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Instructors' practice level of Chickering and Gamson learning principles

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The aim of this study is to determine the level of practice and utilization of the seven principles for good practice developed by Chickering and Gamson of the instructors of science department in faculty of education. In this study, descriptive method but not experimental, which is one of the quantitative research was used as appropriate for this aim the samples of this study consist of 52 instructors studying in universities. In this study, the seven principles for good practice by Chickering and Gamson, interaction of faculty-student, corporation among student, active learning, giving profit feedback, emphasizing time on task, communicating high expectations and respecting diverse talents and ways of learning styles were defined as Standard and this study focused on to what extent the instructors utilize from the principles. A scale or measure consists of 70 questions was used as data collection tool, which involves 7 principles, and in which there were 10 items. The total internal reliability coefficient of scale was calculated as 0.68. Results show that scale items in terms of total item correlation changed between 0.542 and 0.715. Results indicate that factor values also changed between 0.476 and 0.731. The data were evaluated with ANOVA, which is descriptive, statistic and unidirectional, within the instructors' answers given to scale items/questions. The findings of this study as a result of the implementation of the principles, they entered the classroom lessons teaching staff is more than the number of students was seen as the most important problem. 6 the most common teaching staff principle, and then 5 principle behind the 3 and 2 determined that principle.

Introduction

In recent years, the process of education has passed through many changes. The arrival of assessment, accountability, and focus on teaching have required faculty to examine how they are teaching. Primary, Secondary and Higher education is undergoing a paradigm shift: the focus of colleges and universities is shifting from teaching to learning. The type of learner is self-directed, creative, and innovative. Most teachers maintain a strong sense of commitment to teaching and learning, despite often unwelcome external requirements and workload pressures. Many work hard to improve the effectiveness of their practices, for example through undertaking classroom inquiry and other reflective activities. From this perspective, the role of education policy is to provide guidance, resource and accountability to support high quality teaching and learning. Educational research complements it by using careful description and analysis to offer insights and new knowledge about educational processes and outcomes (Johnson & Kardos, 2002).

The constructivist model of learning is premised on the notion that learners actively construct their

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own meaning and knowledge from their experiences (Svinicki, 1999). This learning paradigm views teaching as a process which involves helping learners to create knowledge through interactive and authentic learning experiences (Partlow & Gibbs, 2003). The teacher's role is to guide students toward experiences that will facilitate meaningful learning. Direct instructional activities where students passively assimilate knowledge are minimized (Chickering & Gamson, 1999). Key features of constructivist learning environments include active learning, authentic instructional tasks, collaboration among students, and diverse and multiple learning formats (Partlow & Gibbs, 2003).

If it is seen at the definition of education, it can say that the purpose in education is to become creative and innovative through analysis, conceptualizations, and synthesis of prior experience to create new knowledge. The educator's role is to mentor the learner during heuristic problem solving of ill-defined problems by enabling quested learning that may modify existing knowledge and allow for creation of new knowledge in the teaching and learning process. The learning goal is the highest order of learning: heuristic problem solving, metacognitive knowledge, creativity, and originality (Lombardi, 2011; Meyer, 2009).

Chickering and Gamson recognized this in 1987 when they developed the Seven Principles for Good Practice in Undergraduate Education. Primary, Secondary and Higher education school and faculty must encourage active learning, teacher-student-school contact, and cooperation among students, give prompt feedback, emphasize time on task, communicate high expectations, and respect diverse talents and ways of learning (Gamson, 1991; Bangert, 2004).

The majority of the student-centered instructional practices that comprise the Seven Principles Frameworks are clearly focused on constructivist-based teaching practices. For example the principle of active learning suggests that effective teaching engages students in authentic learning activities that require them to select, organize, and integrate their experiences with existing knowledge to create new cognitive schema (Gamson, 1995; Chickering & Gamson 1999; Hacker & Niederhauser, 2000).

The Seven Principles framework offers solid, research-based guidance for the design and delivery of science courses (Bangert, 2004; Chickering & Gamson 1987). However, feedback specific to the effectiveness of science laboratory teaching practice would be of even more value to faculty. This study explored the use of a student evaluation of teaching questionnaire specifically constructed to assess the quality of science and technology teaching. The items for this instrument were written to reflect the constructivist-based teaching practices recommended by the Seven Principles of Effective Teaching (Jonassen, 2003; Shea, Pickett, & Pelz, 2003; Sherry, 2003).

