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## **Educating prospective teachers as good researchers: conducting classroom research**

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**Abstract:** Classroom research is thought to be quite challenging by teachers. If teachers are trained and guided to conduct classroom research during their education process, they may appraise the importance of research in education. By conducting classroom research, they may gain new insights and develop skills about the teaching issue. Therefore, in this study, it was aimed at guiding the prospective teachers to conduct classroom research in their own classrooms by observing, interviewing, and questioning their classmates' learning strategy preferences. The research topic "learning strategy preferences of the students" was chosen as a sample topic by the researcher.

**Key words:** classroom research, language classrooms, prospective teachers, learning strategies

### **Introduction**

Research may highlight some ambiguous issues, guide to find solutions to the possible problems in education process and lead to progress. Teachers conduct research to diagnose possible problems in the education process and to identify ways of remedying them. In the research process, teachers try to be able to explain what is happening, why those things happen, and seek out some ways to boost better learning and teaching situations. Thus, they inquire into unknown processes. Research, in this respect, can be conducted either in or out of the classroom.

Nunan and Bailey (2009) define three main types of research conducted in education: classroom research, teacher research, action research of which similarities and differences are displayed in Figure 1.

#### **Insert Figure 1 about here**

Those research types may seem to be similar, but in their focus, there appear significant differences. The focal point of classroom research is the classroom without taking

the researcher or the research method into account; while the core of teacher research is the person (the teacher) who has conducted the research; and action research as an actual research process has cyclical steps and its focal point is the method applied in the process to highlight what is happening by collecting data. Nunan and Bailey (2009) also stress that action research as a method of conducting research involving the participants (such as teachers and learners) in ongoing, cyclical investigations of their own contexts should not be confused with classroom research or teacher research.

Classroom research provides opportunities to the teacher to evaluate his/her classroom practice and students' development. Thus, systematic inquiry in the classroom leads to promotion in terms of both teacher achievement and student achievement. Accordingly, classroom research data can explain what is going on in the classroom. Allwright (1983: 191) defines "classroom research as distinct from research that concentrates on the inputs to the classroom (the syllabus, the teaching materials) or on the outputs from the classroom (learner achievement scores). It does not ignore in any way or try to devalue the importance of such inputs and outputs. It simply tries to investigate what happens inside the classroom when learners and teachers come together. At its most narrow sense, classroom-centered research is in fact research that treats the language classroom not just as the setting for investigation but more importantly as the object of investigation." In this statement the focus is on the ongoing process of classroom events. The data, then, can be collected through observation reports, questionnaires, interviews, diaries, and etc. In classroom research process, students' behaviors, their participation patterns, students' ongoing performances, teachers' attitudes towards students, teachers' teaching styles, student variables, and so on can be investigated, and data on such issues are collected to explain the issue under discussion.

Principally research in classroom environment also examines the interaction of the teacher with students (Brown & Rogers, 2002). The gathered data can lead to some novel discoveries in terms of getting ideas and perspectives about the existing situations. If missing points are detected, feedback can be provided. In this sense, classroom research is a cover term used to encompass both classroom-based and classroom oriented research (Nunan & Bailey, 2009). In classroom research, various research methods or mixed methods research can be conducted such as case studies, ethnographic research, surveys, experimental or non-experimental or quasi-experimental research (Cohen, et al, 2000, Mackey & Gass, 2005), because conducting mixed methods research makes it easier to understand the intricate tapestry of classroom events (Dörnyei, 2007). Research in language classrooms is mostly

done through observation or introspection by keeping a record to notice what is going on during the learning and teaching processes. In introspection, by asking people questions about the ongoing process, data is gathered about the general depiction of the class (Allwright, 1983). It is a way of reporting individuals' ideas on action. For elicitation data, questionnaires or interviews or both are used. Besides, think aloud or talk aloud protocols, diaries, journals, and logs are widely used to inspect the opinions of learners. In some cases, either observation and introspection methods or various tools can be used to elicit reliable data.

