

Evaluating Teacher Education Curricula's Facilitation of the Development of Critical Thinking Skills*

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Abstract

Problem Statement: The economic and social changes in the 21st century have wide-ranging consequences for education systems. To acquire necessary competencies, what learners need most is to learn to learn by reflecting critically on their learning aims. To provide this kind of learning experience, teacher education curricula should be revised to promote critical thinking (CT).

Purpose of Study: The purpose of this study is to investigate current teacher education curricula based on pre-service teachers' ideas about the development of CT skills (CTS). In order to fulfill that aim, courses in the curricula, teaching methods, evaluation and assessment methods, and the roles played by teachers were analyzed.

Methods: In this study, a qualitative research design was used. 44 participants were selected using a purposive sampling method from the senior classes of different departments in the Faculty of Education. Three main questions including the three components of curricula (content, methods, and evaluation) were directed to the students. The students' answers compelled researchers add "the role of the teacher" to the entire process. Data were analyzed using a constant comparative method.

Results: Students think that professional courses and elective courses are more effective than courses solely on their discipline. Participants also think that courses on art, media, and philosophy should be integrated into

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the current curriculum. In terms of teaching methods, student-centered methods as well as teacher-centered methods can be effective in **developing students' CTS if they are used properly/effectively**. However, the results of the study show that whatever method is used, the most important factor in developing CTS is the role/attitude of the teacher.

Conclusions and Recommendations: The results of this study reveal that teacher education curricula should be enriched with interdisciplinary courses. Further studies should be done including primary and secondary education teachers and teacher trainers in order to provide data for developing teacher education curricula.

Keywords: Developing skills, thinking, critical thinking, teacher training, teacher education curricula

The 21st century, with its global social, economic, educational, environmental, and health challenges, does not demand the teaching of soon-to-be obsolete facts, but, rather, the fostering of CT at all levels of education (Facione & Facione, 1994). **That's why the trend in school curricula is to help learners acquire the knowledge, skills, and attitudes necessary in real life situations.** To acquire competencies, what learners need most, from an early age, is to learn to learn by reflecting critically on their learning aims.

Ennis (1987, 10) defines CT as “reasonable and reflective thinking that is focused on deciding what to believe or do”. CT focuses on problem identification and problem solving; it is a rational response to questions that cannot be answered definitively and seeks to explore situations to arrive at optimal and justifiable hypotheses or conclusions (Reinstein & Bayou, 1997). CT does not refer to being able to process information well enough to know to stop for red lights. Rather, true CT enables a person to, for example, responsibly judge between political candidates, or evaluate society's need for nuclear power plants (Schafersman, 1991).

Almost 30 years ago, researchers, psychologists and educators started to emphasize the importance of CTS (Ennis, 1987; College Board, 1983). Since then, CTS have been accepted as one of the desirable outcomes of undergraduate education (Halpern, 1993). Many educators view the promotion of CT as one of the highest priorities in college education as well. Williams, Oliver & Stockdale (2004) claim that few concepts have attracted more attention in higher education than the notion of CT. Although Lincoln (1999) underscores the importance of preparing college students who can synthesize and evaluate information, he also notes that universities continue to graduate individuals who cannot think in a straight line, i.e. those who cannot evaluate the interior logic of an irrational argument.

The improvement of students' CTS is often found among the educational goals of many colleges and universities. Though institutions are committed to developing CT, there is an important question that needs careful treatment if this goal is to be met. Faculty members must arrive at a shared understanding of what they mean by the phrase CT, as one's conception of CT will determine what courses or topics are included in the attempt to enhance students' CTS (Hatcher, 2000).

The courses or topics chosen will determine choices about the strategies and methods used in classrooms. Some scholars believe that CT cannot be taught or developed by lecturing. The intellectual skills of CT – analysis, synthesis, reflection, etc. – must be learned by actually performing them. Classroom instruction, homework, term papers, and exams, therefore, should emphasize active intellectual participation by students (Schafersman, 1991).

The evaluation and assessment methods used in the courses are as crucial as the methods used in the classrooms. Schafersman states that term papers promote CT among students by requiring that they acquire, synthesize, and logically analyze information, and that they then present this information and their conclusions in written form. He thinks essay questions requiring inferences, assumptions, **deduction, interpretation, and arguments improve students' abilities to compose** concise, logically persuasive lines of reasoning about why a claim should be either conditionally accepted or not accepted.

All of these questions about the development of CTS are more or less related to **teachers' attitudes. Teacher attitude is the most important within-school** factor affecting student performance. Teachers need the skills to give every pupil adequate opportunities to acquire necessary competencies in a safe and attractive school environment based on mutual respect and cooperation. Furthermore, teachers who ask challenging questions and require students to give evidence or reasons for their conclusions and opinions are likely to develop CTS and a critical spirit in their students (Patrick, 1986). Effective teachers challenge students to examine alternative positions on controversial topics or public issues, require justification for beliefs about what is true or good, and insist on orderly classroom discourse. In this manner, they provide powerful lessons about responsible scholarship and citizenship in a free society (Orr & Klein, 1991).

