability to relate the subject with students' real life (item no. 4) are considered of most important.

Conversely, there were items that the respondents had agreed to reject such as item no. 15, 20, and 6 (IQR = 2 & 1). The respondents considered that teacher's ability to make evaluation items fit to objective of curriculum (item no. 15) and teachers' ability to select teaching techniques that match students' individual differences (item no. 20) as unimportant in the case of Aceh. Another rejection is on teacher's having a sound general knowledge (item no. 6). The respondents regarded teachers' mastery of subject knowledge is more important than general knowledge. For other items (IQR = 1 and /or 0), the respondents had reached the consensus, but the degree of preference are varied (various Mean score). The respondents viewed all these items as important to be acquired by Acehnese teachers.

Table 2. Responses of Round One and Round Two towards the Proposed Knowledge to be Acquired by Acehnese Teacher and comparison of results

| Item No. | Item | Rd ^a | N | Mean | Median | IQR | Z* |
|----------|---|-----------------|----|------|--------|-----|--------|
| 1 | Understanding the core concept of the subject matter | 1 | 35 | 4.77 | 5.00 | 0 | -.593 |
| | | 2 | 35 | 4.83 | 5.00 | 0 | |
| 2 | Ability to link one concept to other concepts in the subject | 1 | 35 | 4.69 | 5.00 | 1 | -.801 |
| | | 2 | 35 | 4.77 | 5.00 | 0 | |
| 3 | Ability to simplify the subject to ease the students' understanding | 1 | 35 | 4.69 | 5.00 | 1 | -1.086 |
| | | 2 | 35 | 4.80 | 5.00 | 0 | |
| 4 | Ability to relate the subject with students' real life | 1 | 35 | 4.77 | 5.00 | 0 | -.593 |
| | | 2 | 35 | 4.83 | 5.00 | 0 | |
| 5 | Ability to relate the subject with Islamic views | 1 | 35 | 4.69 | 5.00 | 1 | -.801 |
| | | 2 | 35 | 4.77 | 5.00 | 0 | |
| 6 | Having a sound knowledge of general matters | 1 | 35 | 4.17 | 4.00 | 2 | -.763 |
| | | 2 | 35 | 4.34 | 4.00 | 1 | |
| 7 | Understanding the concept of peace education | 1 | 35 | 4.40 | 5.00 | 1 | -.459 |
| | | 2 | 35 | 4.57 | 5.00 | 1 | |
| 8 | Ability to display ways to maintain the peace | 1 | 35 | 4.43 | 5.00 | 1 | -.445 |
| | | 2 | 35 | 4.57 | 5.00 | 1 | |
| 9 | Understanding the principles of curriculum | 1 | 35 | 4.54 | 5.00 | 1 | -.339 |
| | | 2 | 35 | 4.66 | 5.00 | 1 | |
| 10 | Ability to adjust the curriculum with the school where he/she is posted | 1 | 35 | 4.63 | 5.00 | 1 | -.224 |
| | | 2 | 35 | 4.71 | 5.00 | 1 | |
| 11 | Ability to organize the lesson plan to match with the curriculum | 1 | 35 | 4.80 | 5.00 | 0 | -.097 |
| | | 2 | 35 | 4.86 | 5.00 | 0 | |
| 12 | Ability to organize the teaching materials to match with the curriculum | 1 | 35 | 4.37 | 5.00 | 1 | -.497 |
| | | 2 | 35 | 4.51 | 5.00 | 1 | |
| 13 | Ability to organize the meaningful teaching and learning experience | 1 | 35 | 4.63 | 5.00 | 1 | -.500 |
| | | 2 | 35 | 4.69 | 5.00 | 1 | |
| 14 | Understanding the evaluation process | 1 | 35 | 4.69 | 5.00 | 1 | -1.086 |
| | | 2 | 35 | 4.80 | 5.00 | 0 | |
| 15 | Ability to make the evaluation items according to the objective of curriculum | 1 | 35 | 4.06 | 5.00 | 2 | -.659 |
| | | 2 | 35 | 4.31 | 5.00 | 1 | |
| 16 | Ability to recognize the students' background | 1 | 35 | 4.54 | 5.00 | 1 | -.237 |
| | | 2 | 35 | 4.63 | 5.00 | 1 | |
| 17 | Ability to recognize the individual differences | 1 | 35 | 4.54 | 5.00 | 1 | -.317 |
| | | 2 | 35 | 4.66 | 5.00 | 1 | |
| 18 | Ability to motivate the students | 1 | 35 | 4.86 | 5.00 | 0 | -.746 |
| | | 2 | 35 | 4.91 | 5.00 | 0 | |
| 19 | Acquiring variety of teaching techniques | 1 | 35 | 4.49 | 5.00 | 1 | -.588 |
| | | 2 | 35 | 4.60 | 5.00 | 1 | |
| 20 | Ability to select teaching techniques that match students' individual differences | 1 | 35 | 4.14 | 5.00 | 2 | -.475 |
| | | 2 | 35 | 4.40 | 5.00 | 1 | |
| 21 | Understanding a variety of learning methods | 1 | 35 | 4.51 | 5.00 | 1 | -.659 |
| | | 2 | 35 | 4.63 | 5.00 | 1 | |
| 22 | Ability to diagnosis of students' learning problems | 1 | 35 | 4.46 | 5.00 | 1 | -.420 |
| | | 2 | 35 | 4.60 | 5.00 | 1 | |
| 23 | Ability to solve students' learning problems | 1 | 35 | 4.51 | 5.00 | 1 | -.316 |
| | | 2 | 35 | 4.63 | 5.00 | 1 | |
| 24 | Acquiring strategies for solving problems arising among students | 1 | 35 | 4.51 | 5.00 | 1 | -.555 |
| | | 2 | 35 | 4.66 | 5.00 | 1 | |

