Art. # 929, 11 pages, http://www.sajournalofeducation.co.za

Student Teachers' Perceptions about Their Experiences in a Student Centered Course

Canan Perkan Zeki
Department of Educational Sciences, Eastern Mediterranean University, Famagusta/N.Cyprus, Mersin 10-Turkey
canan.perkan@emu.edu.tr

Ahmet Güneyli
Department of Elementary Education, Near East University, Nicosia/ N. Cyprus, Mersin 10-Turkey

There is a growing need to provide curricula that meets the changing needs of students in higher education. To train pre-service teachers according to the demands of the new educational contexts, the move from teacher-centered curricula to learning-centered curricula is a must. The aim of this research is to examine the currently used curriculum of EGIT 450 Student Centered Education (SCE) course to highlight suggestions for a better design and implementation of the SCE approach. A qualitative paradigm was used with an interpretive methodology. The participants of the study were the 37 third year undergraduate students enrolled in the course at one of the tertiary institutions in North Cyprus. Qualitative data were collected through end-of-the-semester reflective essays and analyzed through content analysis method. The findings revealed that SCE methodology helped improve student teachers' cognitive skills via holding an active role and their affective skills through group work activities emphasizing its effect on permanent learning and learning how to learn. Participants also pointed out the difficulty and complexity of the roles expected from the teacher and learners individually and cooperatively. The inefficiency of some of the teaching-learning activities, physical characteristics of the classroom setting and duration of the allocated time for the activities were among the weak aspects of the course.

Keywords: affective skills, course design, cognitive skills, curriculum design, student centered education

Introduction

Relevance and importance of student centered learning in higher education

There has been a movement (change) from a predominantly agricultural and industrial society to the information age which brought with itself exponential technological advances as well. The changing needs in economy, service and manufacturing industry, and society necessitate new forms of knowledge, skills and responsibilities. Higher education institutions have failed in meeting the changing needs of students in different fields of study since the traditional curricula, theories and methodologies were designed to transfer knowledge from teachers to learners through repetition, memorization and recitation of standardized datasets (Candella, Dalley & Benzel-Lindley, 2006). The passive, one-way transmission of knowledge that served earlier generations in different fields of study are no longer adequate in preparing today's students to meet the challenges in their own disciplines. Graduates in today's society are not just required to acquire knowledge in their fields but make use of their knowledge outside the educational system and context (Candella et al., 2006; Immordino-Yang & Damasio, 2007). This can be achieved by shifting the focus from teaching to learning and by creating learning opportunities where the learner changes from being a passive recipient of knowledge into an "active participant in learning and co-constructor of knowledge" (Meece, 2003:111). The instructor is no longer an active presenter of knowledge but a guide creating and monitoring suitable opportunities and contexts wherein students take their own responsibilities in achieving the goals they have set on their own as a group. This requires a shift from content-heavy curricula to learner centered curricula since content-heavy curricula leave little room for development of essential skills such as higher order thinking skills, decision making skills, problem solving skills, self-and peer assessment (Diekelman, 2002; Ironside, 2004; Tanner, 2004). These skills can better be attained through student centered pedagogy at all levels of education including higher education.

Relevance and importance of student centered learning in pre-service teacher education

Pre-service teachers are the major agents who will apply either a learner centered or a teacher centered approach during instruction in classes. Therefore, teacher education programs need to consider all the dynamics that contribute to learner centeredness while designing teacher education curricula. This is essential to better equip teacher educators with the tools that they need to produce learner-centered teachers and hence, promote learner centered educational reform.

Even though, learner centered educational practices have been recommended because of the positive impact that these practices have made on student motivation, achievement, learning and understanding (McCombs & Quiat, 1999; Cantone, 2001; Knight & Wood, 2005; Oldenburg, 2005; Salter, Pang & Sharma, 2009), there is still a lack of substantial learner centered change in classrooms which is in part due to the resistance of pre-service teachers to learner centered pedagogy (Barr, 1998). This resistance is partially caused by their preoccupied beliefs based on past teacher-centered educational experiences (Dunn & Rakes, 2011).

Many pre-service teachers hold the view that teaching is a process of transmitting knowledge (Pajares, 1992) which is in contrast with the learner centered education approach. Because many teacher education students enter higher education classrooms with a unique set of beliefs about teaching and learning based on prior experience in more teacher-oriented classrooms, it becomes a very difficult task to convince pre-service teachers of the value of learner centered pedagogy (Vogler, 2006). The findings of the study by Breunig (2005) confirm that the resistance to learner centered pedagogy continues in the future careers of teachers since they feel themselves more comfortable with traditional teacher centered instruction. In order to convince pre-service teachers of the value of learner centered approach, we need to understand both cognitive and affective variables which influence pre-service teachers' learner centeredness. One way of doing this is to investigate and understand pre-service teachers' perceptions and beliefs about learner centeredness.

This study aims to understand pre-service teachers' perceptions of learner centered pedagogy by providing them with an opportunity to experience learner centered approach in an elective course titled Student Centered Education (SCE). It is important to examine and understand pre-service teachers' perceptions and beliefs of learner centeredness to predict learner centered practice and inform the framework of teacher education programs (Dunn & Rakes, 2011). By investigating the impact of cognitive and affective variables on pre-service teachers' perceptions and beliefs of learner centeredness, teacher educators can be better equipped to move pre-service teachers towards more learner centered pedagogy and this can lead to teachers who are more learner centered in classrooms.

Educators started to accept the idea that learning is a constructive process which emphasize the student as the main agent of learning "who not only takes more initiative but does so in conjunction with other students to make learning socially interactive rather than a one-way transfer of prepackaged information" (Hansen & Stephens, 2000:41). Within this framework, students take ownership of their learning process by developing the course syllabus, prioritizing topic areas, establishing peer accountability, facilitating class sessions and engaging in ongoing evaluation (Hains & Smith, 2012). Accepting learning as a constructive process brings a change in the instructional approaches, methods and teacher-learner roles all of which are the most important elements to be considered in the design of curricula for pre-service teachers. According to Weimer's (2002) working thesis, classrooms at the university level are extremely instructor-centered and this prevents pre-service teachers from becoming successful, mature and independent learners. Pre-service teachers need to be trained as independent learners with self-regulatory skills in order to be able to foster student centered learning in their own students. Student centered pedagogy plays a vital role in the training of pre-service teachers because if pre-service teachers are trained with learner centered education approaches, they will be more effective in implementing learner centered techniques and activities in class.