Student–faculty contact has been shown to have positive effects on student retention and success in a variety of ways. The interaction outside of the classroom has been noted to be of particular importance (Alderman, 2008). Studies at institutions of higher education have documented this importance of school-student and teacher interaction outside the classroom (Cordell 2011; Berger & Millem, 1999; Kuh, 2001). On the other side, Positive student–teacher relationships serve as a resource for students at risk of school failure, whereas conflict or disconnection between students and adults may compound that risk (Stipek, 2006). Although the nature of these relationships changes as students mature, the need for connection between students and adults in the school setting remains strong from preschool to 12th grade (Treslan, 2006; Crosnoe, Johnson, & Elder, 2004; Cordell, 2011). Furthermore, even as schools place increasing attention on accountability and standardized testing, the social quality of student-teacher relationships contributes to both academic and social–emotional development (Gregory & Weinstein, 2004). As such, student– teacher relationships provide a unique entry point for educators and others working to improve the social and learning environments of schools and classrooms. These relationships may be a direct focus of

intervention or may be viewed as one important feature of successful implementation of many of the other interventions described in this volume. The main purpose of the relation of education is to improve student academic achievement and social skills.

Cooperation among students, increases student achievement, creates more positive relationships among students, and generally improves students' psychological well-being. Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's ideas and responding to others' improves thinking and deepens understanding. Cooperative learning is also the prerequisite and foundation for most other instructional innovations, including thematic curriculum, whole language, critical thinking, active reading, process writing, materials-based (problem-solving) mathematics, and learning communities. In addition, cooperative learning affects teachers' attitudes and competencies regarding working collaboratively because what is promoted during instructional time tends to dominate relationships among staff members (Ebrahim, 2012; Hsiung, 2012; Yesilyurt, 2010).

Active learning is one of the key principles highlighted in Chickering and Gamson's (1991) hallmark study on good practices in undergraduate education. Active learning requires multitude of teaching practices, such as lively debates between instructor and students, peer-to-peer discussions, reflective writing and team work, all of them make possible students to discover, process, and apply knowledge through engagement (Kassens-Noor, 2012; McKinney & Heyl, 2008). While students actively participate in multiple learning contexts, their learning evolves within formal and informal settings (Greenhow, Robelia, & Hughes, 2009). Informal learning is a course-related activity outside the classroom that centers on students' self-directed and independent learning activities including peer-to-peer interactions (Kassens-Noor, 2012; Aspden & Thorpe, 2009; Jamieson, 2009). In particular, networking is considered an informal learning strategy (Marsick & Watkins, 1990). Based on empirical evidence from MBA students, Yang and Lu (2001) suggest that informal learning ought to be an essential component in education, because it enhances academic performance. Chickering and Gamson (1987) outlined Seven Principles of Good Practice in Undergraduate Education, stating that the most effective teaching strategies are indeed that encourage active learning. This approach certainly promotes successful learning. However, can students-center education allow this technique to be practiced more and more, web-based teaching is being used in various forms to enhance or replace traditional teaching methods (Lewis & Harrison, 2012; Wright & Lawson, 2005).

Prompt feedback as one of the motivational strategies can be regarded as the information available to the students which makes possible the comparison of their actual performance with some standard performance of a skill at an appointed time without delay (Oche, 2012). On the other hand, it is the process of informing students, parents and administrators regarding students' progress under shortest possible period. For learners to change their responses they must be furnished with some kind of awareness of their consequences, this process is called "feedback" (Oche, 2012). Prompt feedback could facilitate the existence of interaction between the teachers and the students as well as the flow and exchange of information between them (Beard, 2008). However, Annet (2009) thinks that besides acting as reinforcement, prompt feedbacks provide information and if there is greater learning when there is interaction between teachers and students then feedbacks will go a long way to helping students because while giving out the scores, the teacher will also explain the areas where students have difficulties. Pickup and Anthony (2005) see feedback as an essential ingredient by which the teacher can evaluate the success and failure of his teaching. They further stressed that the importance of the employment of feedbacks by the teacher for the achievement of instructional objectives is immense (Oche, 2012).

Time-on-task has typically been applied as a measure of the time students engage in academic

activities. There are several reasons to believe that time-on-task could be an important indicator of academic growth and development (Taraban, 2012). Chickering and Gamsom (1987) list time-on-task as one of the seven principles of effective teaching and learning. In research involving learning, it has been shown that increasing the number of practice trials results in greater learning. At a neurological level, a chemically-based process of long-term potentiation is responsible for changing synaptic connections in the brain due to persistent chemical and electrical stimulation over time arising from the experience of the individual (Taraban, 2012). Long-term potentiation is associated with learning. There is ample evidence for the importance of time-on task to college learning (Babcock & Marks, 2010; Taraban, 2012).