CT has been identified as one of the major issues in the Turkish education system. In a number of official resources, such as A Draft for General Competencies of Teaching (2005), the National Ministry of education emphasized that teachers should **practice strategies aimed at developing students' intellectual, social, and personal** growth as well as their CTS. In the Higher Education Competencies Framework prepared by the Higher Education Council [HEC] one statement is related to CTS: "A pre-service teacher will be able to evaluate knowledge and skills related to his **discipline in a critical manner"** (2010, 72).

However, related literature indicates that pre-service teachers generally possess low or medium levels of CTS in Turkey. For example, a study conducted by Kökdemir (2003) with 913 university students revealed that the CT dispositions of the students were low on the dimensions of self-confidence and truth-seeking. The study conducted by Maden and Durukan (2010) revealed that Turkish pre-service teachers are disposed towards CT at the rate of 3.77 (Min. 1, Max. 6). The findings of another study conducted with 82 pre-service teachers (Acun, Demir & Göz, 2010) indicated that although the importance they attributed to citizenship was quite high, their scores on CT scale were relatively low. There are very few studies considering

the impact of current teacher education curricula on students' CTS. For example, in a study done by Karadeniz (2006), the results indicated that although teachers at secondary schools had positive attitudes towards CT education, they thought that teacher education curricula lacked information about developing CTS. In another study conducted with Turkish pre-service teachers, it was found that the students in the 1st class compared to the ones in the 4th class showed more positive opinions of CT (Çetinkaya, 2011).

As Walsh and Paul (1988) claim, schools of education must integrate CTS into all aspects of teacher preparation and train future teachers to model effective thinking strategies. In contrast to the passive reception of knowledge within teacher-centered classrooms, this style of teaching promotes active, student-centered learning. However, because of the lack of studies, it is almost impossible to draw conclusions about the impact of teacher education curricula in Turkey on pre-service teachers' CTS.

The main purpose of this study is to investigate current teacher education curricula in terms of its ability to develop students' CTS. In order to fulfill that aim, the following items were analyzed in terms of their relationship to and importance in developing CTS.

1. Courses/topics in the teacher education curricula
2. Strategies and methods used in these courses
3. Evaluation and assessment methods used in these courses
4. The role/attitude of the teacher

Method

Research Design

In the study, a qualitative research design with a focus group interview was used. The purpose of qualitative research is not to generalize to other subjects or settings, but to explore deeply a specific phenomenon or experience from which to build further knowledge (Thomas & Magilvy, 2011). Focus groups are uniquely able to generate data from the synergy of group interaction (Green et al. 2003), hence the types and ranges of data generated through the social interaction of the group are often deeper and richer than those obtained from one-on-one interviews (Thomas, MacMillan, McColl, Hale & Bond, 1995). Participants in this type of research are, therefore, selected on the criteria that they would have something to say on the topic, are within the age-range, have similar social characteristics and would be comfortable talking to the interviewer and each other (Marshall & Rossman, 2006). For this reason, purposive sampling, a commonly used non-random sampling technique in which the sample group is chosen according to the researcher's idea of appropriateness, was used in this study.

In order to avoid the pitfall of equipment failure, all equipment was checked ahead of time. Also, researchers took notes in order to avoid unexpected technical

problems. To avoid the pitfall of environmental distractions, a quiet meeting hall with a round table inside, away from common interruptions in the workplace including loudspeakers, doors shutting, and telephones ringing, was arranged ahead of time. The participants were informed about the possible length of the interview so that they could set aside a designated time. Since an analysis can only be as accurate as the person doing it, and a transcription only as precise as the person transcribing, researchers became both interviewers and transcribers to establish dependability. To avoid transcription errors in punctuation, transcribers used italics or exclamation points to emphasize words as they are heard on the tape. Such attention to detail made it easier for the researchers to analyze the data.

Participants

The study participants were pre-service teachers enrolled in the senior class in the Faculty of Education at Kocaeli University. Class attendance and academic success were taken into consideration since it is important to have attended the majority of the courses in the curriculum. From the pool of qualified students, 44 volunteers (28 female and 16 male students) were invited to the interview conducted by the researchers at the end of 2009-2010 academic semester. Of the participants from evening classes and regular classes, 9 were from science teaching, 9 were from English teaching, 9 were from primary school teaching, 9 were from mathematics teaching, 5 were from pre-school teaching, and 4 were from Turkish language teaching departments. The duration of the interviews ranged between 75 and 120 minutes. At the beginning of the interview participants were informed that the entire interview would be recorded if they had no objections.

