

## Analysis of Action Research Conducted by Student Teachers and its Facilitation by Teacher Educators at Haramaya University, Ethiopia

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**Abstract:** This study examined action research conducted by student teachers, a major education component in the preparation of teachers in Ethiopia. It sheds light on the existing practices of engaging student teachers in action research and its facilitation at the Faculty of Education of Haramaya University. Data were gathered from student teachers, teacher educators and cooperating teachers who were involved in the practicum program during the 2007/2008 academic year. Accordingly, the findings showed that the effort made to restructure a very technical practicum model into one that has inquiry as its basis is appreciative. The student teachers, the teacher educators and the cooperating teachers involved in the study noted that action research work helps student teachers adopt an inquiry-based approach towards teaching. Nevertheless, the participants were highly critical of the existing practices of preparing student teachers and involving them in action research at the Haramaya University.

**Keywords:** Action Research; Practicum; Student Teachers; Teacher Educators; Cooperating Teachers

### 1. Introduction

The Ministry of Education of Ethiopia (MoE) reformed its teacher education program in 2003 as one of the initiatives to produce effective teachers. This reform was made on the grounds of changing the theoretical and the trainer-centered teacher preparation model into one which is more practical and trainee-centered (MoE, 2003). One of the major problems emphasized in the 2003 teacher education curriculum guideline was the practicum, which was given inadequate emphasis and inefficiently implemented in the previous teacher education programs of the country. The ultimate objective of the previous practicum experiences was not more than enabling student teachers demonstrate their ability to act like teachers in putting into practice the knowledge they gained in their other theoretical courses. What was more is that the supervision made by teacher educators during this time was too superficial and only meant to judge the performance of student teachers according to some prescribed checklist (Degago, 2007b). Student teachers were thus more concerned about passing its assessment than the genuine improvement of their teaching.

At the time of this study, all teacher candidates were expected to complete three consecutive practicum courses over the three-year education program (It was only one course with 2 credit hours before 2003). The first Practicum course was a three-week school observation and reflection, which also involved identification of problem area for writing up action research proposal. The second Practicum course comprised practical teaching for four weeks at various partner schools. The final Practicum course was devoted to the writing up of action research reports. The assumption behind all of these practicum courses was that student teachers will be better informed about their learning if they have the opportunity to integrate the

reality at school with the campus courses and vice versa (MoE, 2003).

One integrated aspect of these practicum courses was action research, a component proposed in 2003 to develop the idea of an inquiry-oriented teacher education practicum through which student teachers address issues from the school in the campus courses and vice versa. Thus, student teachers made a critical inquiry on an aspect of their observation and teaching experience with the goal of improving that aspect. In principle, the action research project that student teachers conduct involves five stages. First, student teachers identify a problem of interest in their respective areas of study during their Practicum I visits to partner schools. Next, they investigate and “dig deeper” into the problem or challenge at hand by gathering data from students and cooperating teachers during their 2<sup>nd</sup> Practicum placement. Thirdly, they at the same time act on evidences by planning an alternative course of action and implementing it in their teaching. Fourth, they evaluate the outcomes of their action plans and at last they prepare final reports as part of their final Practicum course. Throughout these processes, student teachers are facilitated by teacher educators acting as research advisors, who are expected to work closely with student teachers from the very beginning of the action research assignment up to the end. They are expected to guide student teachers through the different processes of the action research by reading and providing useful comments and suggestions on their action research reports. This article reports the results of the study conducted to examine the practices of engaging student teachers in action research and its facilitation by teacher educators at the Haramaya University.

As one of the most important professional development strategies, action research is advocated as a core

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component in most pre-service teacher education in the world (Kosnik and Beck, 2000). Ross (1987) further elucidates the benefits of action research if included as an essential component of pre-service teacher development. It is believed that student teachers will be better informed about the complexities of the world of practice if they are given the opportunity to inquiry into their teaching practices during their pre-service teacher education program. It was with this premise that teacher candidates are involved in action research in Ethiopian teacher education program. To this effect, action research has become an essential and a compulsory component in both the pre-service and the in-service teacher education programs in Ethiopia.