High expectations are gaining more attention as the assessment movement progresses. The successful schools share absolute characteristics: clear expectations and regulations, an emphasis on academics, high levels of student participation, and alternative resources such as vocational work opportunities, library facilities, music, art, and extracurricular activities. Schools also communicate expectations in the way they structure and organize learning (McVay, Murphy, & Yoon, 2008; Weinstein, Soule, Collins, Cone, Mehlorn, & Stimmonacchi, 1991). Researchers have studied the ways in which teachers' beliefs about students affect their behavior toward students. Some kinds of differential behavior toward students who vary in their mastery of the curriculum are appropriate and productive (Spitek, 2006). Giving some students more advanced material than others is clearly necessary when there is variability in student skill level, and students need different amounts and kinds of teacher assistance and attention (Conceicao, 2007). Nevertheless, most of the teacher behaviors described below, which have been shown to be associated with high versus low expectations, cannot be defended as appropriate accommodations to individual student needs (Spitek, 2006). Teachers who teach to a broad range of learning styles and multiple intelligences communicate that the school values the unique strengths and intelligences of each individual (Gardner, 1985). Schools that encourage critical thinking and inquiry and the development of a critical consciousness are not only able to engage youth but are especially effective at common. Another view of curriculum that leads to high expectations and flexibility is the need for schools to inoculate multicultural content throughout the curriculum. This honors students' home cultures, gives them the opportunity to study their own and other cultures, and to develop cultural sensitivity (Wilson, 2004; Kohl, 1994; Mehan, Hubbard, & Villanueva, 1994). Respect for diverse talents and ways of learning; “Learning styles refer to the way students concentrate on, process, internalize, and recall new and difficult information” (Rochford, 2003, p. 665). People bring different talents and styles of learning to primary school, high school and college. Students in the classroom may be all thumbs in the lab or art studio (Chickering & Gamsom, 1987). Students rich in hands-on experience may not do so well with theory. Students need the opportunity to show their talents and learn in ways that work for them (Chickering & Ehrmann, 1996). Then they can be pushed to learn in new ways that do not come so easily. Shi and Morrow (2006) discovered that instructors felt the audio tool (which allows for voice interaction with online students) was an effective tool for reinforcing diverse learning styles. One effective way to use this tool is to explain visuals you're presenting on the whiteboard: instead of overloading working memory with visual graphics along with text, allow students to "see" the visual content you're presenting and "hear" your explanation. Similarly, allowing students who may be slow or reluctant typists to interact orally gives them options to communicate (Milshtein, 2003).

There are a few researches (Henninger & Hurlbert, 2006; Armstorn , Tucker & Massa; 2009) on community college chemistry courses and the degree to which instructors utilize the Seven Principles of Good Practice in Undergraduate Education. With the increasing number of student-center and non- student-center students choosing community colleges for introductory course work, it is vital that an examination be done on how science course is taught.

In this study, the seven principles for good practice by Chickering and Gamson, interaction of faculty-student, corporation among student, active learning, giving profit feedback, emphasizing time on task, communicating high expectations and respecting diverse talents and ways of learning styles were defined as Standard and this study focused on to what extent the instructors utilize from the principles

Method

Research model, participants, data collection tools and data analysis of the research have been explained in this section.

Research model; in this study, descriptive method but not experimental, which is one of the quantitative research was used as appropriate. The quantitative survey that guides this study served as the research design. In this study, the seven principles for good practice by Chickering and Gamson, interaction of faculty-student, corporation among student, active learning, giving profit feedback, emphasizing time on task, communicating high expectations and respecting diverse talents and ways of learning styles were defined as Standard and this study focused on to what extent the instructors utilize from the principles. A group of researchers met to choose items according to the following criteria: "applicable to a range of disciplines, institutions, and class settings; short and jargon free; and focused on behavior or practices that could be changed" (Gamson, 1991). After the committee chose the items, a draft of the inventory was sent to a wide range of institutions. After 250 respondents reacted to the inventory, the committee revised the survey as appropriate. The current version of the survey consists of seven sets of ten questions, each set concerned with one of the seven principles.

Participants, in this study consisted of 52 instructors studying in Education faculties of six different university of Eastern Anatolia Region.

Data collection tool; In this study, developed by Chickering and Gamson in 1987, an instrument used which was prepared to determine how much of these principles realized by candidates participating the study in their learning environment and based on seven principles that should be in a good learning environment to realize learning. The instrument was prepared by utilizing another instrument that consist of seven different sections in which the seven basic principles classified separately and used for the same purpose, developed by Bishoff (2010). Instrument questions are examined and integrated into Turkish Grammar in terms of meaning and structure by a lecturer of Ataturk University Kazım Karabekir Education Faculty Turkish Language Department. In addition, the latest status of instrument realized by examining and revising according to English grammar by two lecturers of Ataturk University Kazım Karabekir Education Faculty Science and English Education Department. Instrument consists of 70 questions was used as data collection tool, which involves 7 principles, and in which there were 10 items. The total internal reliability coefficient of scale was calculated as 0.68. Results show that scale items in terms of total item correlation changed between 0.542 and0 .715. Results indicate that factor values also changed between 0.476 and0 .731.

The data were analyzed by SPSS 18 software and were evaluated with ANOVA, which is descriptive, statistic and unidirectional, within the instructors' answers given to scale items/questions.