Research Instruments

Preliminary data collection included six focus-group interviews with pre-service teachers. Qualitative interviews differ from quantitative interviews with structured questionnaires in that qualitative interviews provide the researcher with deeper and **richer data that displays the participants' perspectives and experiences** (Rubin & Rubin, 2005). Accordingly, this technique was chosen to allow pre-service teachers the opportunity to criticize the curricula of the faculty and suggest ideas according to their own experiences and points of view. Another reason to use this technique was in pursuit of **"data creation" rather than "data collection"** (Mason, 1996). Data creation better suits the ontological assumptions of qualitative research. It is often stated that in qualitative research, the researcher him or herself is the research instrument (Pyett, 2003), as it is through the researcher that qualitative data are generated or collected, and analyzed and interpreted. During the interview process, the researchers were seen as a part of the interview process because as teacher trainers they were involved in the design of the curriculum and education.

Standardized open-ended interviews were used in this study. Participants were always asked identical questions, but the questions were worded so that responses are open-ended (Gall, Gall, & Borg, 2003). This open-endedness allows the participants to contribute as much detailed information as they desire and it also allows the researcher to ask probing questions as a means of follow-up (Creswell, 2007).

A one-page-long text explaining/summarizing CTS was prepared based on the related literature in order to provide unity in content. This text was read and corrected by two experts completing their Ph.D. studies in CTS. Through their recommendations, the final text was copied and distributed to the participants 10 days before the interview. They were requested to read the text until they mastered the text. At the beginning of each session, students were asked if they read the text in order to reach a consensus.

In standardized open-ended interviews, the interviewer develops and uses an interview guide, a list of questions and topics that need to be covered during the conversation (Creswell, 2007; Patton, 1990). Preparing the questions ahead of time in interviews both allows the interviewer to be prepared and appear competent during the interview and allows informants the freedom to express their views in their own terms. The interview guide for this study was adapted from McNamara's (2009) study. It is not included in the article because of space limitations.

As Creswell notes, a semi-structured interview guide often need not include more than five or six general questions. The three open-ended questions directed at the participants in this study were as follows:

1. What courses/topics do you think have had a positive impact on the development of your CTS?
2. What methods used in these courses do you think had a positive impact on the development of your CTS?
3. What evaluation and assessment methods do you think had a positive impact on the development of your CTS?

The questions were drawn from three curriculum components: content, teaching methods, and evaluation and assessment. Student were not asked about the other component, the main objective of the curriculum, since it is beyond their knowledge. During the interviews, additional probing questions such as "Would you please explain that?" or Türkçe öğretmeni adaylarının eleştirel düşünme eğilimleri üzerine bir araştırma "Can you be more specific or give an example?" etc. were also directed at the interviewees. After the first interview, related literature was reviewed once more because students' answers compelled researchers add an additional question to the entire process. This question was as follows:

4. "What part is played by a teacher's role/attitude in the development of CTS?"

Trustworthiness

Lincoln & Guba (1985) address four components of trustworthiness that are relevant to qualitative research: (a) truth-value (credibility); (b) applicability (transferability); (c) consistency (dependability); and (d) neutrality (confirmability). To establish credibility, focus group transcripts and interpretations of the focus group data were sent to one student in each focus group (6 students total) and they were asked to review the data. However, only two students responded. In order to establish transferability, different students from different departments were invited

to the interviews. In order to establish dependability, the specific purpose of the study, how and why the participants were selected for the study, how the data were collected, how the data were transformed for analysis, and the interpretation and presentation of the research findings were presented in detail in the article. In order to establish confirmability, immediately following each focus group interview, the researchers wrote notes regarding personal feelings and biases, because reflective research allows a big picture view with interpretations that produce new insights (Johns, 2009).

Triangulation

Triangulation, a method used to check and establish validity in qualitative research, involves the use of multiple data sources, multiple researchers, multiple theoretical perspectives, and/or multiple methods (Schwandt, 2001). In order to establish data triangulation, a comparable number of participants from each department were included in the study. In order to establish investigator triangulation, researchers from different disciplines and positions were involved in the study. The first and third researchers are experts on curriculum development and instruction, the first and second researchers have done studies using qualitative research methods before, and the third researcher has done his Ph.D. study on CTS. They are all teacher trainers. All of the above-mentioned details are strengths of the study. However, one weakness of this study is the fact that it did not include the ideas of other teacher trainers and former graduates from the faculty.