Depending on two of the principles offered by the Ministry of Education in Turkey (Erbil, 2004) each student develops by proceeding in different times, in different ways and in different paces; and each student displays different competencies and directions towards learning. A teacher implementing the SCE approach is expected to take these differences into account and tailor his/her teaching according to the needs and demands of individual students. Fulfilling all these differences is a difficult and complex task which requires of teachers to take an active role before the lesson while preparing the context for the lesson, during the lesson for assisting the group work activities and after the lesson for providing individual and collective feedback for all the performances. Hence, pre-service teachers have to be aware of the difficulty and complexity of the roles they are expected to adopt before, during and after student centered instruction. Pre-service teachers need to be trained accordingly and their role and identity need to be very effectively designed in the curriculum and put into practice so that they can internalize their new role and identity as facilitators. Therefore, if pre-service teachers are trained through learner centered approaches during their education and learner centered teacher education programs are developed, it is likely to have more learner centered teachers in classrooms.

Theoretical framework

Understanding the meaning and characteristic features of learner centered education requires an understanding of the epistemological and theoretical frameworks underpinning learner centered instruction. Learner centered instruction is mainly grounded in constructivist epistemology which assumes that knowledge is temporary, nonobjective, internally constructed and socio-culturally mediated (Fosnot, 1996; Crotty, 1998; Hendry, Frommer & Walker, 1999). In other words, it puts forward that knowledge is neither discovered nor passively received from the authoritative sources but actively constructed by individuals or group members as they make sense of their experiential worlds (Maclellan & Soden, 2004). It postulates that it is not possible to assimilate new knowledge without having some structure developed from previous knowledge to build on (Hein, 1991). Therefore, the meaning making process is based on the interaction between individuals' existing knowledge and beliefs, and the new knowledge and experiences that they encounter.

Constructivist epistemology informs constructivist pedagogy which in return influences constructive learning environments. Jonassen (1997) proposes the following eight characteristics that differentiate constructivist learning environments:

1. Constructivist learning environments provide multiple representations of reality.
2. Multiple representations avoid oversimplification and represent the complexity of the real world.
3. Constructivist learning environments emphasize knowledge construction instead of knowledge reproduction.
4. Constructivist learning environments emphasize authentic tasks in a meaningful context rather than abstract instruction out of context.
5. Constructivist learning environments provide learning environments such as real-world settings or case-based learning instead of predetermined sequences of instruction.
6. Constructivist learning environments encourage thoughtful reflection on experience.
7. Constructivist learning environments enable context-and-content –dependent knowledge construction.
8. Constructivist learning environments support collaborative construction of knowledge through social negotiation, not competition among learners for recognition.

Constructivist pedagogy posits the nature of learning as self-

directed, creative and innovative. The aim in education is to become creative and innovative through analysis, conceptualizations and synthesis of prior experience to create new knowledge. Constructivist pedagogy encourages the learner to arrive at his or her version of the truth, influenced by his or her background, culture and embedded world view. It emphasizes the importance of the learner being actively involved in the learning process. The role of the instructor, on the other hand, is to mentor the learner during the solution of ill-defined problems by enabling quested learning that may modify existing knowledge and allow for creation of new knowledge (Jonassen, 1997). According to this role, the instructor is expected to help the learner to get his or her own understanding of the content rather than giving a didactic lecture that covers the subject matter. As a facilitator, the instructor provides guidelines and creates the environment for the learner to arrive at his or her own conclusions.

Constructivist pedagogy influences the nature of the learning process through encouraging discovery learning, experiential learning, collaborative learning, problem based learning, project-based learning, task based learning, and authentic learning. All of these learning methods are considered to be student centered education approaches. The theoretical standing of student centered learning is often related primarily to the constructivist view of learning since it puts an emphasis on activity, discovery and independent learning (Carlile & Jordan, 2005). According to Lea, Stephenson and Troy (2003:322) student centered learning includes the following tenets:

1. "The reliance on activity rather than passive learning
2. An emphasis on deep learning and understanding
3. Increased responsibility and accountability on the part of the student
4. An increased sense of autonomy in the learner
5. An interdependence between teacher and learner
6. Mutual respect within the teacher learner relationship
7. Reflexive approach to the teaching and learning process on the part of both teacher and learner".

Relevant research studies

Despite the positive aspects of SCE, some problems regarding the SCE approach both in Turkey and North Cyprus have been observed. It was reported in the studies of Akpınar and Gezer (2010) and Atay (2003) that teachers mostly covered topics through expository teaching method (presentation technique) as they considered themselves insufficient in the latest teaching/learning methods and in presenting the learning materials tailored to the needs of the learners. For this reason, they felt unprepared in changing the conventional teaching methods that they were using. Furthermore, they believed that they needed developing themselves in the affective domain which is essential for a holistic and well-rounded instruction (Akpınar & Gezer, 2010). Moreover, Gözütok, Akgün and Karacaoğlu (2005) asserted that teachers also considered themselves inadequate in student centered and performance-based assessment methods. It was also observed that teachers criticized students when they made mistakes and insisted on receiving the 'only correct' answer which is predetermined by the teacher himself/herself (Akdağ & Güneş, 2003).

Several researchers indicated the negative aspects of learner centered education. In his study, Uysal (2004) stated that it is not appropriate to provide students with freedom to select course content and the teaching/learning methods to be used. Gür (2006) criticized those who think that the loss of teacher authority is an opportunity for providing freedom to the learners. On the other hand, Taşkıran (2006) concluded that student qualifications can provide barriers for implementing student centered education. Besides teachers and students, factors such as infrastructure, time, equipment and curricula have also affected SCE negatively (Çatak, 2008; Dündar, 2008; Güneş, 2008; Güzel, 2009). Considering the above given aspects of SCE, Moodley (2013) stated that similar critical issues exist in the education system of South Africa as well. The need for learners to learn how to think has been one of their major concerns which imply the integration of some of the elements of the SCE approach into their teacher training programme.

Problems regarding the development and implementation of teacher education programs continue to challenge the preparation of pre-service teachers in other parts of the world as well. The gap between theory and practice in Teacher Education (Simão & Flores, 2010), extremely teacher centered curricula which centers on content rather than the process of student learning (Candella et al., 2006; Darling-Hammond, 2001; Weimer, 2002) and how this situation works against students becoming successful, mature learners are among the critical issues persisting in higher education in Europe and America. Weimer (2002) identified five areas where the teacher-centeredness both in curricula and classroom can clearly be observed: the balance of power, the function of content, the role of the teacher, the responsibility of learning and the purpose and processes of learning. Hansen and Stephens (2000) also listed the following four situations which require learner-centeredness as a revolution in teaching: 1) increasingly diverse student population are entering higher education, calling for new methods to foster student engagement; 2) the demands of a rapidly changing information society stress the importance of flexible competencies and team based work structures; 3) trends in political culture favor teaching philosophies that 'empower' students and make classrooms more democratic; and 4) research on learning and teaching effectiveness confirms the efficacy of learner-driven approaches.