Results

Descriptive statistics related to the total mean scores of response given for each principle statements are presented in Table 1.

Table 1. Descriptive statistics for each principles items (Each code, IA1, IB1, IC1.. etc., stands for an statements from each principles)

	Items of the Seven Principles									
	IA_1	IB_1	IC_1	ID_1	IE_1	IF_1	IG_1	IH_1	II_1	IJ_1
X	3.92	2.48	3.87	2.88	3.25	3.06	4.02	4.02	2.33	3.04
SD	.926	.918	1.010	.943	1.100	1.195	.852	.852	.944	1.084
	IA_2	IB_2	IC_2	ID_2	IE_2	IF_2	IG_2	IH_2	II_2	IJ_2
X	3.71	3.81	3.75	3.37	3.37	3.71	3.44	3.25	3.46	2.90
SD	.957	1.121	1.027	1.138	1.048	1.035	1.211	1.135	1.093	1.089
	IA_3	IB_3	IC_3	ID_3	IE_3	IF_3	IG_3	IH_3	II_3	IJ_3
X	3.60	2.90	4.08	3.79	3.85	3.83	3.56	3.65	2.69	2.88
SD	.975	1.053	.947	1.035	.998	1.133	1.074	1.064	1.181	1.096
	IA_4	IB_4	IC_4	ID_4	IE_4	IF_4	IG_4	IH_4	II_4	IJ_4
X	3.35	3.52	3.17	3.17	2.60	2.63	2.42	2.88	3.02	2.44
SD	1.170	.939	.923	1.061	1.159	1.067	.893	.983	1.379	1.227
	IA_5	IB_5	IC_5	ID_5	IE_5	IF_5	IG_5	IH_5	II_5	IJ_5
X	4.15	3.06	3.56	3.75	4.02	4.04	3.73	3.12	3.17	2.83
SD	.849	1.018	.873	.860	1.038	.907	1.239	1.060	1.004	1.115
	IA_6	IB_6	IC_6	ID_6	IE_6	IF_6	IG_6	IH_6	II_6	IJ_6
X	3.98	3.85	3.54	3.62	3.67	3.46	3.25	4.00	4.02	3.56
SD	.980	.978	1.056	.889	.923	.917	.988	.863	.804	.978
	IA_7	IB_7	IC_7	ID_7	IE_7	IF_7	IG_7	IH_7	II_7	IJ_7
X	4.31	4.27	3.44	3.21	3.23	2.21	2.94	3.19	3.67	3.71
SD	.755	1.122	.958	1.143	1.041	1.391	.998	1.138	1.024	1.016

The Number of participants (N): 52; X: Mean score; SD: Standard Deviation

For each principle, there are ten survey items that characterize each principle. This research question is answered by reporting mean score and standard deviation for responses to each individual question. The Likert scale responses range from 5 (Very Often) to 1 (Never). Each principle and its codes are given at Appendix A.

ANOVA statistical analyses results that relevant to each principles item is given below at Table 2 as DF, F, and p.

Table 2. Principle utilization by each principles item

Principles	DF	F	p
Encouraging student faculty contact	9/510	21.66	0.001
Encouraging cooperation among students	9/510	3.42	0.001
Encouraging active learning	9/510	10.65	0.001
Giving prompt feedback	9/510	6.52	0.001
Emphasizing time on task	9/510	11.42	0.002
Communicating high expectations	9/510	3.95	0.001
Respecting diverse talents/ways of learning	9/510	17.55	0.001

The first principle states, "Good practice encourages student-faculty relationship." Student-faculty contact has been identified as a critical factor for motivating students toward peak performance. Instructor characteristics such as friendliness, interest in student learning, enthusiasm, good communication skills, and accessibility to students have been identified as having a positive impact on the relationships between students and faculty (Chickering & Erhmann, 1996; Marsh, 1982;

Young & Shaw, 1999). These attributes create a classroom climate where students feel comfortable approaching the instructor for help when encountering difficult course assignments (Bangert, 2004). According to this principle, views are taken from the teachers. There is significant difference between the items when ANOVA test result, as shown in Table 2, is analyzed [F(9,510) =21,66; p < 0,05]. Multiple comparison tests (Post-hoc) are applied after analysis to determine the items which cause to significance difference between the items. Multiple comparison test result outputs that items; IB_1, ID_1, IE_1, IF_1, II_1, IJ_1 and items; IA_1, IC1, IG1, IH_1 do not have significant difference between themselves and items; IA_1, IC_1, IG_1, IH_1 have more positive values. These results are also supported by the data which is indicating in Table 1.