^a Grouping Variable: ROUND

* Asymp. Sig. (2-tailed)

Wilcoxon matched-pairs test (Z) shows that there were changes between Round One and Round Two but these changes were very slight. Several items that did not achieve consensus in the previous round such as teachers' mastery of general knowledge; teachers' ability to make evaluation items that suit the curriculum objective; and teachers' ability to select teaching techniques that match students' individual differences (IQR = 2) have reached consensus in the present round (IQR = 1). However, slightly high value of Z (-1.086) was achieved in two items i.e.: teachers' ability to simplify the subject and teachers' understanding the process of evaluation and this indicated that there were changes in responses given for these items, but the changes were not significant. In conclusion, the respondents were very consistent in giving responses to knowledge to be acquired by Acehese teachers which were proposed by the experts. Hence, all proposed knowledge would be considered essential as core contents of TTDC of Aceh's curriculum.

3.3 Skills

In answering research Question 3: What skills are needed in curriculum content of in-service teacher training for the Teacher Training and Development Center of Aceh?; Table 3 shows that all items proposed by the panelists had achieved consensus. Strong consensuses were achieved on items no. 25, 30, and 32 (IQR = 0). The respondents highly agreed that teachers should be able to reduce traumatic state of students (item no. 25). This viewpoint is very reasonable considering that Aceh had gone through decades of conflict and Tsunami. Furthermore, teachers are also expected to be innovative in using ICT in the classroom (item no. 30). And most importantly, teachers are supposed to be able to use any teaching aid in order to accelerate students' understanding (item no. 32).

Moreover, the respondents had also achieved consensus on other items (IQR = 1, Md = 5.00), but degree of preference is different among items. The respondents regarded that it is important for teachers to be able to encourage students, write simple research proposal and report, conduct research, create simple teaching aids, communicate and present the lesson effectively. Besides, teachers are also expected to be able to work with other fellow teachers to ease the teaching and learning process as well as able to make fair decision in dealing with problems occurring among students.

Nevertheless, the respondents had agreed to reject one item in this list (Md = 2.00, IQR = 1). The respondents considered that teachers should not have life skills suited with the place where they are posted (item no. 38).

Slight changes between Round 1 and 2 also occurred in the proposed skills to be acquired by Acehese teachers as indicated by Wilcoxon matched-pairs test (Z). This can be seen from the increase of mean scores of those proposed items, except respondents' opinion on teachers' having life skills suited with their working place which shows a significant rejection of this item (M1 = 2.63, M2 = 2.40, Z = -1.177). However, there are a few items that had not gained consensus in the previous round but achieved consensus in the present round (IQR1 = 2, IQR2 = 1, Z = -1.064). It can be concluded that the respondents were consistent in giving responses including their refusal to the last item 'Having life skills suited with the working place' and thus that item would be excluded from the list of skills to be acquired by Acehese teachers.