In most parts of the world, the issue of shifting from content-heavy curricula to learner-centered process oriented curricula has been underlined. To achieve such a shift, the roles of teacher and students, the responsibility of learning, the function and design of content, the purpose and process of learning, the value given to students' emotions as well as their intellects have been the major concerns of curricula in higher education institutions, especially in pre-service teacher training programs. The findings of this study attempt to provide some challenging views on each of these issues and some suggestions regarding the design and implementation of learner centered curricula at higher education level. The findings about teacher-learner roles, course design, teaching-learning processes, learning how to learn, permanent learning, group work activities, interactive learning, higher-order thinking skills, social and emotional skills of pre-service teachers will shed light to educators who design and implement curricula at higher education level.

Method

In this study, a qualitative paradigm was used wherein interpretivism was adopted as an epistemological position. The interpretive methodology emphasizes the understanding of the social world through an examination of the interpretation of that world by its participants. The interpretivist claims that "it is the

job of the social scientist to gain access to people's 'common-sense thinking' and hence to interpret their actions and their social world from their point of point" (Bryman, 2004:14). Schutz (1962 cited in Bryman, 2004) expresses a commitment to viewing events and social world through the eyes of the people that they study. The social world must be interpreted from the perspective of the people being studied which is in tune with interpretivism and which requires an understanding of the direct lived experiences of the participants of that social world.

Participants

Thirty-seven third year students, 23 of which were females and 14 were males studying in different teacher education programs at one of the tertiary institutions in North Cyprus were the participants of the study. Seventeen of the participants were majoring in the guidance and psychological counseling, 15 in elementary school teacher education and five in social sciences teacher education.

Convenience sampling was used since the students enrolled in the EGIT 450 Student Centered Education (SCE) course during 2011-12 Spring semester were selected as the participants. The students were divided into two groups.

The content and implementation procedures of the student centered education course with a learner centered teaching methodology

EGIT 450 – Student Centered Education Course is an elective course offered to all the teacher education programs at one of the tertiary institutions in North Cyprus. The EGIT 450 course aims at introducing pre-service teachers with the aims, principles, values of SCE underlying the roles teachers and students are expected to adopt. Within the course, theoretical foundations, approaches, methods and techniques used in SCE are also covered. In parallel to the philosophy of the course, one of the researchers who was the instructor herself mainly used the following learner centered approaches: discovery learning, experiential learning, collaborative learning, problem based learning, project-based learning, task based learning, and authentic learning approaches in helping pre-service teachers in understanding, applying, analyzing and synthesizing the related content. All these approaches were used to foster self-regulation, learner autonomy, learner activity, active involvement and teacher-student reciprocity.

In this regard, to cover aims, principles and values of student centered education; students were given some problematic cases as tasks during the first two weeks. For example, students were given a case of two student characters as Emre and Zeynep wherein student centered and teacher centered education systems are depicted indirectly during their conversations with their mothers. In another case, the complaint of a six-year-old student about her art teacher and why she is not enthusiastic about drawing any more is portrayed. Students were expected to analyze the conversations to find out the principles and values of the student centered education approach. During the third and fourth weeks brainstorming, debate, and discussion techniques were used to cover the roles of the teacher and the students in both conventional and student centered education systems. For example, the students were asked to generate ideas on 'what roles should teachers and students adopt to foster self-regulation and learner autonomy in today's students?' Then the class is divided into two big groups and takes positions to debate on the issue of 'Should teachers or learners be active in class?' During the fifth and sixth weeks, each team was assigned to find out about one of the learning approaches used in student centered education such as discovery, cooperative, research-based, project-based, problem-based and constructivist learning approaches. While doing this, they were encouraged to search through related knowledge, read, analyze, synthesize and get ready to do an effective presentation on their topics. In the following five weeks, teams were assigned one of the commonly used student centered techniques such as De Bono's six thinking hats, conversation circle, station technique, case study, brainstorming, and discussion. They were expected to prepare and conduct a micro-teaching choosing a teaching topic of their choice in their fields of study. While doing their micro-teachings, they would use the technique they were assigned. After micro-teachings, students' performances on implementing the learner-based techniques were evaluated by the individual students themselves, the peers and the teacher so as to provide feedback at different levels from multiple perspectives. While performing all these tasks throughout the semester, discovery learning, experiential learning, collaborative learning, problem based learning, task based learning and authentic learning approaches were all attempted to be used interchangeably and eclectically. The aim for this was to enable students to learn by doing, experiencing, researching, analyzing, synthesizing, criticizing, reflecting, problem solving, sharing, discussing, and negotiating all of which contribute to the development of self-regulation and learner autonomy.

While doing all these throughout the semester, group work activities were used accordingly in enabling the pre-service teachers to acquire the content, and the related cognitive and affective skills of the course. The instructor acted as a guide and provided feedback during all the group work activities throughout the semester (Vygotsky cited in Santrock, 2001). The course content, the methodology and the psychological principles used were all learner centered oriented. While designing the course, Weimer's (2002) framework of five and Özer's (2008) framework of eight key changes of learner centered teaching were used as the foundation to construct the pedagogical design of the course. Besides, problem-centered and activity-based content design models were both integrated in designing and implementing the course content. A variety of assessment items were deployed throughout the semester. Pre-service teachers were given the opportunity to develop self and peer assessment skills as well.

Therefore, the researchers in this study aim to examine the weaknesses and strengths of the student centered education course focusing on the learner centered methodologies, values and principles so as to develop insights both into the course and student centered education approach in general. The study aims to do this by focusing on the lived experiences of the pre-service teachers enrolled into the course. This study also aims to provide other educators the opportunity for a context in designing learner centered curricula by tailoring it to suit different teaching and learning objectives. In this respect, the following research question with sub-questions was used in guiding the data collection about the participants' experiences of a student centered education approach: "What do pre-service teachers report about their student centered experiences in a SCE course?"

a. What do the pre-service teachers enrolled in a SCE course report about the weak points of the course?
b. What do the pre-service teachers enrolled in a SCE course report about the strong points of the course?

c. What do the pre-service teachers enrolled in a SCE course suggest regarding the modification of the course if they were given a chance to re-plan the course?

Data Collection and Data Analysis Methods

Qualitative data were collected through the end-of-the semester reflective essays wherein students were given the following guiding questions in reporting and reflecting their perceptions about the student centered learning approach they have gone through in the course:

1. What do you think are the weak points of the SCE course that you have just completed? Explain by providing reasons please.
2. What do you think are the strong points of the SCE course that you have just completed? Explain by providing reasons please.
3. If you were given the opportunity to redesign this course, what aspects of the course would you change (remove or add)? Please write your suggestions by providing justifications.

However, they were also given the freedom to write their perceptions in any structure if they do not prefer to follow these questions.