The second principle of good practice states, "Good practice encourages cooperation among students. The constructivist model of instruction supports the notion that social interaction promotes student learning (Bangert, 2004; Astin, 1993; Cooper & Mueck, 1990; Johnson, Johnson & Smith, 1991). Results from items, there is significant difference between the items for principle 2 if the output of ANOVA in Table 2 is analyzed. [F(9,510) =3,420; p<0,05. Post-hoc test which is one of the multiple comparison tests is applied to determine the items which drive the significant difference between the items. LSD test is applied to the output emerged from the multiple comparison test. Results obtained from the test show that there is no significant difference between the items; MA_2, MB_2, MC_2, MD_2, ME_2, MF_2, MG_2, MH_2, MI_2 and items have more positive values except MJ_2. These results are also supported by the data shown in Table 1.

The third principle states, "Good practice encourages active learning." The capabilities for incorporating audio, video, and links to other virtual worlds allow instructors to create authentic, interactive problem-solving activities that augment student efforts to actively construct meaningful knowledge (Pahl, 2003). Overall, teachers' responses to items written to assess "active learning" suggest that the majority of teachers perceived that the course assignments were engaging and motivating. There is significant difference between the items for principle 3 if the output of ANOVA in Table 2 is analyzed. [F (9,510) =10,651; p<0, 05] Post-hoc test which is one of the multiple comparison tests is applied to determine the items which drive the significant difference between the items. LSD test is applied to the output emerged from the multiple comparison test. Results obtained from the test show that there is no significant difference between the items; MB_3, MI_3, MJ_3 and MA_3, MC_3, MD_3, ME_3, MF_3, MG_3, MH_3. Items; MA_3, MC_3, MD_3, ME_3, MF_3, MG_3, MH_3 have more positive values. These results are also supported by the data shown in Table 1.

The fourth principle states, "Good practice gives prompt feedback." The assignment tool was especially useful for supplying detailed evaluative and corrective feedback that teachers could use to revise and resubmit assignments. Responses to the four feedback items indicated that all teachers "agreed" that that the instructor responded promptly to their questions about general course requirements. There is significant difference between the items for principle 4 if the output of ANOVA in Table 2 is analyzed. [F(9,510) =6,522; p<0,05]. Post-hoc test which is one of the multiple comparison tests is applied to determine the items which drive the significant difference between the items. LSD test is applied to the output emerged from the multiple comparison test. Results obtained from the test show that there is no significant difference between the items; ME_4, MF_4, MG_4, MJ_4 and MA_4, MB_4, MC_4, MD_4, MH_4, MI_4. Items; MA_4, MB_4, MC_4, MD_4, MH_4, MI_4 have more positive values. These results are also supported by the data shown in Table 1.

The fifth principle states, "Good practice emphasizes time on task." There is significant difference between the items for principle 5 if the output of ANOVA in Table 2 is analyzed. [F(9,510) =11,429; p<0,05]. Post-hoc test which is one of the multiple comparison tests is applied to determine the items which drive the significant difference between the items. LSD test is applied to the output emerged from the multiple comparison test. Results obtained from the test show that there is no significant difference between the items; MB_5, MC_5, MH_5, MI_5, MJ_5 and MA_5, MD_5,

ME_5, MF_5, MG_5. Items; MA_5, MD_5, ME_5, MF_5, MG_5 have more positive values. These results are also supported by the data shown in Table 1.

The sixth principle states, "Good practice communicates high expectations." The use of good examples is an effective practice for setting clear expectations for quality student performance. Examples that provide models of instructor expectations provide students with more precise guidelines about the type of work necessary for proficient assignment completion. The benefit of presenting examples that demonstrate solutions to authentic problems not only sets instructor expectations but also supports the development of cognitive schema that will help students evaluate future applications of their newly acquired knowledge and skills (Bangert, 2004; Lim & Moore, 2002). Results from questions pertaining to "high expectations" suggest that most teachers felt that the models used to illustrate problem solutions clearly communicated expectations for weekly group problems. There is significant difference between the items for principle 6 if the output of ANOVA in Table 2 is analyzed. [F (9,510) =3,956; p<0,05]. Post-hoc test which is one of the multiple comparison tests is applied to determine the items which drive the significant difference between the items. LSD test is applied to the output emerged from the multiple comparison test. Results obtained from the test show that there is no significant difference between the items; MF_6, MG_6 and MA_6, MB_6, MC_6, MD_6, ME_6, MH_6, MI_6, MJ_6. Items; MA_6, MB_6, MC_6, MD_6, ME_6, MH_6, MI_6, MJ_6 have more positive values. These results are also supported by the data shown in Table 1.