Whatever method or tool is selected, the general aim is to detect the teaching and learning processes, discover the ongoing issues, and if there appear missing points, proper treatments can be implemented. In this sense, teachers need to get the habit of searching out their classrooms. To manage that, awareness needs to be evoked during teacher training process. In other words, teacher educators need to impose the benefits of conducting classroom research on prospective teachers and guide them to design research. Thus, prospective teachers may get the chance of involving in research process and increase awareness about how to conduct research. By conducting classroom research, they may gain new insights about the classroom environment and develop research skills to check both teaching and learning processes. However, depending on teachers' statements gathered through some survey studies, Borg (2006) concludes that teachers' engagement in any type of research activity is clearly not widespread. Many similar studies focus on the same issue by pointing out the inadequate engagement of teachers in research and their perception of research as isolated from the actual teaching practices (Crookes & Arakaki, 1999; Rainey, 2000; Mc Namara, 2002). Some teachers may initially be undecided and hesitant to undertake the responsibility of research. The reasons may vary: if they do not have enough experience about data collection, it may create problems. In addition, although some may be experienced enough about data collection, they may not be able to analyze the data due to lack of experience while using statistics. Some, on the other hand, may be uncertain about the validity of the research while diagnosing problems, putting forward hypotheses, or applying suitable procedures and methods. In research process, even though the teacher can be qualified enough, the quality of the research cannot be satisfactory. If the results are not generalized for other studies, the quality of the research can be questioned. All those ambiguities can lead to reluctant attitudes toward classroom research.

Classroom research can focus on teachers or on learners, or on the interaction between teachers and learners; research that focuses on the learner looks at, for example, the developmental aspects of learner language, the learning styles and strategies used by different learners, the type of language prompted by various types of materials and pedagogic tasks, the classroom interaction that takes place between learners, and the effect of this interaction on learner language development (Nunan, 1990). Depending on Nunan's suggestions, in the present study, it was aimed at guiding the student teachers to conduct classroom research in their own classrooms by observing, interviewing, and questioning their classmates as the learners of a language classroom. The main concern of the study was to make student teachers engage in classroom research for investigating the learners' learning strategies. There have been numerous research studies which have been carried out on learning strategies (O'Malley & Chamot, 1990; Ehrman & Oxford, 1995; Cohen 1998; Oxford, 2002). But in this study, the research on strategy use was carried out by student teachers attending English Language Teaching Department to prompt their awareness on the importance of conducting research projects in language classroom.

## **Method**

In the study, the student teachers attending a Turkish university were directed to design classroom research. Both qualitative and quantitative analyses were used to evaluate the data collected by the student teachers through observation reports, interviews and questionnaires, that is, mixed methods research was used. Participant observation reports were also used. The classroom observation reports and interviews were evaluated through qualitative methods; and the questionnaires were evaluated through quantitative analysis. For quantitative analysis, the statistical program, SPSS 20 was used.

## **Participants**

32 prospective teachers -25 females and 7 males- participated in the study. The participants of the study were the third year student teachers attending four-year English Language Teaching –ELT- Department at a Turkish University. After completing the four-year teacher training education, they will be teachers of English. The participants' age levels varied between 20 and 25. All participants who were in the third year of studying were exposed to consent process wherein they allowed their work to be published.

## **Research procedure and instruments**

This study aims at demonstrating the importance of classroom research using a case study of the “learning strategy preferences of students”. The participants were asked to design classroom research and were presented a research question on this issue:

*“What are the differences between the good and poor language learners in terms of their learning strategy preferences?”*

This sample research question was chosen because the topic “strategy use” was one of the course contents of the course ELT methodology. They sought answers to this question by collecting data. For data collection, they were directed to use classroom participant observation reports, semi-structured interviews, and a questionnaire. The main focus was to provide some opportunities for prospective teachers to learn research skills by carrying out research in the classroom environment. In this process, they were trained about how to prepare interviews and questionnaires. Additionally, the principles of keeping classroom observation reports and evaluation methods were also taught.