During an insider-research, there is a risk of coercion so the participants might feel themselves under threat due to the role of the researcher as an insider. In order to reduce the risk of coercion and increase the credibility of the research, data were collected after formal completion and submission of the letter grades for the SCE course. The students were given the freedom to participate in the research on a voluntary basis. They were given three days to write their essays at home when they felt ready and place them into an envelope posted on the instructor's office door so as to keep the identity of the writers unknown and reduce the risk of coercion by the researcher as an instructor.

Private documents such as end-of-the-semester reflection essays can provide valuable data since participants are given time to focus their attention and express their ideas, opinions and feelings in a more comfortable manner since "people are not equally articulate and perceptive" (Creswell, 2003). The data from the reflection essays can consolidate the data that might not be freely and comfortably expressed or explained during the interviews (Wade & Yarbrough, 1996; Martin, 2005). To increase the reliability of the data provided through the end-of-the-semester reflection essays, Scott's (1990 cited in Bryman, 2004) criteria for assessing the quality of documents were taken into consideration during the design and implementation of the essays. To increase the authenticity, credibility, representativeness, and meaning of the essays produced, participants were given some instructions and guiding questions for the evidence to be authentic and representative. Although, it is assumed that greater familiarity to the context can lead to a loss of objectivity (Unluer, 2012), Bonner and Tolhurst (2002) stated that (a) having a greater understanding of the culture being studied; (b) not altering the flow of social interaction unnaturally; and (c) having an established intimacy which promotes both the telling and the judging of truth are considered to increase the credibility of the insider research.

The qualitative data gathered from the end-of-the semester reflection essays were analysed through a content analysis method. Content analysis involves identifying, coding, categorizing, classifying and labelling the primary patterns/occurring themes in the data (Miles & Huberman, 1994; Patton, 2002). Inductive qualitative data analysis techniques and strategies were used to analyze the end-of-the-semester reflection essays (Miles & Huberman, 1994; Creswell, 2003; Thomas, 2006). To employ this data analysis technique, the researchers first read each end-of-the-semester reflective essay independently in detail in order to get a general sense of the whole essay. Then, they reread each essay separately to start the formal coding in a systematic way. Line by line analysis was employed to select sentences and phrases of the participants as the codes for analysis. During this process of initial coding, both of the researchers tried to keep participants' own words and terms to be able to reflect their perceptions from their own perspectives as underlined in 'emic analyses' by means of 'in vivo' coding. The most striking points related to the research questions were noted down one by one as phrases and sentences. Then, the researchers got together and compared and contrasted the findings they analysed by focusing on the reoccurring codes and eliminating the unclearly stated ideas. Similar codes were identified and placed under a thematic category through several discussions and by providing justifications for convincing each other. This process of peer debriefing is likely to increase the credibility of the findings.

Results

The results are presented in three categories followed by the emerging themes. Before each category, the related research question is given. The next section attempts to answer the following research question: What do the pre-service teachers enrolled in a SCE course report about the weak points of the course?

Category 1: Weak Points

Theme 1: Individual and Cooperative Learning Skills.

Sub-theme: Individual Learning Skills

Five major themes related with the weak aspects of the student centered education course emerged from the data. Some pre-service teachers pointed out the difficulty of the role which SCE requires from the learners individually. They reported that students might not be energetic, motivated or feeling well enough to take an active role during the lesson. To illustrate this, ST1 said: "It might not be possible for the students to be active in class all the time. Students might not always feel well or prepared well for the lesson". They believed that it might be difficult to adapt to the lesson because SCE puts too much burden on the shoulders of the students. This could partially be caused by their preoccupied beliefs based on past teacher-centered educational experiences (Dunn & Rakes, 2011).

Sub-theme: Cooperative Learning Skills

In addition to the difficulty they experienced individually, they also underlined the difficulty which might be caused due to the cooperative learning requirement of the SCE. Although the respondents pointed out their awareness of the importance of the cooperative learning skills in SCE, they reported about the consequences which might occur as a result of lack of this collaborative learning skill. Some participants indicated that some students are unwilling to take part in group work activities which minimizes the support to each other during group work activities. Another theme which emerged is the possibility of discrepancy among student ideas which might lead to differences in views and opinions putting barriers for production as reported by ST 7: "*SCE is an approach which requires team work and cooperation. However, we couldn't work effectively in group work activities most of the time; we had differences in*

ideas and these caused discrepancies and disagreements". These discrepancies might cause hesitation for some students preventing them from making comments. Some participants indicated that lack of cooperative learning skills might be caused by some students not giving value and importance to group members as voiced in ST 26's words: "*since we had discrepancies among each other; most of us couldn't express ourselves freely so some of the ideas were reflected as the ideas of the group without reaching to a consensus*". This resistance of pre-service teachers to learner centered pedagogy could be due their preoccupied beliefs based on past teacher-centered educational experiences (Dunn & Rakes, 2011). Many pre-service teachers hold the view that teaching is a process of knowledge transmission from teacher to learners (Pajares, 1992). Because many teacher education students enter higher education classrooms with a unique set of beliefs about teaching and learning based on prior experience in more teacher-oriented classrooms, it becomes very difficult to convince pre-service teachers of the value of learner centered pedagogy (Vogler, 2006).

Theme 2: Role of the teacher

The role that a teacher has to adopt while implementing the SCE approach is another theme emerging from the data. Student teachers reported about the difficulty and complexity of the role to be adopted by a student centered teacher. They indicated how much time it takes for a teacher to deal with every single student, how difficult it might be to distribute equal time for everyone, how difficult it is to take an active role as a teacher in this approach and how difficult it might be to provide guidance or assistance for everyone. ST 8 articulated these points as follows: "*SCE approach takes so much time of the teacher. It takes time to deal with every single student individually and equally so this is not easy for a teacher*". Expectations of the students and preoccupied beliefs of teachers are working against this shift in roles (Felder & Brent, 1996; Hains & Smith, 2012; Weimer, 2002). According to Weimer (2002), students initially resist the shift to student centered pedagogy because it requires them to take personal responsibility for their learning. The reason for pre-service teachers' perceptions of the complexity and difficulty of the role to be adopted by the teacher is because teachers mostly feel themselves more comfortable with traditional teacher centered instruction (Breunig 2005; Atay, 2003; Akpinar & Gezer, 2010).

Theme 3: Teaching/Learning activities

Another theme that emerged from the data is related with the inefficiency that might be caused from the teaching-learning activities in SCE approach. Participants stated that the presentations done by the groups might be boring pressurizing the teacher to use different activities and methods continuously as stated by ST11: "*Some of the activities, presentations and implementations in SCE might be boring and not taking the attention of the students*". Student teachers also underlined another weakness of the SCE method stating that the approach might be inappropriately used by the teacher and this might also cause the content or topics to be covered insufficiently. They consider using different techniques as a threat and believe that they might not use the approach appropriately which is confirmed by the participant teachers who felt themselves insufficient in using the latest teaching-learning methods and in presenting the learning materials tailored to the needs of the learners (Atay, 2003; Akpinar & Gezer, 2010). Moreover, they pointed out that the teaching/learning strategies used in class might be in clash with the strategies preferred by the students. Following is an illustration of these points by ST18: "*After a teacher-centered class especially, it is very difficult to adapt to SCE class, we might have less energy and get lost while the activities are done*".