However, despite all these efforts to reform the teacher education program in Ethiopia, the reality of engaging student teachers in action research on the ground does not seem encouraging. For one thing, student teachers seem to engage in action research without having a sound conceptual understanding of action research and how it is conducted. In addition, faculty staff and cooperating teachers are assigned to facilitate action research conducted by student teachers without having the proper understanding of action research and the roles expected of them during this time. The researcher from his previous experiences and observations of engaging student teachers in action research, therefore, feels that the existing practices are at disparity from the policy claims of engaging student teachers in action research. What is more, local research that clearly provides information on the existing practices of engaging teacher candidates in action research in Ethiopia is lacking. Therefore, currently it is difficult to know the successes and the challenges of action research training in Ethiopian teacher education program.

This study, therefore, examined the practices of engaging student teachers in action research and its facilitation by teacher educators at Haramaya University. The study is useful in that it gives insights into the extent to which action research is effectively implemented in relation to the premises underlying its inception. It also provides information on the perception of all stakeholders including teacher educators, student teachers, and cooperating teachers on the effectiveness of the activities of the action research project conducted by student teachers. Further, the study offers further actions to be taken in the future to effectively implement action research in its proper sense.

Therefore, the main objective of this study was to examine the existing practices of engaging student teachers in action research and its facilitations by teacher educators at the Haramaya University. The specific objectives of the study were to:

- Describe the perspectives of student teachers about their engagement in action research;
- Examine the roles of teacher educators in the action research conducted by student teachers and their views concerning these roles;

- Examine the roles of cooperating teachers in the action research conducted by student teachers and their views concerning these roles; and
- Highlight the challenges of the action research training at Haramaya University.

## 2. Research Methodology

### 2.1. Research Design

This study employed a qualitative research approach, which is often known as phenomenology. Phenomenological research was chosen because it enables researchers to explore into the "essence" of human experiences concerning a phenomenon, as described by the participants in a study (Creswell, 2007). Accordingly, the participants' (teacher educators, student teachers and cooperating) lived experiences, meanings and interpretations of their involvement in action research conducted by student teachers at Haramaya University were explored in the study.

### 2.2. Participants of the Study

The participants of this study were student teachers and teacher educators chosen purposively from the Department of English at Haramaya University and cooperating teachers chosen randomly from three partner schools of the university (Kersa, Harar Junior and Chercher Secondary Schools). 20 student teachers, 10 teacher educators, and 20 cooperating teachers were involved in the study. The number of the participants involved in the study was limited for in-depth analysis and for ease of close supervision besides the obvious time and budget constraints. For ethical considerations, all participants were informed about the purpose of the study beforehand. As data were gathered at different times using different methods from student teachers, consent was also asked prior to their involvement in the study for fear of taking their time. Drawing on Ponte's (2002) ideas that learning to facilitate action research can be a complex process, the researcher involved teacher educators and cooperating teachers to reflect on the experiences of facilitating the action research activities of student teachers.

### 2.3. Methods of Data Collection

The researcher gathered data at different times using different methods concerning the perspectives of student teachers, teacher educators, and cooperating teachers about the action research practices at Haramaya University. The data collection tools included: (1) Focus Group Discussion (FGD): FGD was held with student teachers twice: before and after student teachers' engagement in the action research projects. The first FGD aimed at examining student teachers' knowledge and understanding of action research prior to their engagement and the second one focused on student teachers' experiences and challenges of conducting action research (2) Reflection Questions: these included open-ended questions distributed to student teachers and aimed at eliciting student teachers' reflections upon the overall

action research processes and how it influenced their teaching and thinking. (3) Document Analysis: this included analysis of action research proposals, reflection notes and final action research reports of student teachers. (4) Field Notes: this included field notes taken by the researcher throughout the course of the project to reflect on his experiences of facilitating action research projects of student teachers. (5) Questionnaire: this incorporated open-ended questions distributed to teacher educators and cooperating teachers to get their views and evaluations of their experiences of engaging student teachers in action research.

#### 2.4. Method of Data Analysis

Data gathered for the study were analyzed using Moustakas's (1994, in Creswell, 2007) phenomenological data analysis method. This involved the following steps. Firstly, building on the research questions of the study, the data generated were read and reread to identify significant statements that provide a deep understanding of how the participants experienced their involvement in the action research activities of student teachers. Next, the key statements were combined to form themes of analysis for the study. Following that, the experiences of the student teachers in conducting action research and the experiences of the teacher educators and the cooperating teachers in facilitating the action research conducted by student teachers were described and interpreted. Finally, the challenges encountered by the participants during the action research activities were examined.