The research was carried out in ELT Methodology courses in which the student teachers were previously lectured about learner styles and strategy use in the course content. The course went on for 14 weeks. For 10 weeks, they were lectured about the course content such as the learner differences and their roles in language classrooms. During this process, they observed each other in the classroom environment and kept classroom observation reports about the behaviors of the class members. They sometimes interviewed each other during this 10-week process. They compared the data they collected through the interviews with classroom observation reports. The participants mainly focused on the strategy use of each other. Actually, for 14 weeks, while the course was carried on and ended, they collected qualitative data in the classroom and reported some details. After qualitative data collection period, they designed a questionnaire with the help of the lecturer.

The questionnaire comprises three scales with 25 items namely metacognitive strategy use, cognitive strategy use, and socio-affective strategy use. In the questionnaire, the first 9 items were designed to evaluate metacognitive strategy use; the items between 10 and 20 search for cognitive strategy use; and the items from 21 to 25 question socio-affective strategy use. The items related with metacognitive strategies focus on advance organizing, directed attention, self-management, functional planning, self-monitoring, delayed production, and self-evaluation. The cognitive strategy items emphasize the strategies such as repetition, resourcing, translation, grouping, note taking, deduction, elaboration, recombination, transfer,

imagery, keyword, contextualization, and inferencing. Socio-affective items in the questionnaire investigate cooperation and question for clarification strategy types. The items prepared by class members were based on the strategy classification by O'Malley and Chamot (1990). O'Malley and Chamot describe the types of tactical and intended actions of each strategy type in their classification. Those descriptions were used in the items of the questionnaire. After designing the questionnaire, the items were redesigned by the lecturer. In this stage, the items were discussed in the classroom and the participants shared their ideas. Then the questionnaire was administered on those participants by the lecturer. The information was collected and evaluated by the participants in the classroom, and then the same data set was reevaluated by the researcher. The items were evaluated with percentile values.

**Insert Table 1 near here**

## **Findings**

The analysis of the questionnaire was accomplished by the student teachers with the help of the researcher. They were taught how to interpret the gathered data. According to the reports of the student teachers, the responses verified that the participants commonly used metacognitive and cognitive strategies more efficiently than socio-affective strategies. More than half of the participants (61%) used advance organizing in learning by making general preview. Similarly, more than half (59%) organized their ideas before the production phase; this means they actively used directed attention for their learning. While directing their attention to learning, they mostly focused on the main issue and ignored irrelevant points; that is, they used selective attention strategy very efficiently (93%). While they were successful at ignoring the irrelevant parts, they were not so proficient strategy users while directing their attention to specific aspects of the input (51%). 78% declared they mostly decided on the conditions that could be helpful for themselves in the learning process. In this respect, they were assumed as efficient strategy users regarding self-management. The same efficiency was detected in functional planning. 82% declared they could plan and rehearse the necessary component in the input. In self-monitoring, however, they were less efficient than the other strategies. In delayed production strategy use, the participants were found out to be efficient strategy users (item 8); they first got the input then tried to produce (98%). The same efficiency can be seen in self-evaluation strategy use. 86% stated they checked the outcomes of their learning.

As for the cognitive strategy use, it was deduced that they efficiently used repetition (76%), resourcing (68%), translation (100%), note-taking (70%), elaboration, recombination, and transfer (57%), and keyword method (79%). However, in imaginary (43%), contextualization (48%), grouping (41%), and deduction (32%), they were not so ideal strategy users. In a way, the overall responses showed that they efficiently used metacognitive and cognitive strategies. As for the socio-affective strategy use, they were not able to use cooperation and question for clarification strategies resourcefully. The reason may be that they favored individual works, not in group works, and developed their own strategies to become good learners.

After the evaluation of the questionnaire, the participants compared the outcome with the general comments in the observation reports and interviews. The interview sessions were organized both during the implementation process and after the process to affirm the overall findings and to gather verbal data about strategy use. During the implementation process, once a week after the course time, the student teachers were grouped into three or four and came together; for each session they chose one representative to interview the others. The semi-structured interview questions which were prepared by the group representatives searched for the strategy use of the student teachers to verify the other gathered data during and after the process. Although they found many similar points among this pile of data, they claimed there appeared some diverse responses on some issues. For instance, in self-evaluation and functional planning, few participants were found out to be efficient strategy users. But in the questionnaire, those items had the highest values. Apart from those diverse points, the observation reports and questionnaire results had consistent results. The student teachers summarized the findings and reported that they mostly used cognitive and metacognitive strategies affectively. However, they did not use socio-affective strategies so efficiently while interacting with others. All data from different research tools in this study yielded similar results.