Theme 4: Physical characteristics of classroom setting

The participants cited the following elements regarding the physical characteristics of classroom setting as obstacles to effective implementation of the student centered methodology: inappropriate physical setting, inappropriate seating arrangement, crowded class size, small classroom, lack of resources and technological equipments. Most of them reported that inappropriate physical setting of the classroom and seating arrangement might cause students to speak among themselves and this might create noise. Moreover, they indicated that it might be difficult for everyone to be active or participate in a crowded class. They also stated that lack of resources and technological constraints might prevent creativeness and production as confirmed by ST3: "*Crowded class and not being active are the major problems. It is a waste of time to apply SCE in crowded classes with lack of resources*". The research findings by Yilmaz (2008) also support the views of the participants of this study regarding the physical condition of classrooms for SCE. Liu (2008) suggested that if students in the classroom are seated in a round shape instead of different rows, students may be inclined to discuss the learning topics with others instead of passively accepting teachers' ideas. He suggested that teachers should try some measures, such as letting students sit in a circle to give students equal and balanced chances and to provide collaborative learning practice.

Theme 5: Duration of the allocated (instructional) time

Some participants underlined the limitations caused by the duration of the allocated time for SCE which affected the instructional time negatively. ST5 and ST34s views were congruent with each other; both of whom indicated that time allocated for the course was not sufficient enough which prevented the presentation of the activities from flowing smoothly and caused most of the activities remain unfinished. Some students, on the other hand, made a deeper analysis regarding the time suggesting that activities should be shorter to let everyone get prepared, present and express themselves since the activities conducted took longer periods. The findings by Yilmaz (2008) also support the views on time constraint in this study.

The following part deals with the next research question: What do the pre-service teachers enrolled in a SCE course report about the strong points of the course?

Category 2: Strong Points

Theme 1: Development of cognitive skills via holding an active role

Most of the students reported about the positive effect of the SCE underlining the development of cognitive skills which they believe are caused by the active role students play in SCE. They indicated that student centered instruction developed their problem solving, questioning, reflective, critical and creative thinking skills. Following is an illustration of ST2 on this matter: "*This course has developed my higher order thinking skills like problem solving, critical, reflective and creative thinking skills*". They stated that SCE enabled them to research, analyze

and synthesize the knowledge rather than receiving it directly from the teacher. Grösser (2007) stated that teaching must go beyond memorization, conditioning and repetition and that powerful implications of reflection have to be explored. In her research on student centered learning, Duckworth (2009) claimed that students focus more deeply and perform better academically when teachers allow them to think instead of doing the thinking for them. This active involvement into instruction enabled them to use technology effectively as well. In many other researches (Korkmaz, 2007; Deniz, 2005; Şahin, Cerrah, Saka & Şahin, 2004; Temizkan, 2010; Topbaş & Yücel-Toy, 2007; Ünver & Demirel, 2004; Simão & Flores, 2010), the positive effect of the student centered education on the academic development of learners has been found. It has been observed that there has been an improvement in students' higher order thinking skills, in their active participation and in their willingness which also has changed their attitudes towards the course in a positive way. Hall and Saunders (1997) also found that there had been an increase in the participation, motivation and grades of the students who used student centered learning in a first year technology course and 94% of the students recommended it to others over the more conventional approach. Student centered education is believed to be effective in making learning process meaningful and permanent for the students.

Theme 2: Development of emotional and social skills via group work activities

Most of the participants underlined the positive effect of group work activities on the development of their social, emotional and affective skills. Many of them reported that group work activities led to cooperative learning which helped them develop their self-confidence, autonomy and made them feel stronger. Similarly, students in a United Kingdom (UK) University reported that they felt there was more respect for the student in this approach and that it was more interesting, exciting and boosted their confidence (Lea et al., 2003).

The participants of the current study also stated that these group work activities enabled them to taste the feeling of success which in return improved their internal motivation towards learning. Some of them claimed that group work activities helped them develop their friendship relationships. Some indicated that group work activities helped them respect each others' ideas; while some said these activities helped them get to know each other better; while some other stated that these activities helped them become aware of each other; all of which helped them socialize and build effective communication. Most of them reported that their speaking and self-expression skills developed as a result of these group work activities which they believe also affected their empathy building skills. The following two quotations exemplify these views:

> "*SCE enables passive students to become active in class and develop self-confidence. I can give myself as an example. I was not participating in class a lot. However, after taking this course, I realized some changes regarding myself. I became better in expressing myself and in participating in discussions*" (ST16).
>
> "*SCE has contributed a lot to us. Ability to work in a group, expressing oneself effectively, respecting to and listening to the ideas of others patiently, becoming aware of different interests and skills in oneself, and making use of all these are some of the benefits SCE provided for us*" (ST19).

The research findings by Dönmez (2008) also support the positive effect of student centered instruction on the psychosocial environment of the class. Likewise, the learning structure of grouping students is believed to lead to higher self-esteem and better communication skills (Overby, 2011). The above stated views of the participants are also supported by Nygaard, Hojlt and Hermansen's (2008) views on learning who consider learning as an embedded process affected by the learners' identity and social position in an ongoing system of social relations. They believe that learning is a social process taking place between embedded learners within that specific context.

Theme 3: Its positive effect on learning.

Sub-theme 1: Permanent Learning

Most of the students pointed out 'permanent learning' as the positive effect of student centered instruction on learning. They indicated that SCE provides students with the 'learning by doing' experience which makes learning permanent adding that taking an active role continuously helps students learn permanently as exemplified in the following quotes:

> "*We got away from rote learning in SCE course. This has been a course ensuring permanent knowledge through learning by doing. Since it was us reaching the knowledge, the knowledge we gathered were permanent*" (ST18).
>
> "*It wasn't a class where teacher came in and lectured and students passively listened to teacher. It was a class where students actively shared knowledge, ideas and criticized each other using the time effectively. With this approach, we reached to vast knowledge in short time and what we had were permanent since it was us doing the job and the teacher just the facilitator*" (ST27).

Student centered education is also believed to be effective in making the learning process meaningful and permanent for the students in most of the recent studies (Korkmaz, 2007; Deniz, 2005; Şahin et al., 2004; Temizkan, 2010; Topbaş & Yücel-Toy, 2007; Ünver & Demirel, 2004).