### 3. Results and Discussion

On the basis of the common themes that emerged from the analysis of the data gathered, the findings of this study were presented as follows: (1) the perspectives of the student teachers concerning the action research experience ;(2) the perspectives of the teacher educators and cooperating teachers concerning their involvement in action research done by student teachers; & (3) problems encountered in involving student teachers in action research at Haramaya University.

#### 3.1. The Perspectives of the Student Teachers Concerning the Action Research Experience

This study has revealed that the student teachers hold positive perceptions towards their engagement in action research as part of their educational activity. Among the reflections of the student teachers were the following:

##### 3.1.1. The Opportunity to Teach through an Inquiry Approach

Student teachers have positively viewed the incorporation of action research as an attempt to replace the traditional approach towards the teaching job. In the past, student teachers were placed at practicum settings in Ethiopia just to put into practice things previously learned in campus courses. As the student teachers expressed during the FGD, teaching and conducting action research simultaneously enabled them to see teaching and research integrated and to teach through an inquiry approach for

better teaching practices. One of the student teachers, in his reflection, expressed, "The action research experience I had was like a way of learning about a new environment [referring to school setting] through asking and answering questions about it." This positive outcome is supported by progressive educators like John Dewey who argued that teacher-education programmes should go beyond building immediate classroom proficiency skills for teachers. John Dewey argued that: "*Practical work should be pursued primarily with reference to its reaction upon the professional pupil in making him a thoughtful and alert student of education, rather than to help him get immediate proficiency*" (Cited in Schulz, 2005: 148).

Ross (1987:147) in his part also argues, "the goal of an action research course is not to make researchers of pre-service teachers, but rather to help them view teaching as integrally related to research and as a process that involves inquiry and experimentation."

Further, this inquiry approach to teaching helped, if not all, some student teachers identify issues in their teaching that caused a problem on their practice and their students' learning, consider what might be causing the problem and think about possible solutions for the problem. This was evident in the completed action research documents of the student teachers. Among the problems addressed by these student teachers were: improving student participation in English classroom, improving female student performance in English subject, managing discipline problems, using group work to promote learning, and improving students' reading skills. Quite many of these student teachers were able to develop at least action plans to solve the problematic situation in their teaching while some were able to implement their action plans and measure the outcomes of their research projects.

The implication is that engaging in action research enables student teachers not only to learn about teaching but also to become more critical in order to improve their teaching and enhance their students' learning. Confirming this, Rock and Levin (2002) assert that student teachers improve their own teaching and enhance student learning as their involvement in action research enables them to become more critical and reflective about their own teaching behaviors in the classroom.

##### 3.1.2. The Opportunity to Collaborate with Others

Student teachers also commented that the action research experiences they had created an opportunity for them to collaborate with their peers, teacher educators, teachers and students in the partner schools. As the student teachers explained during the FGD, their inquiry was more of a collaborative action research that involved students and teachers at schools to "dig deeper" into the problem encountered in the school setting in order to solve it together. This collaboration was not confined to the school setting, as the student teachers expressed, it also continued with their peers and teacher educators back from the practicum in the university campus, too. They asserted that they had the opportunity to sit together with their peers and research advisors to discuss

successes, challenges and future actions concerning their respective action research projects. Upon the completion of the research work, student teachers share their findings to each other and eventually celebrate this event together. From my observation, many student teachers consider successfully presenting their work to their peers and advisors as one their most important achievements in life. They mark the occasion wearing the suits they bought for their graduation day. Many consider this day even as their graduation day though this occasion is often carried out few weeks before their official graduation.

In the previous practicum activities, teacher educators and cooperating teachers do not focus on creating collaborative relationships with student teachers rather than merely evaluating the performance of student teachers on how effectively they could translate their theoretical knowledge into practice by using a predetermined evaluation checklist. As a result, the experience is more of frustrations than celebration on the part of the student teachers.