Data Analysis

Constant comparison analysis (CCA), created by Glaser and Strauss (1967), was used in this study. This is a preferred method when the researcher is interested in utilizing an entire dataset to identify underlying themes presented through the data. **Ryan & Bernard (2000) use the term "coding" to refer to this type of analysis.** CCA was undertaken both deductively (e.g., codes are identified prior to analysis and then looked for in the data) and inductively (e.g., codes emerge from the data) in this study. To perform the CCA, the researchers first read through the entire set of data. After they chunked the data into smaller meaningful parts, they labeled each chunk with a code. After all the data were coded, the codes were grouped by similarity, and a theme was identified and documented for each grouping.

Two independent transcriptions were performed. In the first, an attempt was made to transcribe the talk 'verbatim', i.e. without grammatical or other tidying up, and imported to N-Vivo8. The second transcription was informed using the analytic ideas and transcription symbols of conversation analysis. This provided additional information on how the researchers organized their talk, and represents a more objective, comprehensive, and, therefore, more reliable recording of the data because of the level of detail given by this method. Using the first transcription, the first two researchers coded the same material at the same time; ideas were shared and combined and consensus was reached about categorization and coding. The whole coding process is summarized in Figure 1.

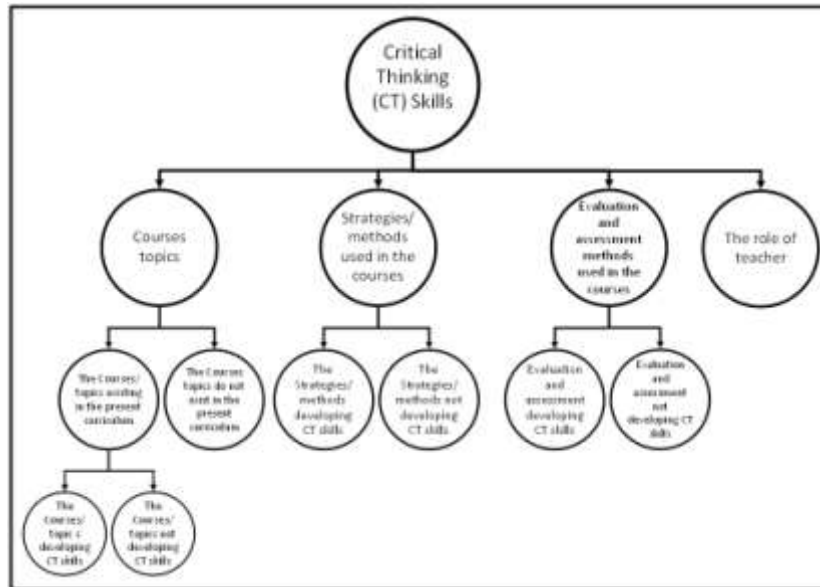


Figure 1. Coding process for main categories and sub-categories.

Results

Findings are given in four different areas: (1) courses/topics, (2) strategies/methods, (3) evaluation and assessment methods, and (4) the role/attitude of the teacher.

The courses/topics in teacher education curricula

Courses/topics that exist in the current curricula

Courses/topics that develop CT skills. The courses mentioned by the students most often are generally focused on film analysis and media analysis (elective courses in the ELT Curriculum), English literature, course book analysis, comparative education (compulsory courses in ELT curriculum), effective communication (a compulsory course in all tracks apart from mathematics and science teaching), drama (a compulsory course in all tracks apart from mathematics teaching), special teaching methods (a compulsory course for all), and material development and adaptation (compulsory for all). The participants stated that students were allowed to draw **conclusions from given contexts and see other people's points of view in these courses**. Students also agreed that elective courses and professional courses develop their CTS rather than courses based solely on their discipline. Courses based on analyzing and synthesizing previous knowledge with current knowledge were **thought to develop CTS since they made the students see other people's lives, cultures, and different points of view**.

Courses/topics that do not develop CTS. Most of the students (30) think that courses based on theory rather than practice do not develop CTS. They also think that the **development of CTS is highly related to a teacher's attitude.**

Courses that do not exist in the present curricula

Rather than stating a specific course, students tended to name general topics. Art-focused courses such as theatre, film, photography, and writing as well as philosophy-based courses were thought to develop CTS. Since some of these courses take place in some of the curricula of the same faculties, especially as elective courses, students from mathematics and science teaching think that they should take these courses as well. All of the students agreed that they should take elective courses from other departments or faculties starting with the first year of their education. Almost half of them (20) thought that they should share the same classroom with students from different departments or faculties in order to share their ideas and different points of view.

Strategies/methods used in courses

Strategies/methods that develop CTS

Discussion, group discussion, group work, model designing, material development, material adaptation, project work, text analysis, media analysis, case studies, research/problem-based methods, and brainstorming were said to develop CTS. Participants think visual text analysis helps them to develop new ideas and understandings of people/cultures.