At the last stage of the research process -after data collection sessions of the student teachers- those student teachers were also interviewed by the researcher to evaluate the general picture of the research experience they were exposed to. The common view of the participants was that they gained research experience during the education process and the topic they studied was enjoyable. Most of them declared that although at the beginning of the process they felt the research they were carrying out was a daunting task, later it became enjoyable and interesting. Some of the assertions of the participants were given below:

*“I thought it would take much time, and I did not have enough time to carry out such research...but now I am so happy because I have experienced how to conduct research...”*

*“Conducting research should be included into the course curriculum in teacher training departments...”*

*“Through such research I searched for different strategy types which I had learnt theoretically”*

*“After such experience I am eager to conduct research in my language classrooms in the future...I believe it will highlight many issues in language teaching.”*

*“To be in the same project with my classmates was very enjoyable...we learnt different things from each participant in the groups...I think it was a collaborative work...”*

The overall findings displayed the valuable aspects of the research conducted with the student teachers. They were enthusiastic during the research process.

## **Results and discussion**

Classroom settings are specifically designed for the purpose of facilitating learning, and research in those settings highlights what does take place. For investigating what is going on in language classrooms, language teachers should conduct research projects in the process. Research is necessary to expand and determine the peculiarities of language learning and teaching. If there appears any problem, solutions to the problem can be provided through the gathered data. To do that, teachers need to be educated for being volunteer researchers in their professional life.

Therefore, in this illustrative case study, how to design and implement classroom research was imposed on the student teachers; accordingly, such research practice increased their awareness on the issue. It was observed that the participants felt themselves more experienced. The overall picture reflected their efforts about how to deal with the crucial points of conducting research in the classroom setting. They enthusiastically engaged in the research process and gained knowledge about the principles and benefits of applying research in the classroom environment. Since they individually collected data, they practiced how to prepare research instruments and analyze the data. For instance, while designing the questionnaire they could intimately devoted much time. While collecting the data, the course was carried on. Thus, they got the opportunity of putting theoretical knowledge into practice.

It was also observed that the participants became experienced enough to ask questions in the interview sessions. They mostly tried to seek detailed answers to the questions. Since they interviewed each other, they were not hesitant while declaring their opinions. While reporting the data they collected, the student teachers were more self-determined.

Another striking point in this sample study is that the student teachers involved in the research process to search out their classmates as well as themselves. In other words, such practice led to self-evaluation. The research topic “strategy use” was found out to be remarkable by the participants of the present study, due to the fact that they both experienced how to conduct research in education and discovered what types of strategies were used in the learning process.

By recognizing the significance of carrying out classroom research as prospective teachers, they achieved research practice. But in some occasions, some problems appeared. Initially they were not so enthusiastic to carry out research in their courses. The reason was that they thought it would load extra tasks and responsibilities for them. After they were instructed and directed about the procedure, they recognized the pleasant aspects of the issue, because they would evaluate themselves. In addition, during the research process, they assumed that they were being criticized by their classmates. But later, they made out the significance of the issue and they knew that they were being trained as being for good researchers as well as good teachers. As Dörnyei (2007) stated the common characteristics of a good researcher are: having a genuine and strong curiosity about the research topic; having common sense; getting creative thinking and good ideas; and being disciplined and responsible for having a sense of accountability to communicate her/his findings with others. Therefore, attaining such benefits in the training process is a longitudinal effort and leads to some alterations in the manners of prospective teachers. In this study, some positive alterations in the manners of the participants were also observed: they showed great curiosity and displayed disciplined behaviours in the research process. While analyzing data, they were creative. In addition, they became aware of their strategy use, that is, they could evaluate themselves as language learners. By doing so, they behaved autonomously in the process. They took their own decisions. They also generated insights and perceptions by generating theories and producing outcomes. Therefore, they felt themselves as the individuals who would develop a range of new perspectives as prospective teachers. Another striking outcome of this research process was that, as Brown and Rogers (2002) suggested, the research in the classroom environment led to examination of the interaction of the teacher with the students. The

procedure applied in this study can be used as a sample model in teacher training departments to provide the prospective teachers a space to participate in classroom research.