By contrast, from the remarks made above by the student teachers, the existing practicum model is more collaborative and created more opportunities for student teachers to collaborate with others (peers, teacher educators and cooperating teachers). This collaborative relationship offers a broader educational perspective and is supported by several authors. Schulz (2005), for example, argues for the need for change from the traditional practicum model to the one with a broader educative focus that provides teacher candidates with opportunities for inquiry within collaborative relationships with others. Burns (1999) also stresses the fact that action research is participatory and collaborative and emphasizes that better practice is the result of the collective action of all the persons involved in the situation. This is why student teachers appreciated the collaboration and the cooperation they had with others through the course of conducting their action research.

### 3.1.3. The Spirit of Inquiry to Conduct Action Research in the Future

The student teachers expressed that the current inquiry experience they had has laid some fundamental backgrounds for them to conduct action research in the future in order to improve their practice. They stated that the experiences they gained from their involvement in action research could have significant impacts on their career in the future. They feel that they would implement action research as teachers in the future to improve their teaching as well as their students' learning. One student teacher reflected "I feel happy about the action research project I have just carried out. I consider myself now as a lucky person to get this chance to know what action research is all about and to conduct it by proposing a specific problem with specific objectives. This can help me in preparing myself how to challenge problems during my professional life."

The possibility of student teachers engaging themselves in action research in the future has been supported by the

findings of other researchers as well. For instance, according to Mayer-Smith and Mitchell (1997, in Kosnik and Beck, 2000), if student teachers are engaged in action research as a major component of their education programme, they will be able to adopt this approach in their teaching in the future. Arnold (1993) also argues that student teachers will become not just a professional for a time being but they will be more likely to continue in this direction throughout their careers if they are involved in action research as part of their education courses.

### 3.2. The Perspectives of Teacher Educators and Cooperating Teachers Concerning Their Roles in the Action Research Conducted by Student Teachers

Teacher educators, as major facilitators of the action research conducted by student teachers, have a positive perception concerning this major role. They expressed that they also benefited a lot from the immense experiences and skills they gained in the overall activities of action research conducted by student teachers from regularly reading and commenting on it. Others also valued the collaboration they had with student teachers from the very beginning of the action process up to its completion which lasted for about one and a half years. One teacher educator expressed that he established and maintained relationships with student teachers, presenting himself as a critical friend who challenges as well as supports the way the student teachers think about their teaching in a more relaxing and non-threatening atmosphere. Kosnik and Beck (2000), in a related study, observed that it was not so much how the action research was introduced that made a difference but it was how it was facilitated by the teacher educators. For instance, in their study, they indicated that "teacher educators emphasized that action research is real research, capable of making an important contribution to knowledge; so the student teachers did not see it as a 'Mickey Mouse', a mere exercise" (p.133). What is more, they treated student teachers as colleagues, respected their discoveries and unashamed of learning from them (Kosnik and Beck, 2000).

Another teacher educator underlined that in the future he has a plan to engage himself in a collaborative action research with student teachers to learn much about teaching and to improve his own practices. He would also like to set a model for student teachers by adopting himself an inquiry approach to teaching. The same teacher educator expressed that teacher educators themselves should conduct research in order to properly guide student teachers in their research endeavor. He felt that teacher educators should practice what they preach as student teachers often teach the way they were trained during their teacher education program. The implication is that teacher educators should be committed to examine their own practices and set a model for student teachers. Supporting this, Schulz (2005) argues:

*If we are truly committed to educating teachers who are knowers, thinkers, leaders, and change agents - and we*

*must be committed to this - then we too as teacher educators must become students of education, examining our own practices and program innovations. A systematic inquiry into our own practices is a first step toward program improvement, to provide a model for our teacher candidates of the kind of inquiry we want them to engage in (P.162).*

Cooperating teachers in their part were also very positive about action research done by student teachers at school setting. They asserted that it creates an opportunity to link schools with teacher education institutions. This is, because they said, in action research the gap that has long existed between schools and campus courses could be bridged and education at both levels could also be integrated and improved. They further noted that if action research is properly implemented by student teachers and properly facilitated by teacher educators, it may reflect the realities of school and help find solutions to their problems. They also believe that they will get the opportunity to collaborate with student teachers to engage in a collaborative action research to improve their practice and professional life.