Table 3. Responses of Round One and Round Two towards the Proposed Skills to be Acquired by Acehese Teachers

| Item No. | Item | Rda | N | Mean | Median | IQR | Z* |
|----------|--|-----|----|------|--------|-----|--------|
| 25 | Ability to reduce the traumatic state of students | 1 | 35 | 4.77 | 5 | 0 | -0.108 |
| | | 2 | 35 | 4.83 | 5 | 0 | |
| 26 | Ability to encourage learners with positive views | 1 | 35 | 3.97 | 4 | 2 | -1.064 |
| | | 2 | 35 | 4.37 | 5 | 1 | |
| 27 | Ability to write simple research proposal and simple research report | 1 | 35 | 4.54 | 5 | 1 | -0.304 |
| | | 2 | 35 | 4.69 | 5 | 1 | |
| 28 | Ability to develop ideas into other scientific writings | 1 | 35 | 4.43 | 5 | 1 | -0.356 |
| | | 2 | 35 | 4.54 | 5 | 1 | |
| 29 | Ability to conduct research for teaching improvement | 1 | 35 | 4.43 | 5 | 1 | -0.322 |
| | | 2 | 35 | 4.57 | 5 | 1 | |
| 30 | Being innovative in using ICT in classroom | 1 | 35 | 4.66 | 5 | 0 | -0.452 |
| | | 2 | 35 | 4.77 | 5 | 0 | |
| 31 | Ability to develop simple teaching aids | 1 | 35 | 4.6 | 5 | 1 | -0.565 |
| | | 2 | 35 | 4.69 | 5 | 1 | |
| 32 | Ability to use other teaching | 1 | 35 | 4.83 | 5 | 0 | -0.678 |

| | | | | | | | |
|----|---|---|----|------|---|---|--------|
| | aids to accelerate students' understanding | 2 | 35 | 4.89 | 5 | 0 | |
| 33 | Interacting positively in classroom | 1 | 35 | 4.71 | 5 | 1 | -0.339 |
| | | 2 | 35 | 4.77 | 5 | 0 | |
| 34 | Ability to work well with other fellow teachers to ease the teaching and learning process | 1 | 35 | 4.74 | 5 | 1 | -0.565 |
| | | 2 | 35 | 4.8 | 5 | 0 | |
| 35 | Ability to communicate the lesson effectively to students | 1 | 35 | 4.6 | 5 | 1 | -0.322 |
| | | 2 | 35 | 4.66 | 5 | 1 | |
| 36 | Ability to present the lesson interestingly to students | 1 | 35 | 4.4 | 5 | 1 | -0.178 |
| | | 2 | 35 | 4.46 | 5 | 1 | |
| 37 | Ability to make fair decision in dealing with problems occurring among students | 1 | 35 | 4.57 | 5 | 1 | -0.158 |
| | | 2 | 35 | 4.63 | 5 | 1 | |
| 38 | Having life skills suited with the working place | 1 | 35 | 2.63 | 2 | 1 | -1.177 |
| | | 2 | 35 | 2.4 | 2 | 1 | |

a Grouping Variable: ROUND

** Asymp. Sig. (2-tailed)*

7.4. Values

For the final research Question 4: What values are needed in curriculum content of in-service teacher training for the Teacher Training and Development Center of Aceh?, Table 4 shows that all proposed items are strongly agreed (Md = 5.00) but consensus is higher on teachers' being of high moral and ethical character and teachers' becoming model to students (IQR = 0). Among the values proposed by the experts, teachers' being of high moral and ethical character is preferred the most (M = 4.80) and the least preferred is being well-dressed (M = 4.46 & 4.51) which indicated lowest mean for both rounds. The table also shows that in their response to values to be acquired by Acehese teachers in carrying out their professional tasks, the respondents were very consistent. This can be seen from the low scoring point of Z (below -1.000). However, there were changes in their opinions that were indicated in the slight increase of every mean score in Round One (M1) to Round Two (M2) as derived from Wilcoxon matched-pairs test (Z), but the changes were not significant. Thus, all proposed values would be considered essential to be acquired by Acehese teachers.