The seventh and final principle states, "Good practice respects diverse talents and ways of learning." Learner-centered models of instruction advocate that prior knowledge, cognitive processing, personality styles, beliefs about learning, and demographics must be carefully considered when planning instruction (Svinicki, 1999). Creating an array of learning activities that allow multiple opportunities for demonstrating knowledge and skill proficiencies is one approach for planning instruction designed to address the diverse range of learning preferences and skills that learners bring to instructional environments (Bangert, 2004). There is significant difference between the items for principle 7 if the output of ANOVA in Table 2 is analyzed. [F(9,510) =17,559; p<0,05]

Post-hoc test which is one of the multiple comparison tests is applied to determine the items which drive the significant difference between the items. LSD test is applied to the output emerged from the multiple comparison test. Results obtained from the test show that there is not significant difference between the items; MC_7, MD_7, ME_7, MF_7, MG_7, MH_7, MI_7, MJ_7 and MA_7, MB_7. Items; MA_7 and MB_7 have more positive values. These results are also supported by the data shown in Table 1.

When the descriptive statistical outputs are analyzed, it is determined that faculty members use principle 6 at most while principle 5, principle 3 and principle 2 follow as the usage of principle order. Another result obtained from the study is; Sub-items of principle 4 is used seldom by the faculty members.

Discussion

In order to provide a good education in university, seven principles were developed in 1987 by Chickering and Gamson. In this study, it's investigated that these principles applied how much by instructors in science department in faculty of education and the results of this study are given below:

It is seen that instructors participated to the activities a little which organized by student groups and also instructors taking their students to meeting of their respective fields a bit. It is believed that this problem will be overcome with encouraged the students to cooperative groups. For the cause of

having trouble in communication inside and outside of the classroom, it is said the instructors didn't know the names of the students in crowded classrooms (Table 2). To provide cooperative learning among the students to distribute the criteria of evaluation performance for each student see the others' notes independently have difficulty and not preferred by the instructors (Table 2). Use of active learning methods and promote the methods in the learning environment and students have difficulty in terms of associated the similarities and differences about the famous scientists' works. In addition instructors have difficulties in arrange an excursion, send to students to workshops on active learning, do different activities such as voluntary works and preparation the research and development projects. If these difficulties were eliminated, students could be participating to active learning environment more efficiently (Table 2). With this result, the majority of instructors involved in this research stated that if students promoted on research and development projects, the effectiveness of active learning methods would be increased. Instant feedbacks are very important for students in order to be successful in the way of social and academic. Instructors didn't sufficient about to often do interviews with students on the academic field, inform to students strengths and weakness of the result of exams and working reports, determine the level of students' prior knowledge about the course at the beginning of the period and make students to participate the class who don't attend to class. This result comes up because instructors have a lot of course hours and the number of students and this is the biggest factor (Table 1 and Table2).

The subject that teaches and learns in undergraduate education classes is preferred. But because of some reasons, the students who not attend the class couldn't achieve the targeted knowledge and skills in the learning environments. In order to fill the deficiency, instructors think that make-up exam to students but instructors have lack of time because of scientific work and intensity, so it makes this impossible. In this way, with good learning environment attainable expectations must be gained to students. In this study, the senior expectations of reading textbooks and writing can't be reached the desired level has emerged. This shows that students unable to obtain the encouragement about reading and writing. In learning environment, it's difficult to be deal separately with gender and different culture and this leads to trouble because of lack of sufficient time to eliminate it. As a result, to create a good learning environment and to make students more effective the relationship between inter disciplines improved as well as reading textbooks, writing, teaching and learning different teaching methods and alternative evaluation tools to be used effectively. So, it's very important to get rid of instructors' burden courses. In addition, students should be encouraged in accordance with the principles mentioned above. Also, the data obtained from this study indicate that these were consistent with Gamson(1995), Cordell (2011), Barget (2004) and Stipek (2006), inconsistent with data in Shery (2003), Berger & Millem (1999) and Treslan (2006) study.

References

Alderman, R. V. (2008). Faculty and student out-of-classroom interaction: Student perceptions of quality of interaction. Doctoral Dissertion, Texas A&M University.

Annet, J. (2009). A survey of the knowledge of result in learning. In J. P. Dececco (ed) (23-40) Educational Technology. New York: Holt Reinhart and Winston publishers Ltd.

Aspden, E., J., & Thorpe, L., P. (2009). Where do you learn?: Tweeting to inform learning space development. Educase Quarterly, 32 (1).

Astin, A. W. (1993). What matters in college: Four critical years revisited. San Francisco, CA: Jossey Bass.

Babcock, P., & Marks, M. (2010). Leisure college, USA: The decline in student study time. American Enterprise Institute for Public Policy Research, 7, 1-7.

Bangert, A. W. (2004). The seven principles of good practice: a framework for evaluating on-line teaching. İnternet and Higher Education, 7, 217-232.

Beard, K. L. S. (2008). An exploratory study of academic optimism and flow of elementary school teachers. Doctoral Dissertion, The Ohio State University.

Berger, J. B., & Milem, J. F. (1999). The role of student involvement and perceptions of integration in a causal model of student persistence. Research in Higher Education, 40 (6), 641-664.