Sub-theme 2: Interactive learning can lead to multiple perspective, enjoyment and trust

Many of the students emphasized the 'interactive learning' aspect of the student centered instruction. They believed this was achieved through providing students with a discussion environment where there was always an exchange of knowledge and ideas through group work activities which produced different ideas and views. They indicated that these helped students develop multiple perspectives towards events providing a context where students learn from each other as stated by the ST23: "*We learnt how to produce and share new ideas through group work activities and this helped us develop different angles to look at issues*". Similar findings merged in Simão and Flores' (2010) research where students also stated that they became aware of other perspectives within the group. Besides, participants of the current study also reported that interaction helped create an enjoyable learning environment: fun, enjoyment, freedom, distance from boredom and release from rules. Likewise, Moye (2010) states regarding student centered learning that the trick is to have students learn while they are busy having fun makes learning and teaching more comfortable. Overby (2011) claims that this also builds trust, allowing students to feel they can discuss what they are feeling or what problems they may have, enabling the teacher to guide them into finding ways to fulfill their goals.

Sub-theme 3: Learning how to learn

One of the most prominent themes deriving from the data is the 'learning how to learn' aspect of the student centered instruction. In this regard, students indicated that SCE helped them learn how to learn and develop their study skills. It enabled students to learn by keeping them away from rote learning as exemplified by ST23 in the following way: "*I have learnt how to learn the content and the concepts and how to study effectively*". They also claimed that student centered instruction increases the span for and willingness towards learning which are essential factors in learning how to learn.

Sub-theme 4: Using Academic Learning in Social Life

Some students stated that student centered instruction helps build a bridge between academic learning and social life emphasizing that it makes learning continue outside the classroom. Participants claimed that SC instruction provides context for use of learnt knowledge within daily life. Some of them elaborated on the idea saying that it helps students develop life-long learning habit by commenting on the issue as: "*The knowledge we learnt in the course are not only used in class but also in real social life which makes it meaningful*" (ST23).

The next section attempts to answer the following research question: What do the pre-service teachers enrolled in a SCE course suggest regarding the modification of the course if they were given a chance to re-plan the course?

Category 3: Suggestions

Theme 1: Suggestions on Learning Environment

One of the themes that emerged from the data regarding suggestions on how to modify the course was about the learning environment of SCE. Students suggested that lessons should be done in different settings outside the class such as field trips - in a more learner centered setting as underlined by Jonassen (1997) that real world settings are to be provided as learning environments. The learner centered teaching methods and techniques should be implemented in classroom settings with smaller class sizes was another suggestion of the pre-service teachers.

Theme 2: Suggestions on teaching/learning process

Two sub-themes emerged regarding the suggestions on teaching-learning process. Many students suggested using different methods and techniques during student centered instruction. Some of these were integration of more visual, game-based and musical activities. Although some suggested that more importance should be given to group work activities, some of them indicated that besides group work activities, more individual based activities should also be used. Some students, on the other hand, were concerned about the number of activities suggesting an increase in the number of activities to be done.

The second sub-theme regarding the suggestions on teaching-learning process was using methods or tasks that require higher order thinking skills. Students suggested that they expected to prepare projects or research-based home works and share these with peers in class. They also wanted to be given opportunities for raising open-ended questions in class.

Theme 3: Suggestions on designing the course content

Some students offered suggestions on designing the course content claiming that the content should be designed and arranged according to the interests of the students and be based on daily life situations by giving more importance to social issues as illustrated in the following quote by ST37: "*I would select the topics more from the daily social life together with the students and I would rather select the topics that would give students opportunities to experience real life problems in daily life conditions*". Some of them reported that the course should be designed in collaboration with the learners. According to the assumptions of the Learner-centered Model proposed by McCombs and Whisler (1997), learning is a constructive process that occurs best when what is being learnt is relevant and meaningful to the learner. Huba and Freed (2000) also stated that instead of students learning material that has no relevance to them or their lives, they need to have the opportunity to learn and use knowledge that directly relates to 'enduring and emerging issues and problems in real life context'. These suggestions are in line with the following characteristics of constructivist learning environment proposed by Jonassen (1997) as he emphasizes authentic tasks in a meaningful context rather than abstract instruction out of context and real-world settings or case-based learning instead of predetermined sequences of instruction.

Theme 4: Suggestions on time-related issues

Some students' suggestions were on time related issues asking for longer class periods and on the course hour to be scheduled earlier in the morning since the students take an active role in this class, they have to be energetic.

Theme 5: Suggestions on teacher's role

Another important theme emanating from the data was the suggestions given on teacher's role. Students suggested that teachers should adopt a more active role, provide more feedback and assign a final exam to prevent students from relaxing which is articulated by ST15 in the following quote: "*I think teacher has to give more importance to individual activities to be able to evaluate students better individually as well and has to provide more feedback on the activities*". Apart from providing more feedback, the other two sub-themes place teachers in the center of instruction which is not expected in SCE. Suggestions for putting teachers into the center of the instruction could be associated with the pre-service teachers' prior learning experiences wherein students had to rely on the teacher to make all the decisions (Weimer, 2002).

Theme 6: No changes should be made in the course

Many students, on the other hand, claimed that no changes should be made in the course because it was very different from the other courses and it was the most enjoyable lesson as reported in the words of ST12: "*If I were given the opportunity, I wouldn't change anything regarding the course because this was the only lesson I attended with a great pleasure without getting bored at all*".

Discussion

Due to the active of role pre-service teachers during group and individual activities, findings of the study revealed that the SCE approach had a positive impact on the development of cognitive skills. It was indicated by the pre-service teachers that the techniques and methods used during the course helped students develop their reflective, critical and creative thinking; problem-solving; and questioning skills. This was because it was students doing all the thinking through researching, analyzing and synthesizing the knowledge rather than receiving it directly from the teacher. The opportunities provided by this approach ena-

bled pre-service teachers to learn by doing and interacting with each other and this offered multiple perspectives, enjoyment and trust. All these experiences made learning permanent and helped them learn how to learn.

The positive effect of the student centered learning approach on the development of social and affective skills was also underlined by the pre-service teachers. They indicated that the SCE approach helped them develop their self-confidence, self-regulatory and autonomy skills which in return increased their intrinsic motivation towards learning. This approach was also believed to improve their friendship and communication skills since they practiced to respect and accept others' ideas through group work activities. Opportunities for speaking and listening helped them develop their self-expression and empathy building skills.

The findings of this study offered a critical view regarding teacher-learner roles to be adopted in learner centered methodology. Weimer (2002:76) metaphorically states that the teacher changes from the "sage on the stage" to the "guide on the side". This gives the teacher the role of a facilitator while expects students to be more active in their own learning. Generally, the role of the student is emphasized in the learner centered approach because the learner is expected to take an active role and develop new knowledge, skills and sensibilities to be able to cater for the changing needs of a new world life. However, the participants in this study underline the difficulty and complexity of training teachers who will be capable of educating learners equipped with such challenging skills to manage the demands of the changing world. According to the participants, the teacher should be able to deal with each student individually, provide equal time and continuous feedback to everyone.