Table 4. Responses of Round One and Round Two towards the Proposed Values to be Acquired by Acehese Teachers

| Item No. | Item | Rd ^a | N | Mean | Median | IQR | Z* |
|----------|---|-----------------|----|------|--------|-----|-------|
| 39 | Being of high moral and ethical character | 1 | 35 | 4.80 | 5.00 | 0 | -.630 |
| | | 2 | 35 | 4.86 | 5.00 | 0 | |
| 40 | Having affection with learners | 1 | 35 | 4.74 | 5.00 | 1 | -.565 |
| | | 2 | 35 | 4.80 | 5.00 | 0 | |
| 41 | Ability to act as parents to learners | 1 | 35 | 4.54 | 5.00 | 1 | -.299 |
| | | 2 | 35 | 4.60 | 5.00 | 1 | |
| 42 | Being highly enthusiastic in working | 1 | 35 | 4.71 | 5.00 | 1 | -.543 |
| | | 2 | 35 | 4.77 | 5.00 | 0 | |
| 43 | Being a model for learners | 1 | 35 | 4.77 | 5.00 | 0 | -.593 |
| | | 2 | 35 | 4.83 | 5.00 | 0 | |
| 44 | Establishing good relation with the surrounding community | 1 | 35 | 4.74 | 5.00 | 1 | -.565 |
| | | 2 | 35 | 4.80 | 5.00 | 0 | |
| 45 | Getting along well with learners | 1 | 35 | 4.54 | 5.00 | 1 | -.169 |
| | | 2 | 35 | 4.60 | 5.00 | 1 | |
| 46 | Getting along well with other fellow teachers in school | 1 | 35 | 4.69 | 5.00 | 1 | -.525 |
| | | 2 | 35 | 4.74 | 5.00 | 1 | |
| 47 | Sensitive to problems encountered by the learners | 1 | 35 | 4.57 | 5.00 | 1 | -.461 |
| | | 2 | 35 | 4.63 | 5.00 | 1 | |
| 48 | Being fair to all students | 1 | 35 | 4.60 | 5.00 | 1 | -.309 |

| | | | | | | | |
|----|-------------------|---|----|------|------|---|-------|
| 49 | Dressing well | 2 | 35 | 4.66 | 5.00 | 1 | -.189 |
| | | 1 | 35 | 4.46 | 5.00 | 1 | |
| 50 | Speaking politely | 2 | 35 | 4.51 | 5.00 | 1 | -.377 |
| | | 1 | 35 | 4.57 | 5.00 | 1 | |
| | | 2 | 35 | 4.66 | 5.00 | 1 | |

a Grouping Variable: ROUND

** Asymp. Sig. (2-tailed)*

8. Discussion of Findings

In the interviews conducted in the initial phase of this study, the expert panelists had proposed the knowledge and skills, which were required by teachers such as the mastery of subject matter, psychology of learners, curriculum implementation, ICT skills and so on, many of which have been discussed in the literature review. In addition to that, the present study discovered some new findings, which differ from the existing curriculum content of the in-service teacher-training format. These findings are mostly related to the current condition of Aceh, as the following:

First, the expert panelists were responsive that both more-than-three-decade conflict and the 2004 tsunami had adversely affected Aceh education. Teachers are confronted with many schooling hurdles. Many students lost their parents and homes in the conflict and tsunami that adversely affected their morale and behavior. Even, many of them were permanently disabled and traumatic. These students were scattered in almost every school in Aceh. According to the panelists, these students need special treatment in order to change them back to normal. Teachers were expected to have additional knowledge, skills, and values so that they are able to deal with such condition, for instance, ability to help reduce students' trauma, ability to motivate students, ability to give positive views, being fair to all students, and such.

Second, in response to the peace agreement between GAM-Central Government, the panelists believe that schools' involvement in maintaining the ongoing peace agreement is very effective. Teachers should deliver the peace message to students in their teaching. Therefore, the panelists viewed that it is important for Acehese teachers to understand the concept of peace education.

Lastly, Aceh is currently implementing Islamic Shariah law. The implementation of Islamic Shariah law in Aceh is based on the 1999 Law No. 44 and 2001 Law No. 18 of the Indonesian Republic. According to the panelists, to make the implementation of this law successful, Acehese teachers should also take part by introducing the concept of Shariah law to students and its practice in daily life. Besides, they are expected to be able to link subjects to Islamic views. Hence, the panelists

proposed this matter to be part of teachers' professional qualities.