Strategies/methods that do not develop CT skills

Almost all of the students (38) stated that a teacher's attitude and expertise are much more important than the methods used in the courses. They think that just as there is not one single best method, there is not one single worst method either.

Evaluation and assessment methods used in courses

Evaluation and assessment methods that develop CTS

Most of the participants were in favor of process evaluation rather than product evaluation; in other words, success should not be determined by mid-terms or final exams but rather what has been done during the term should be considered. They favored self-evaluation, peer evaluation, and immediate feedback in evaluation processes.

Evaluation and assessment methods that do not develop CTS

Multiple-choice, fill-in-the-blanks, and true-false questions were mentioned as barriers to the development of CTS. Participants declared that questions based on memorization build neither CTS nor professional skills.

The role/attitude of the teacher

Most of the students (38) related the main categories and sub-categories discussed above to the role of the teacher. They think that courses or topics, teaching methods, and evaluation and assessment techniques can all develop students' CTS with teachers who have positive attitudes towards students, who have mastered their own disciplines, and who promote and practice CT in the classroom to contribute to their students' intellectual development. Participants think teachers need the skills to give every pupil adequate opportunities to acquire necessary CTS in a safe and attractive school environment based on mutual respect and cooperation, opining that a positive classroom environment characterized by teacher warmth and encouragement can enhance all kinds of learning. Table 1 summarizes topics, sub-topics, numbers of references, and sample statements.

Table 1
Topics, Sub-Topics, Sample Statements, and Numbers of References

Topics	Sample statements	Sub-topics	Number of References
Courses/ Topics	<p><u>Developing CTS</u> -The Material Adaptation course helped me to think about my strengths and weaknesses and how to adapt an everyday object into an educational tool with low budget, time, and energy (*PSE).</p> <p>-Media Analysis and Film Analysis made us think about one situation from different perspectives, attitudes, and points of view. We realize that there can be a hidden meaning in every kind of message (*ELT).</p> <p><u>Not developing CTS</u> -Courses related to our discipline generally prevent us from thinking. Courses based on our professional skills are much better than science-related courses (*ST).</p> <p>-Courses based on our discipline might ignite our CTS, but courses based on our profession could develop our CTS better (*MT).</p>	1. Courses that exist in the curricula	43
	<p>- We have courses that only relate to our department or profession. Our curriculum should be supported by different courses from other departments or faculties such as philosophy, media analysis, writing, music, or poetry (ST).</p> <p>-Courses focused on art such as the Art of Mathematics, Drama, or Citizenship Rights should be integrated into our curriculum (MT).</p> <p>-Starting with university life, I wish we would take project-based courses with different students from different departments. We would have adapted to school life more easily and promptly (*PS).</p>	2. Courses that do not exist in the curricula	60

Table 1 Continue

Methods used in the courses	<p>-In the film analysis course, we watch a film and try to understand people's thoughts and the reasons behind them. It helped me to empathize with different people and cultures (ELT).</p> <p>-Case studies are the best for solving real life problems. Since everybody has different solutions, we get a lot of different ideas and start to think of other solutions and understand ours is not always the best (ST).</p> <p>-I believe that lecturing sometimes makes students more cognitively active than group work or discussion if the teacher knows what to do and how to do it (ELT).</p>	3.Strategies /methods that develop CTS	38
	<p>-When we heard we would have presentations, we thought that we could freely present what we had researched, but after a while presentations turned into lecturing. I think it is the teacher's responsibility to lead and teach the classroom, not students (PST).</p> <p>-I don't believe group work or teamwork develops our thinking skills. On the contrary, it makes us dependent on other people's ideas. When we encounter a real problem, can we say, "Hey, just wait a minute, I have to consult my friends?" (*TL).</p>	4.Strategies /methods that do not develop CTS	14
Evaluation and assessment methods	<p>- Open-ended questions are better than multiple-choice questions. Questions should be based on students' capacities to analyze and synthesize (PST).</p> <p>-I remember one question: "Using the vocabulary given, write a meaningful story". There wasn't one right answer. Another question was interrogating how the end of the film would have changed if the protagonist of another film had been added to this film" (ELT).</p>	5.Evaluation /assessment methods that develop CTS	14
	<p>- Our success is generally evaluated in mid-terms and exams. Courses should be project-based, and not only product but also process should be assessed (TL).</p> <p>-Multiple-choice, fill-in-the-blank, asking definitions, or asking the same words written in the book made us memorize the details. "List the factors of..." What happens if I list them or not? To be honest, we generally answer the questions to align with our teachers' expectations (ELT).</p>	6.Evaluation /assessment methods that do not develop CTS	8
The role of the teacher	<p>-In the American Literature course, we generally analyzed different texts about various topics and she never uttered a negative word. It was amazing. Then our teacher left, and the new teacher made us analyze the texts but this time we did not feel as satisfied as before (ELT).</p> <p>-Throughout the term, the teacher did almost nothing but grade our performances (ST).</p>	7.Role of the teacher	65

The abbreviations for students are as follows: ELT: ELT department, ST: Science teaching, MT: Mathematics teaching, PST: Pre-school teaching, TL: Turkish language teaching, PS: Primary school teaching.