Depending on two of the principles offered by the Ministry of Education in Turkey (Erbil, 2004) each student develops by proceeding in different times, in different ways and in different paces; and each student displays different competencies and directions towards learning. A teacher implementing the SCE approach is expected to take these differences into account and tailor his/her teaching according to the needs and demands of individual students. Since the participants of this study are also prospective teachers, they have developed a more critical eye towards the role of the teacher in SCE. They believe that fulfilling all these differences is a difficult and complex task which requires of teachers to take an active role before the lesson while preparing the context for the lesson, during the lesson for assisting the group work activities and after the lesson for providing individual and collective feedback for all the performances. Hence, teachers have to be aware of the difficulty and complexity of the roles they are expected to adopt before, during and after student centered instruction. Liu (2008) also emphasizes this difficulty indicating that the learner-centered curriculum created a great deal of stress for teachers and teachers are required to have a range of skills to realize and implement the learner-centered curriculum such as assessment skills, course guidelines, course planning skills etc. Brown (2003) and Candella et. al. (2006) claimed that changing from a teacher-centered to learner-centered approach requires a new way of thinking. Making that change is personal so it requires each teacher to examine his or her own teaching-learning philosophy to determine whether he or she is willing to make that change. They indicated that there are some barriers to make that change such as the time it takes teachers to learn and implement the student centered approach with its principles, student resistance to an unfamiliar teaching-learning methodology and learning environment; all of which are indicated by the participants of the this study as well.

As a result of this study, the following points need to be considered while designing a student centered learning curriculum:

- Both the individual and the cooperative role expected to be adopted by the pre-service teachers during SCE need to be carefully integrated into the activities to minimize student resistance to an unfamiliar teaching-learning style. The possibilities for unwillingness to cooperate and discrepancy among student ideas in group work need to be considered and minimized during implementation.
- The role to be adopted by the teacher during the student centered approach seems to be complicated so teachers need to make sure whether they are ready and willing to switch from a teacher-centered approach to a learner-centered approach. Thus, the role and identity of the teacher need to be very clearly designed in the curriculum and teachers need to be trained until they internalize their new role and identity as facilitators.
- The teaching-learning activities to be integrated into the curriculum need to be very finely tuned according to the needs, interests and preferences of the pre-service teachers because learners acquire and process knowledge easier if it is relevant and meaningful for them.
- In order for students and teachers to adopt the roles expected from them and to implement the activities effectively, the physical characteristics of the classroom or the learning environment need to address all the needs demanded by the student centered education. Inefficiency in the infrastructure of the classrooms leads to inefficiency in the implementation of the learner centered curricula.
- Duration of the weekly allocated time for the course and for each specific activity inside and outside the classroom needs to be reconsidered and adjustments need to be made to ensure the activities to be completed effectively.
- The active role which is to be adopted during group work by the students and the teacher need to be very finely integrated into the curriculum so as to provide permanent learning and learning how to learn opportunities for the students. This integration will contribute to students' cognitive, affective and social development as well. The course content also need to be designed in such a way that it should build a bridge between academic and social life of students.

Acknowledgements

We thank the students enrolled into EGIT 450 – Student Centered Education course for their contribution to the study.

References

Akpınar B & Gezer B 2010. Learner-centered new educational paradigms and their reflections on the period of learning and teaching. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi*, 14:1-12.

Barr RB 1998. Obstacles to Implementing the Learning Paradigm: What it takes to overcome them. *About Campus*, 3(4):18-25.

Bonner A & Tolhurst G 2002. Insider-outsider perspectives of participant observation. *Nurse Researcher*, 9(4):7-19.

Breunig M 2005 Turning Experiential Education and Critical Pedagogy Theory into Praxis. *Journal of Experiential Education*, 28(2):106-122.