Except for two new findings, most of the other findings agree with previous research, which indicated that the teaching profession needs: knowledge of motivating the learners (Intime, 1999-2001); subject knowledge (Bisset, 2001; Garcia and Ariza, 2004 & Malakolunthu, 2007); curriculum development, content areas and teaching method, learning theory and evaluation, connecting theory and practice (Herne, Jessel, & Griffiths, 2000; McRobbie, 2000); pedagogy (Tubbs, 1996); and knowledge of assessment (Nicholls & Nicholls, 1987).

In the area content of skills to be acquired by the Acehese teachers, there are new findings, which also correspond to the current situation in Aceh. The GAM-Central Government conflict and the tsunami left trauma among many of the Acehese. The experts and the respondents viewed that trauma recovery could also be assisted by teachers. It is likely to be undertaken by teachers in Aceh by acquiring counseling skills. Hence, it will enable them to reduce the traumatic environment among the learners and to restore their confidence by means of instilling positive views. Meanwhile, other professional skills also correspond to past researches, such as ICT application in education (Polyzou, 2005; Webb & Powis, 2004; Sharp, 2005; Bredeson, 2003; Beare, 2001; Lane, 1999), presenting the content clearly (Ayres, Sawyer & Dinham, 2004), acquisition of research skills (Stenhouse, 1975; Henson, 2001; Seals, 2004; Rosiek & Atkinson, 2005).

Interestingly, in seeking curriculum content for values, all values proposed by the expert panelists are agreed to by the respondents. Teachers' being of high moral and ethical character gets highest rank in this study. This finding is in accord with a previous study conducted by Winch (2004) which finds that teachers should acquire moral (ethical) knowledge. The strength of the present study findings lies in the source of input as it was obtained from the practitioners of in-service training in various fields and at different levels of education. All inputs provided are certainly based on their experience and their views of the current condition of Aceh. In addition, they are likely to be applied in various ways in any training program in Aceh.

However, the current findings have its limitation too. For instance, the expert panelists did not give reasons why they did not agree with certain statements, though the researcher had provided additional space in the questionnaire. Therefore, it certainly calls for further research to ensure that they meet the needs of the in-service teacher-training program as a whole since teachers' professional challenges keep changing from time to time. At least, this curriculum content can be a preliminary input if not an ideal one in designing an in-service teacher-training model in Aceh.

9. Conclusions

This Delphi study suggests that the resulted curriculum content may be useful in developing knowledge, skills, and values for in-service teacher training programs for the Teacher Training and Development Center (TTDC) of Aceh. Interviewing the panel of experts in the initial phase of the present study has successfully identified numerous objectives of in-service teacher training. Interestingly, it not only exposed the objectives as identified, but also revealed the new findings relevant to the current context of Aceh. Bombarded by the long conflict and the tsunami, the roles of Acehnese teachers has never become more challenging as they are also shouldering other school loads. All the knowledge, skills and values identified in this study are potential inputs into comprehensive in-service teacher training programs.

9.1. Implications

Present research findings carry several implications for the in-service teacher training programs in Aceh. First, they suggest the introduction of a curriculum, which was much neglected previously. At least, this may offer a simple solution to overcoming the present difficulties.

Second, all competencies proposed by the panel and the expert participants were very thorough and may satisfy the needs of the local teachers. When returning to their school, they may be more prepared to cope with the many complex teaching problems. As reported by a local education bulletin, KIPRAH, VI (2005), for instance, thousands of students were abandoned by the loss of their parents in the tsunami. These students were badly in need of counseling treatment for trauma relief, encouragement, and many other measures.

More than three decades of the GAM-Central Government conflict has also left students with varying levels of depression. Those whose parents were killed in the conflict are very vulnerable to being discouraged, or they could even be very aggressive for their hearts may be filled with desire for revenge. Teachers should be very careful and fair in handling such cases. For instance, when there is a

quarrel between two students whose parents were from different sides in the conflict, a teacher should be very careful in not favoring anyone. Here, teachers' care in managing the problem and their fairness in making decision may prevent other problems from arising. As suggested by this study, in such cases, building a friendly interpersonal rapport is very useful.