### **3.3. Problems with the Existing Practices of Involving Student Teachers in Action Research**

The reflection of student teachers, teacher educators and cooperating teachers and my personal observation show several shortcomings of the current practice of how action research is carried out by student teachers and how it is facilitated by teacher educators at Haramaya University. Among the shortcomings observed were:

#### **3.3.1. Lack of Common Understanding about Action Research**

One of the hurdles of the existing practice of engaging student teachers in action research in Haramaya University was the fact that student teachers were required to conduct action research without first having a clear and a proper understanding of how action research is designed and conducted. As an introduction to action research, student teachers take one course (32 contact hours) before their engagement in action research. However, this course is described by student teachers and teacher educators as very general and unrelated to the subjects of study in which the student teachers conduct action research. What is more, the student teachers explained that the course did not give them adequate and relevant knowledge about how action research is conducted because the emphasis in the course has been on theoretical knowledge than practical knowledge regarding how action research is designed and conducted. In other words, the student teachers expressed that they were not given the opportunity in the course to try things out in practice or even to read and evaluate action research activities conducted by former student teachers or teacher educators.

Inadequate conception of action research is not the problem of student teachers alone. Teacher educators were also assigned as action research advisors without

having adequate knowledge about action research and the processes it involves. As action research is a recent component in the education of teachers in Ethiopia, most teacher educators have had no training or experience in it. As a result, the majority of the teacher educators stated that they faced a big challenge in clearly guiding student teachers in the action research process. What is more, they were unable to clearly distinguish between action research and previous forms of research that used to be conducted by teacher candidates. Currently, to alleviate the problem, the Ministry of Education of Ethiopia is running a program called Higher Diploma Program for teacher educators (HDP). As a result, there are positive developments, at least conceptually, though its practice by teacher educators is still negligible. Given this situation, it was found to be too challenging for student teachers to learn to teach through an inquiry method. For this reason, it seems fair to argue that it is challenging for student teachers to conduct action research in a situation where those who educate them are not researchers themselves.

#### **3.3.2. Difficulty of Working Together**

The other challenging aspect of the program was that teacher educators and student teachers have difficulty working together. This is because student teachers are expected to conduct their action research or inquiry in partner schools. However, teacher educators, because of the teaching and administrative duties they have at the university, cannot go and assist student teachers in the action research area as required. As a result, student teachers cannot get a clear guidance to design and reflect on the process and outcome of their research at a school setting. As far as the cooperating teachers are concerned, currently, they are not in a position to lend support for student teachers during this engagement. This is because cooperating teachers are not given any training or orientation concerning action research. Student teachers are often deployed to partner schools without the cooperating teachers being informed about what is expected of them during this engagement. As the cooperating teachers disclosed, currently their assistance for the student teachers does not go beyond replying to questionnaires or interviews used by student teachers for gathering data for their research.

#### **3.3.3. Time Constraints**

Time was another constraint in implementing action research properly. In principle, action research should be conducted at school setting. However, currently the amount of time student teachers spend at partner schools is insufficient to conduct the study critically. They have only two weeks school observation time in the beginning of the action research activity and only four weeks practical teaching during which student teachers become fully engaged in routine classroom responsibilities and other extracurricular activities at a partner school. Simultaneously, student teachers are required to gather data, consider an alternative course of action on evidences, implement it and observe its results. However, as the student teachers indicated, it seems unfeasible to

complete all these activities during this time. As a result, several action research reports conducted by student teachers currently lack basic elements of action research such as action planning and implementation, and evaluation of outcomes.

#### 4. Conclusions

In general, the findings of this study support the initiative made by the Ministry of Education to restructure a technical practicum model which focuses on immediate skills of teaching and classroom management into one that has genuine inquiry as its basis. As too much emphasis on teaching methodology is not sufficient for the professional growth of teacher candidates, it is very rewarding to provide student teachers with the opportunity to integrate research to their teaching experiences so that they will become more critical than passive technicians who merely learn to put their campus courses into practice. The importance of such systematic inquiry as a component of teacher education is well established and advocated in most teacher education programmes worldwide.

However, several conditions still need to be fulfilled to bring the desired outcomes in the educations of effective teachers in Ethiopia, drawing on the lessons learned from this study. In other words, the way action research is carried out by student teachers and facilitated by teacher educators needs to be improved. This requires the combined efforts of all stakeholders at both university and school levels. It also requires a change of perception concerning the contribution of action research and the capability of student teachers to conduct it.