Discussion and Conclusions

The purpose of any teacher training is to equip student teachers with necessary skills to enable them train youths to become useful to themselves and society. Such skills include knowledge acquisition, practical skills, and the mastery and use of those skills to arrive at reasonable conclusions and actions. CT is highly valued by educators both in Turkey and Europe. Within the context of emerging globalization, teacher education curricula should undergo significant educational reforms to incorporate CT in an effort to improve student learning.

Based on the findings of this research, one can conclude that pre-service teachers think that CTS must be integrated into all subject areas. When courses/topics are considered, participants think that courses/topics based on analysis such as media analysis, text analysis, contrastive analysis, material adaptation, and the courses based on art and movement such as drama courses develop their own CTS. One of the common points of these courses is that they are based in both theory and practice; that is, students are allowed to draw conclusions from a given context and **see other people's point of view, synthesizing previous knowledge with current knowledge, and see other people's lives, cultures, and different points of view.** Similarly, a study by Feuerstein (2002), found that critical media literacy courses **support students' CT about TV series and newspaper advertisements**, especially advancing the CTS of students rated with low and medium levels of academic achievement and those coming from low-medium socio-economic backgrounds.

Another conclusion drawn from the study is that pre-service teachers from ELT classes, pre-school teaching, and elementary school teaching think that elective courses allow them to experience more critical thought-oriented environments through variety in coursework. Pre-service teachers from science and mathematics teaching are not satisfied with the courses solely based in their disciplines. Their curricula should be enriched with some art, drama, or media-**Türkçe öğretmeni adaylarının eleştirel düşünme eğilimleri üzerine bir araştırma** related courses, and also with more interdisciplinary elective courses, which means that universities **should be autonomous in deciding the courses in accordance with students' and society's needs. Similar studies** by Ijaiya (1996) and Alabi (2000) (as quoted in Ijaiya, Alabi, & Fasasi, 2011) reveal that one major factor important to the development and subsequent application of CTS is adequate exposure to the different disciplines of education such as philosophy, sociology, psychology, management of education, and teaching practice supervision. Policy makers should cooperate with curriculum developers to enrich teacher education curricula with different courses from different departments. The best solution could be to develop masters or Ph.D. programs in schools of education integrating two or more disciplines such as science and media, philosophy and mathematics, art and teaching methods, etc.

In terms of strategies/methods used in courses, participants state that individual work is as valuable as group work/team work. The most often-mentioned methods were those requiring the analysis of a written or visual text. Students agree that lecturing or question-answer methods can be as effective as group discussion, group work, teamwork, brainstorming, etc. if presented appropriately. They also think that

project or research based studies could be both a teaching method and an evaluation method as well. The findings of this study are similar to the findings of the study conducted by Lloyd & Bahr (2010), emphasizing that classroom practices including demonstration and modeling, discussion of examples, collaborative problem-solving activities, and guided selection of frameworks for analysis are effective strategies for developing CTS.

One of the most crucial findings of the study is that the role of the teacher matters more than the other factors discussed above. The study by Ijaiya, Alabi, & Fasasi (2011) reveals that the percentage of high-order questions asked by teachers in listening/speaking classes is not high. Both strategies and evaluation methods are linked to what the teacher does in the classroom. A suitable classroom environment and a teacher with appropriate attitudes, expertise, and behaviors allow students to develop their CTS. Therefore, teachers must regularly model for students what it is to reflectively examine, critically assess, and effectively improve life. The study conducted by Mangena & Chabelli (2005) shows that negative teacher attitudes and resistance to change seem to be major obstacles in the facilitation of CT in nursing education. Similarly, Ford and Profetto-McGarth (1994) believe that the nature of the teacher-student relationship must be transformed from the existing power relationship of superior-to-subordinate to a more egalitarian one that emphasizes working with the student. This will promote a peer relationship, whereby the educator and student enter a trusting teaching-learning partnership, placing more emphasis on student-centered approaches to learning.

Perhaps the most significant question of all is this: even if predisposed to CT, will pre-service teachers in fact consciously teach CTS during their induction years and beyond? While little is known about the extent to which teacher preparation programs actually prepare students in schools to think critically, this study represents an important step in generating new knowledge about pre-service teachers' ideas about the teacher education curricula's facilitation of the development of CTS. Further quantitative and especially qualitative studies aiming at deep analysis of the ideas of experienced teachers and new graduates would provide fruitful knowledge about how teacher education curricula can best develop CTS.