## **Conclusion**

In this sample illustrative case study, the main focus was to convey the importance of conducting research in the classroom to prospective teachers of English. Thus, it was aimed at constituting sufficient opportunities for them to conduct research and to evaluate the benefits of it. The research that was carried out in a real language classroom was constituted for the purposes of evoking the research concept. The most pressing purpose was to direct the student teachers to put theoretical knowledge into practice and to evaluate themselves as students as well as student teachers. Such attempts were to impose the insights of taking the agenda of being a student teacher from a narrow focus to a much broader focus. By taking the outcome of this sample study, it can be stated that, in its narrow sense, student teachers are assumed to be just receivers, but in broader sense, they can be directed to be both senders and producers. In consequence, the language classroom cannot be recognized as the places designed for just teaching and learning languages, but for searching for better ways of facilitating language learning.

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Type of Research	What	Who	Why
Classroom Research	Investigations carried out in classrooms utilizing a range of qualitative and quantitative methods of data collection and analysis	University-based researchers, graduate students, and/or teachers	To generate insights and understanding, to test hypotheses, to generate theory, and/or to produce outcomes that can be generalized
Teacher Research	Investigations carried out in or out of classrooms, utilizing a range of qualitative and quantitative methods of data collection and analysis	Teachers	To improve practice, and/or to generate insights and understanding to related practice and theory
Action Research	A cyclical process of identifying practical problems or challenges, formulating a plan for addressing them, taking action, evaluating results, and planning subsequent rounds of investigation	Participants in a setting, including teachers (sometimes in collaboration with others)	To improve one's own practice, to solve problems, and/or to satisfy curiosity

Fig. 1. Comparing classroom research, teacher research, and action research (Nunan & Bailey, 2009)

Table 1. Cognitive, metacognitive, and socio-affective strategy use of student teachers

	Strategy use	Always %	Often %	Sometimes %	Rarely %	Never %
1	I try to make a general preview of the concepts in a learning activity	12	49	31	8	-
2	I try to organize my ideas before the production phase	23	36	17	18	7
3	I direct my attention on the main issue and ignore the irrelevant points	82	11	3	4	-
4	I can easily direct my attention to specific aspects of the input	41	10	10	28	11
5	I can decide on the conditions that are helpful for me while learning	39	39	12	4	6
6	I can plan and rehearse the necessary component in the input	20	62	14	2	2
7	I can correct myself by monitoring my performance and others'	16	27	31	19	7
8	I first try to get the input than decide on production	91	7	2	-	-
9	I check the outcomes of my learning	34	52	5	7	2
10	I regularly repeat the topics I have learnt	7	69	17	7	-
11	I try to search for the resources to get extra information	41	27	18	10	4
12	When I cannot explain my ideas, I use Turkish to reflect my ideas	89	11	-	-	-
13	I try to classify and group the information I have received	27	14	14	37	8
14	I carefully catch and write down the important points	58	12	19	7	4
15	I try to connect the theoretical knowledge with the samples I know	9	23	21	44	3
16	I can connect the new information with the previously learnt information	27	30	27	9	7
17	I try to visualize the concepts in my memory	11	32	27	19	11
18	I try to remember the information with some familiar keywords	7	72	17	1	3
19	I try to comprehend the information within a context	24	24	10	32	10
20	I try to predict the outcomes of new information	16	19	30	27	17
21	I like working with the others	2	8	27	36	27
22	I try to get feedback in classroom tasks	14	36	17	18	15
23	I ask for explanation	18	12	14	38	18
24	I want the others to repeat what they have said	8	19	38	24	11
25	I ask for clarification when I do not catch the message	17	10	28	34	21