This study also suggests further research into the evaluation of these curriculum contents. It is undeniably important that for the success of the integration of the proposed contents, further research is encouraged to continuously upgrade the contents and strategies so as to meet the desired standards. For example, research on examining the effectiveness of the implementation of these contents is strongly recommended to allow the modification where needed or when something is missed by the present study. In addition, as the teachers' teaching challenges in Aceh keep increasing, all new inputs are worthy of consideration for the benefit of educational improvement.

This study also suggests further research because by continuously collecting data regarding the teacher's professional development, the researchers could accordingly develop a better understanding of the professional development needs of the teaching profession. Moreover, further research would call for deeper study of teachers' on-service teaching so as to ensure the success of in-service programs and of the integration of curriculum with school standards.

Other implications are that the primary target of this study is to achieve school improvement by improving teacher development and teaching expertise. Successful and effective schools are typically characterized by strong leadership, a conducive classroom environment and teachers' focusing on the basics of the curriculum, holding high expectations of their students' potential and performance and providing them with frequent assessment. Thus, in future it is expected that students' test scores would go up and the Acehnese community prosperity and peace would improve. Parental involvement in education would be an increased support.

9.2. Recommendations

It is the right time for the local Government of Aceh to really consider what Botstein (in Pushkin, 2001) and McRobbie (2000) suggest that investment in producing better teachers by providing training to in-service teachers and thoroughly implementing an appropriate curriculum in the teaching college to produce qualified prospective teachers would lead to better performance in the teaching profession. In this regard, in its Education for All (EFA) Report, UNESCO (2005) also agreed, "investment in teachers

is critical. It is clear that teachers' subject knowledge is a key factor for their effectiveness" (p. 230). Furthermore, teacher education is a professional program (Muddasir Hamid Malik & Tasleema Jan, 2012).

Successful implementation of the proposed content of in-service teacher training curriculum requires genuine efforts by the stakeholders of Aceh education. Firstly, as policymaker on Aceh education, the education office should allocate sufficient funds in the local budget to ensure the continuation of in-service teacher training programs. Furthermore, teachers should be encouraged to conduct research by the allocation of sufficient research funds. Research may enable them to improve their teaching practices so that they may be more creative as well as innovative.

There are also other benefits in encouraging teachers to conduct research; teachers may be driven to writing research proposals, research reports, and other scientific writings. And, all the teachers' works are strongly recommended to be included in their credit points.

Second, to make the application of this concept more effective at the school level, peer-to-peer mentoring is required. Perhaps, the office of education should form school clusters in every district that establish and enforce teaching standards. In each school cluster, there should be senior qualified teachers who would serve as mentors. The assistance of a mentor to on-service teachers would certainly maximize improvement since they can cooperatively share challenges encountered in the classroom. Besides, the presence of senior teachers would also ease the concern and feeling of being overwhelmed by these challenges. Hence, these efforts should be made in the interest of all educational stakeholders to get comprehensive support, from either the Education Office of Aceh, teacher trainers, or the Association of Indonesian Teacher (PGRI) for a well-conceived mentorship program. Furthermore, improvements can also be made in in-service teacher education and professional development programs. Programs to address these issues could be jointly coordinated by the Education Office of Aceh, local universities teacher education faculties, and the National Board of Education Quality Assurance (Nationally named Lembaga Penjamin Mutu Pendidikan).

Third, the in-service training should be given evenly to all teachers. The Education Office of Aceh should create a well-managed database to avoid overlapping in which some teachers were given more training opportunities as occurred in the past. This database can trace who have been given training and

who have not. Therefore, it will ensure equal opportunity for all teachers.

Current Acehnese teachers also need the strong support from the local government providing in-service teacher either training programs or giving additional incentives. Highly motivated pre-teachers can boost the quality of education. Otherwise, low-motivated teachers can lead to absenteeism. It is because of that they wanted to get additional income. Therefore, to minimize this, the local Government of Aceh should pay more attention to this problem. UNESCO (2005) in its report of Education for All (EFA) also stressed, "Teachers' pay and conditions of service are a fundamental determinant of their status in society and of their incentives to join and remain in the profession" (p. 230). Therefore, the local systems should allow the allocation of funds for sustainable teacher professional development programs.

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