Another important lesson that can be drawn from this study is that student teachers should have the proper knowledge and preparation for action research beforehand. They should take a relevant course, if possible, that relates to their subjects of study in which they are required to conduct their action research. In such a course, student teachers should be able to get a clear understanding of action research, how it is designed and why it is conducted. They should also learn the processes involved in conducting action research, particularly, how to plan an appropriate course of action to improve the problem area and how to conduct critical observation to evaluate its outcome. If they do so, they will be able to integrate the research work with the coursework and make sense of it.

For the teacher educators, the Higher Diploma Program (HDP) run by the Ministry of Education to raise their awareness concerning action research is appreciable. However, the necessary resources required to put it into practice should follow so that the culture of inquiry can be developed in teacher education institutions and thereby make the task of facilitating action research of student teachers easy for teacher educators. Adequate material and financial resources should be allocated for teacher educators to conduct action research and to test the knowledge they acquired from the program. In the meantime, teacher educators should be committed to

examine their own practice to set a model for student teachers.

This study also has useful implications concerning the importance of creating close relationships with partner schools. As preparation of teachers requires a joint effort, there should be a close and a working relation between university (teacher education institutions) and partner schools. Before deploying student teachers to partner schools, teacher education institutions must make sure that teacher candidates are in good hands both professionally and psychologically. For this to happen, the university should provide training for cooperating teachers in action research so that they can assist student teachers as collaborators. Then, student teachers will have useful inputs about action research and how it is carried out at school settings when they are far from their research advisors or from the university setting. Furthermore, as school counterparts, cooperating teachers could also plan, implement and evaluate action research together with student teachers on areas they both feel need intervention. By so doing, cooperating teachers could become role models who can critique their practices and can invite student teachers to do the same.

Last, but not least, the current practicum programme should also be restructured to allow student teachers to carefully plan a course of action, implement it and evaluate its outcome. In other words, the existing practicum duration is inadequate to conduct a meaningful inquiry at school setting. Other practicum activities such as school observation, teaching practice, extracurricular duties should not also overshadow the action research work as the case in the recent practice of doing action research. If student teachers spend sufficient time on the action research work, they will be able to make sense out of it. Therefore, longer and extensive practicum programme should be put in place in order for student teachers to develop an inquiry-oriented approach towards teaching, which is the ultimate purpose of including action research as a component in the Ethiopian teacher education program.

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#### 6. References

- Arnold, T.H. 1993. Strengthening student teachers reflective/critical thinking skill through collaborative research. *Teacher Education Quarterly* 20: 97-105.
- Burns, A. 1999. *Collaborative Action Research for Language Teachers*. Cambridge, Cambridge University Press.
- Creswell, J.W. 2007. *Qualitative inquiry & research design: Choosing among five approaches*. 2nd edition. Thousand Oaks, CA: Sage.
- Degago, A.T. 2007a. "A First Timer's Impressions of Engaging in Action Research: A Case in Ethiopian

- Pre-Service Teacher Education". *Action in Teacher Education* 29(1): 74-82.
- Degago, A.T. 2007b. "Using Reflective Journals to Enhance Impoverished Practicum placements: A Case in Teacher Education in Ethiopia". *Teaching Education* 18(4): 343-356.
- Kosnik, C. and Beck, E. 2000. The action Research process as a means of Helping student teachers understand and fulfill the complex Role of the teacher. *Educational Action Research* 8(1): 115-136.
- Ministry of Education. 2003. A National Curriculum Guideline for Pre-Service Teacher Education Programmes. Addis Ababa, Ethiopia.
- Ponte, P. 2002. How teachers become action researchers and how teacher educators become their facilitators. *Educational Action Research* 3: 399-422.
- Ross, D. 1987. Action Research for preservice teachers: A description of why and how. *Peabody Journal of Education* 64: 131-150.
- Schon, D.A. 1983. *The Reflective Practitioner: How the Professionals Think in Action*. Basic Books, New York.
- Schulz, R. 2005. The Practicum: More than Practice. *Canadian Journal of Education* 28(1 & 2): 147-167.
- Rock, T.C. and Levin, B.L. 2002. Collaborative action research projects. Enhancing pre-service teacher development in professional development schools. *Teacher Education Quarterly* 29 (1): 7-21.
- Wallace, M. 1996. Structured Reflection: The role of the Professional Project. In: Freeman, D. and Richards, J.C. (Eds.). *Teacher learning in language teaching*. Cambridge: Cambridge University press.