Brown KL 2003. From teacher-centered to learner-centered

curriculum: Improving learning in diverse classrooms. *Education*, 124(1):49-54.
Bryman A 2004. *Social Research Methods* (2nd ed). Oxford: Oxford University Press.
Candella L, Dalley K & Benzel-Lindley J 2006. A case for learning-centered curricula. *Journal of Nursing Education*, 45(2):59-66.
Cantone KA 2001. The Rx for remedial college math: Learning communities. *Research and Teaching in Developmental Education*, 18(1):66-70.
Carlile O & Jordan A 2005. It works in practice but will it work in theory? The theoretical underpinnings of pedagogy, In S Moore, G O'Neil & B McMullin (eds). *Emerging Issues in the Practice of University Learning and Teaching*. Dublin: All Ireland Society for Higher Education (AISHE).
Çatak K 2008. The views of teachers about the procedure of the teaching and learning in the new curriculum of social sciences lesson of the sixth classes: The case of Muğla. Master thesis. Muğla: The Institute of Social Sciences, Muğla University.
Creswell JW 2003. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (2nd ed). Thousand Oaks, CA: Sage Publications.
Crotty M 1998. *The Foundations of Social Research: Meaning and perspective in the research process*. Thousand Oaks, CA: Sage Publications.
Darling-Hammond L 2001. *The right to learn: A blueprint for creating schools that work*. San Francisco, CA: Jossey-Bass.
Deniz İ 2005. The effects of student-centered science education on student's achievements. Master's thesis. Denizli: The Institute of Science, Pamukkale University.
Diekelman N 2002. "Too much content...:" Epistemologies' grasp and nursing education. *Journal of Nursing Education*, 41(11):469-470.
Dönmez İ 2008. The evaluation of the learning environments of science and technology lesson in primary schools in terms of student centered education. Master's thesis. Eskişehir: The Institute of Science, Osmangazi University.
Duckworth E 2009. Helping students get to where ideas can find them. *The New Educator*, 5:185-188.
Dündar Ş 2008. Evaluation of the elementary school social studies classes' learning environments from the constructivist viewpoint. PhD thesis. Istanbul: The Institute of Educational Sciences, Marmara University.
Dunn KE & Rakes GC 2011 Teaching Teachers: An Investigation of beliefs in Teacher Education Students, *Learning Environ Research*, 14:39-58.
Felder RM & Brent R 1996. Navigating the bumpy road to student-centered instruction. *College Teaching*, 44(2):43-47.
Fosnot CT (ed.) 1996. *Constructivism: Theory, Perspectives & Practice*. New York: Teachers College Press.
Grösser M 2007. Effective teaching: linking teaching to learning functions. *South African Journal of Education*, 27(1):37-52.
Güneş G 2008. Reflection on new primary school mathematics curriculum on the teaching and learning environment. PhD thesis. Trabzon: The Institute of Science, Karadeniz Teknik University.
Güzel A 2009. School principals and teachers opinions about student centered educational model applied at elementary education (Ankara sample). Master's thesis. Ankara: The Institute of Educational Sciences, Ankara University.
Hains BJ & Smith B 2012. Student centered course design: Empowering students to become self-directed learners. *Journal of Experiential Learning*, 35(2):357-374. doi: 10.1177/105382591203500206
Hall J & Saunders P 1997. Adopting a student- centered approach to management of learning. In C Bell, N Bowden & A Trott (eds). *Implementing Flexible Learning*. London: Kogan Page.
Hansen EJ & Stephens JA 2000. The Ethics of Learner-Centered Education: Dynamics that Impede the process. *Change: The Magazine of Higher Learning*, 32(5):40-47. doi: 10.1080/00091380009605739
Hein GE 1991. *Constructivist learning theory*. Available at http://www.exploratorium.edu/IFI/resources/constructivistlearning.html. Accessed 1 July 2014.
Hendry DG, Frommer M & Walker RA 1999. Constructivism and problem-based learning. *Journal of Further and Higher Education*, 23(3):359-371.
Huba ME & Freed J 2000. *Learner-Centered Assessment on College Campuses: Shifting the Focus from Teaching to Learning*. Needham Heights, MA: Allyn & Bacon.
Immordino-Yang MH & Damasio A 2007 We Feel, Therefore We Learn: The Relevance of Affective and Social Neuroscience to Education. *Mind, Brain and Education*, 1(1):3-10. doi: 10.1111/j.1751-228X.2007.00004.x
Ironside PM 2004 "Covering content" and teaching thinking: Deconstructing the additive curriculum. *Journal of Nursing Education*, 41:5-12.
Knight JK & Wood WB 2005. Teaching more by lecturing less. *Cell Biology Education*, 4(4):298-310. doi: 10.1187/05-06-0082
Jonassen DH 1997. Instructional Design Models for Well-structured and ill-structured problem solving learning outcomes. *Educational Technology Research and Development*, 45(1):65-94.
Lea SJ, Stephenson D & Troy J 2003. Higher education students' attitudes to student centered learning: Beyond 'educational bulimia'. *Studies in Higher Education*, 28(3):321-334.
Liu Y 2008. On learner-centered education. *Sino-US English Teaching*, 5(8):18-23.
Maclellan E & Soden R 2004. The importance of epistemic cognition in student-centered learning. *Instructional Science*, 32(3):253-268.
Martin M 2005. Reflection in teacher education: How can it be supported? *Educational Action Research*, 13(4):525-542. doi: 10.1080/09650790500200303
McCombs BL & Quitat MA 1999. *A Study of the Learner-centeredness of the Community for Learning (CFL) Program*. Philadelphia, PA: Temple University, Center for Research in Human Development in Education.
McCombs BL & Whisler JS 1997. *The Learner-Centered Classroom and School: Strategies for Increasing Student Motivation and Achievement*. San Francisco: Jossey-Bass.
Meece JL 2003. 'Applying Learner-centered Principles to Middle School Education'. *Theory into Practice*, 42(2):109-116.
Miles MB & Huberman AM 1994. *Qualitative Data Analysis: An expanded sourcebook*. Beverly Hills, CA: Sage.
Moodley V 2013. In-service teacher education: asking questions for higher order thinking in visual literacy. *South African Journal of Education*, 33(2): Art. #430, 18 pages. Available at http://www.scielo.org.za/pdf/saje/v33n2/05.pdf. Accessed 26 June 2014.
Moye JJ 2010. Making your classes come alive. Techniques: *Connecting Education and Careers*, 85(4):8-9.
Nygaard C, Hojlt T & Hermansen M 2008. Learning-based curriculum development. *Higher Education*, 55:33-50.
Oldenburg S 2005 Grammar in the student-centered composition class. *Radical Teacher*, 75(1):43-43.
Overby K 2011. *Student-centered learning*. ESSAI, 9, Article 32. Available at http://dc.cod.edu/cgi/viewcontent.cgi?article=1375&context=essai&sei-redir=1&referer=http%3A%2F%2Fscholar.google.com%2Fscholar%3Fhl%3Den%26q%3DStudent-centered%2Blearning%26submit3.x%3D7%26submit3.y%3D10#search=%22Student-centered%20learning%22. Accessed 26 June 2014.
Pajares MF 1992. Teachers' beliefs and educational research: cleaning up a messy construct. *Review of Educational Research*, 62(3):307-332. doi: 10.3102/00346543062003307
Patton QM 2002. *Qualitative Research & Evaluation Methods* (3rd ed). Thousand Oaks, CA: Sage Publications.
Şahin NF, Cerrah L, Saka A & Şahin B 2004. A practice for student centered ecology course in higher education. *Gazi Eğitim*

Fakültesi Dergisi, 24(3):113-128.
Salter D, Pang MYC & Sharma P 2009. Active tasks to change the use of class time within an outcomes based approach to curriculum design. *Journal of University Teaching and Learning Practice*, 6(1):27-38.
Santrock JW 2001. *Educational Psychology*. Boston: McGraw Hill.
Simão AV & Flores MA 2010. Student-centred methods in higher education: Implications for student learning and professional development. *The International Journal of Learning*, 17(2):207-217.
Tanner CA 2004. The meaning of curriculum: Content to be covered or stories to be Heard? *Journal of Nursing Education*, 43(1):3-4.
Taşkıran UŞ 2006 Problems in teaching the course of information and communication technology through student-centered teaching approach: A case in Eskişehir. Master's thesis. Eskişehir: The Institute of Educational Sciences, Anadolu University.
Temizkan M 2010 The effect of Turkish language course which arranged according to student-centered learning on attitudes towards talking skill. *Milli Eğitim Dergisi*, 187:86-103.
Thomas DR 2006. A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2):237-246. doi: 10.1177/1098214005283748
Unluer S 2012. Being an insider researcher while conducting case study research. *The Qualitative Report*, 17(58):1-14.
Ünver G & Demirel Ö 2004. A research on developing student teachers' planning abilities of student-centered teaching. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 26:188-195.
Vogler KE 2006. Impact of high school graduation examination on Tennessee science teacher' instructional practices. *American Secondary Education*, 35(1):33-57.
Wade CR & Yarbrough BD 1996. Portfolios: A tool for reflective thinking in teacher education? *Teaching & Teacher Education*, 12(1):63-79.
Weimer M 2002. *Learner-Centered Teaching: Five Key Changes to Practice*. San Francisco: Jossey-Bass.
Yılmaz K 2008. Social studies teachers' views of learner-centered instruction. *European Journal of Teacher Education*, 31(1):35-53.