Chickering, A.W., & Ehrmann, S. C. (1996). Implementing the seven principles: technology as lever. AAHE Bulletin, 49 (2), 3-6.

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. AAHE Bulletin, 39 (7), 3-7.

Chickering, A., & Gamson, Z. (Eds.). (1991). Applying the seven principles for good practice in undergraduate education. (47th ed.). San Francisco: Jossey-Bass.

Chickering, A. W., & Gamson, Z. (1999). Development and adaptations of the seven principles for good practice in undergraduate education. New Directions for Teaching and Learning, 80, 75-81.

Conceicao, S.C.O. (2007). Understanding the environment for online teaching. New Directions for Adult and Continuing Education, 113. 5-11.

Cooper, J., & Mueck, R. (1990). Student involvement in learning: Cooperative learning and college instruction, Journal on Excellence in College Teaching, 1, 68-76.

Cordell, R.C. (2011). A qualitative study of relationship building between alternative high school students and their teachers' candidate for doctor of education degree, University of Missouri-Kansas City.

Crosnoe, R., Johnson, M. K., & Elder Jr., G.H. (2004). Intergenerational bonding in school: The behavioral and contextual correlates of student-teacher relationships. Sociology of Education, 77, 60-81.

Ebrahim, A., (2012). The effect of cooperative learning strategies on elementary students ' science achievement and social skills in Kuwait, International Journal of Science and Mathematics Education, 10, 293 -314.

Gamson, Z.F. (1991). A brief history of the Seven Principles for Good Practice in Undergraduate Education. In A.W. Chickering & Z.F. Gamson (Eds.), Applying the Seven Principles for Good Practice in Undergraduate Education (pp. 5-12).

Gamson, Z.F. (1995). The seven principles for good practice in undergraduate education: A historical perspective. In S. R. Hatfield (Ed.), The seven principles in action: Improving undergraduate education (pp, 1-8), Bolton, MA: Anker.

Gardner, H. (1985). The frames of mind: Theory of multiple intelligences. New York: Basic Books.

Gary R. Armstrong G. R., Tucker, J.M and Massad, V.J. (2009). Interviewing the Experts: Student Produced Podcast. Journal of Information Technology Education Innovations in Practice, 8, 79-90.

Greenhow, C., Robelia, B., & Hughes, J. (2009). Web 2.0 and classroom research: What path should we take now? Educational Researcher, 38 (4), 246–259.

Gregory, A., & Weinstein, R. S. (2004). Connection and regulation at home and in school: Predicting growth in achievement for adolescents. Journal of Adolescent Research, 19, 405–427.

Hacker, D. J., & Niederhauser, D. S. (2000). Promoting deep and durable learning in an online classroom. New Directions for Teaching and Learning, 84, 53-63.

Henninger, E. A., & Hurlbert, J. M. (2006). Using the seven principles for good practice in undergraduate education: A framework for teaching cultural diversity in a management course. Journal of Business & Finance Librarianship, 12(2), 3-15.

Hsiung, C. (2012). The effectiveness of cooperative learning, Journal of Engineering Education, 101,1, 119-137.

Jamieson, K. (2009). Quenching a Thirst For Learning. New York Times, (0362-4331), p.7.

Johnson, D.W., Johnson, R.T., & Smith, K.A. (1991). Cooperative learning: Increasing college faculty instructional productivity, ASHE-ERIC Reports on Higher Education.

Johnson, S. M., & Kardos, S. M. (2002). Keeping new teachers in mind. Educational Leadership, 59 (6), 13–16.

Jonassen, D. H. (2003). Using cognitive tools to represent problems. Journal of Research on Technology in Education, 35(3), 362-381.

Kassens-Noor, E., (2012). Twitter as a teaching practice to enhance active and informal learning in higher education: The case of sustainable tweets, Active Learning in High Education, 13 (1), 9-21.

Kohl, H. (1994). 'I won't learn from you' and other thoughts on creative maladjustment. New York: The New Press.

Kuh, G. D. (2001, May/June). Assessing what really matters in student learning, Change, 10-17, 66.

Lewis J.S., & Harrison, M.A., (2012). Online delivery as a course adjunct promotes active learning and student success, Teaching of Psychology, 39 (1), 71-76.

Lim, E. L. & Moore, D. W. (2002). Problem solving in geometry: Comparing the effects of non-goal specific instruction and conventional worked examples, Educational Psychology, 22 (5), 591.

Lombardi, S.M. (2011). Internet Activities for a Preschool Technology Education Program Guided by Caregivers. Doctoral dissertation, North Carolina State University.

Marsh, H. W. (1982). Factors Affecting Students' Evaluations of the Same Course Taught by the Same Instructor on Different Occasions, American Educational Research Journal, 19 (4), 485-497.

Marsick, V. J., & Watkins, K. (1990). Informal and Incidental Learning in the Workplace. London and New York: Routledge.