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Eleştirel Düşünme Becerilerini Geliştirmesi Açısından Öğretmen Eğitimi Programlarının Değerlendirilmesi (Genişletilmiş Türkçe Özet)

Problem Durumu: 21. yüzyıldaki ekonomik ve sosyal değişimler eğitim sistemleri için geniş kapsamlı sonuçlar doğurmaktadır. Toplumlar karmaşıklaştıkça, sosyal entegrasyon ve ekonomik katılım için daha üst düzey beceri ve yeterlikler gerekli hale gelmektedir. Bu yeterlikleri kazanmak için öğrencilerin en çok yapması gereken şey küçük yaştan itibaren öğrenme hedeflerine eleştirelliği yansıtarak öğrenmeyi öğrenmek olmalıdır. Öğrencilerin gerçek yaşama uygulamaları gereken bilgi, beceri ve tutumları edinmelerine yardımcı olmak için, öğretmen eğitimi programlarının eleştirel düşünmeyi geliştirme ve yaşam boyu mesleki öğrenmeye hazırlaması açısından gözden geçirilmesi gerekmektedir.

Çalışmanın Amacı: Türkiye’de 2005 yılında ilköğretim programlarının yeniden gözden geçirilmesinden sonra, Milli Eğitim Bakanlığı ve Yükseköğretim Kurulu Başkanlığı’nın yayınladığı raporlarda öğrencilerin zihinsel, sosyal ve kişilik gelişimi yanında eleştirel düşünme ve problem çözebilme becerisinin de geliştirilmesi gereken en önemli alanlardan biri olduğu ifade edilmektedir. Öğrencilerin yaşam boyu öğrenme anlayışının temelinde yatan eleştirel düşünmeyi öğrenebilmeleri

ancak eleştirel düşünmeyi geliştirmede öğrencilere yol gösterecek ve kendileri de bu becerilerle donanmış öğretmenlerle sağlanabilecektir. Bu nedenle öğretmen eğitimi programlarının da öğretmen adaylarını bu becerilerle donatacak özelliğe sahip olması gerekmektedir. Bu çalışmanın amacı öğretmen adaylarının görüşlerine dayalı olarak eleştirel düşünme becerilerinin geliştirilmesi açısından mevcut öğretmen eğitimi programlarını incelemektir. Bu amaçla, öğretmen eğitimi programları dersler/konular, derslerde kullanılan strateji, yöntem ve teknikler, derslerde kullanılan ölçme ve değerlendirme yaklaşımları ve öğretmenlerin tutum ve rolleri açısından analiz edilmiştir.

Çalışmanın Yöntemi: Bu çalışmada nitel araştırma modeli kullanılmıştır. Araştırmanın katılımcıları, amaçlı örneklem yoluyla belirlenen ve Kocaeli Üniversitesi Eğitim Fakültesinin son sınıfında eğitim gören matematik, fen bilgisi, okul öncesi, İngilizce, Türkçe ve sınıf öğretmenliği öğrencilerinden derse devam eden ve akademik başarıları yüksek olan 44 öğrenciden oluşmaktadır. Araştırmada veri toplama aracı olarak 6 odak gruba gerçekleştirilen standart açık uçlu görüşme yöntemi kullanılmıştır. Görüşme öncesi öğrencilerin eleştirel düşünmeyi açıklayan bir sayfa uzunluğundaki bir metni okumaları istenmiştir. Bu metin araştırmacılar tarafından alan yazın taraması sonrasında hazırlanmış ve iki konu alanı uzmanının da görüşleri alınarak son hale getirilmiştir. Metni okuyarak gelen öğrencilere bir programın üç ögesini (ders/içerik, öğretim yöntemleri ve değerlendirme) içeren üç soru yöneltilmiştir. Veri toplama sürecinde katılımcılar tarafından sıklıkla ifade edilen “öğretmenin rolü” maddesi çalışmaya eklenmiş ve alan yazın taraması bu madde eklenerek bir kez daha gerçekleştirilmiştir. Veriler sürekli karşılaştırmalı analiz yöntemiyle analiz edilmiştir.

Araştırmanın Bulguları: Öğrenci görüşlerine göre, programda var olan dersler arasında öğretmenlik meslek derslerinin alan derslerine oranla; ayrıca proje, tasarım ve ürün geliştirmeye yönelik derslerin diğer derslere oranla öğrencilerin eleştirel düşünme becerileri üzerinde daha etkili olduğu saptanmıştır. Çalışmaya katılan öğretmen adayları, var olan programa felsefe, sanat, medya temelli derslerin konması ya da var olan derslerle ilişkilendirilmesi gerektiğini, ayrıca farklı bölümlerin bir arada dersler almalarının daha etkili olacağını ifade etmektedirler. Özellikle fen ve matematik öğretmenliğinde öğrenim gören öğrenciler derslerinin alan bilgisi merkezli olduğunu ve disiplinlerarası bir anlayışla programlarına farklı konuların/disiplinlerin yer aldığı derslerin konması gerektiğini ifade etmektedirler. Derslerde kullanılan yöntemler boyutunda ise, örnek olay, grup çalışması, proje geliştirme gibi öğrenci merkezli yöntemlerin yanı sıra, düz anlatım gibi öğretmen merkezli yöntemlerin de doğru/etkin kullanıldığında eleştirel düşünme becerilerini geliştirdiği ifade edilmiştir. Ölçme ve değerlendirme boyutunda ise, üründen çok sürece önem verilmesi gerektiği ve ayrıca öğrencilerinin sonuç çıkarabilecekleri, tahminde bulunabilecekleri ve düşüncelerini özgürce ifade edebilecekleri ölçme değerlendirme araçlarının hazırlanması gerektiği ortaya konmuştur. Ancak, hangi yöntem ya da strateji kullanılırsa kullanılsın eleştirel düşünmeyi geliştirmede öğretmen etkisinin çalışmada incelenen diğer unsurlardan daha önemli olduğu sonucuna ulaşılmıştır. Buna göre alanında yetkin olan, doğru tutum ve tavır

sergileyen ve kendisi de bu beceriye sahip olan öğretmenlerin eleştirel düşünmeyi geliştirmede programda yer alan derslerden ve derslerde kullanılan yöntemlerden daha etkili olduğu söylenebilir.

Araştırmanın Sonuçları ve Öneriler: Bu çalışmanın sonucunda, öğrenciyi etkin kılacak her türlü yöntemin hatta doğru/etkin kullanıldığında düz anlatım da dahil tüm öğretmen merkezli yöntemlerin öğrencilerin eleştirel düşünme becerilerini geliştirebileceği ortaya konmaktadır. Öğrenci başarısını değerlendirme sürecinde ise öğrencilerin sadece bilgi düzeylerinin değil becerilerinin de ortaya konacağı ve öğretmenin genel tutumundan bağımsız kendilerini özgürce ifade edebilecekleri ölçme araçlarının kullanılması gerektiği ortaya konmuştur. Bu ise, öğretmen adaylarının her bir yöntemi üstün ve sınırlı yanlarıyla çok iyi tanıyacakları ve doğru yerde etkin bir şekilde kullanacakları ve ayrıca ölçme ve değerlendirme araçlarını daha etkili olarak kullanacakları sağlam bir mesleki eğitim ile sağlanabilir. Çalışmada en çok vurgulanan maddenin “öğretmen” olması ise bu süreçte öğretmen rolünün kullanılan yöntemlerden ya da ölçme-değerlendirme araçlarından çok daha önemli olduğu; öğrencilerin kendilerini daha rahatlıkla ifade ettikleri olumlu sınıf ortamlarının yaratılmasında öğretmen tutumunun diğer tüm konulardan daha etkili olduğu sonucunu ortaya çıkarmaktadır. Öğretmen eğitimi programlarında var olan ya da konması gereken dersler konusundaki öğrenci önerilerine göre ise öğretmen eğitimi programları farklı alanlardan disiplinler arası derslerle zenginleştirilmeli ve farklı fikirleri görebilmeleri açısından farklı bölümlerden öğrencilerle birlikte ders almaları sağlanmalıdır. Eleştirel düşünme becerilerini geliştirmeye yönelik ders ya da konular, sadece öğretmen yetiştirme programlarında değil, öğretmenlik görevini sürdürmekte olan bireylerin eleştirel düşünme becerilerinin geliştirildiği hizmet-içi eğitimi programlarında da yer almalıdır. Bu çalışma tümüyle öğretmen adaylarının görüşlerine dayalı olarak hazırlandığından program değerlendirme sürecinin sadece bir ayağını ortaya koymaktadır. Eğitim programlarının eleştirel düşünme becerilerini geliştirip geliştirmediği öğretmen adaylarına uygulanacak standart eleştirel düşünme becerileri testleri ve doküman analizine dayanan karşılaştırmalı program incelemeleri ile de ortaya konmalıdır. Ayrıca öğretmen eğitimi programlarının geliştirilmesine katkı sağlamak için, ilk ve ortaöğretim kurumlarında görev yapan öğretmenlerin ve öğretmen yetiştiren kurumlardaki öğretim elemanlarının da dahil edildiği benzer araştırmalarla bu konuya yönelik çalışmalar genişletilmeli ve zenginleştirilmelidir.

Anahtar Sözcükler: Beceri geliştirme, düşünme, eleştirel düşünme, öğretmen eğitimi, öğretmen eğitimi programları