McKinney, K. & Heyl, B.eds (2008). Sociology Through Active Learning. Thousand Oaks, CA: SAGE/ Pine Forge Press.

McVay, G.J., Murphy, P.R. & Yoon, S.W. (2008). Good practices in accounting education: Classroom configuration and technological tools for enhancing the learning environment, Accounting Education, 17(1), 41-63.

Mehan, H., Hubbard, L., & Villanueva, I. (1994). Forming academic identities: Accommodation without assimilation among involuntary minorities. Anthropology and Education Quarterly, 25 (2), 91-117.

Meyer, D. L. (2009). The Poverty of Constructivism. Educational Philosophy and Theory, 41 (3), 332–341.

Milshtein, A. (2003). Accommodating students‟ learning styles. College Planning & Management, 6 (3), 30-32.

Oche, E. S., (2012). Assessing the effect of prompt feedback as a motivational strategy on students' achievement in secondary school mathematics, Educational Research, 3 (4), 371-379.

Pahl, K. (2003). Artifacts, timescales and kinetic design: the semiotic affordances of popular culture in children´s home communicative practices. Keynote paper for the Children´s Literacy and Popular Culture ESRC seminar series.

Partlow, K. M., & Gibbs, W. J. (2003). Indicators of constructivist principles in internet based courses. Journal of Computing in Higher Education, 14 (2), 68-97.

Pickup, T. & Anthony, R.C. (2005). Feedback procedures in programme instruction. J. Educ. Psychol. 9 (1), 148-156.

Rochford, R.A. (2003). Assessing learning styles to improve the quality of performance of community college students in developmental writing programs: A pilot study. Community College Journal of Research and Practice, 27, 665-677.

Shea, P., Pickett, A.M., & Pelz, W. E. (2003). A follow-up investigation of "teaching presence" in the SUNY learning network. Journal of Asynchronous Learning Network, 7 (2), 61-80.

Sherry, J. L. (2003). Media effects theory and the nature/nurture debate: A historical overview and implications for future research. *Media Psychology*, 6 (1).

Shi, S., & Morrow, B. V. (2006). E-Conferencing for Instruction: What Works? Educause Quarterly, 29 (4), 42.

Stipek, D. (2006). Relationships matter. Educational Leadership, 64 (1), 46-4.

Svinicki, M. D. (1999). New Directions in Learning and Motivation. New Directions for Teaching and Learning, 80, 5-27.

Taraban, R., (2012). Time-on-Task: A pedagogical measure to assess differences in U.S. and Indian engineering curricula and outcomes, American Society for Engineering Education, www.asee.org/.../TOT_InternationalForum

Treslan, D. L.(2006). Transformational leadership in the classroom: Any evidence? Education Canada, 46 (2), 58-62.

Weinstein, R., Soule, C., Collins, F., Cone, J., Mehlorn, M., & Stimmonacchi, K. (1991). Expectations and high school change: Teacher-researcher collaboration to prevent school failure. American Journal of Community Psychology, 19, 333-363.

Wright, E. R., & Lawson, A. H. (2005). Computer mediated communication an student learning in large introductory sociology classes. Teaching Sociology, 33, 122-135.

Wilson, M.E. (2004). Teaching, learning and millennial students, New Directions for Student Services, 106. Pages copied: 59-71.

Yesilyurt, E. (2010). Evaluation of the Suitability of Teacher Candidates' Qualities to Cooperative Learning Method, Dicle University Journal of Ziya Gökalp Faculty of Education, 14, 25-37.

Yang, B., & Lu, D. R. (2001). Predicting academic performance in management education: An empirical investigation of MBA success, Journal of Education for Business, (0883-2323).

Young, S. & Shaw, D. G. (1999). Profiles of Effective College and University Teachers, The Journal of Higher Education, 70, 6, 670-686.

Appendix A

Items of Principle 1: Encouraging student faculty contact	**Item Code**
a. I advise my students about career opportunities in their major field.	IA_1
b. Students drop by my office just to visit.	IB_1
c. I share my past experience, attitudes, and values with students.	IC_1
d. I attend events sponsored by student groups.	ID_1
e. I work with student affairs staff on issues related to students.	IE_1
f. I know my students by name by the end of the first two weeks of the term.	IF_1
g. I make special efforts to be available to students of a race or culture different from my own.	IG_1
h. I serve as mentor or informal advisor to students.	IH_1
i. I take students to professional meetings or other events in my field.	II_1
j. Whenever there is a conflict on campus involving students, I try to help resolve.	IJ_1
Items of Principle 2: Encouraging cooperation among students	**Item Code**
a. I ask students to tell each other about their interests and backgrounds.	IA_2
b. I encourage my students to prepare together for classes or exams.	IB_2
c. I encourage students to do projects together.	IC_2
d. I ask my students to evaluate each other's work.	ID_2
e. I ask my students to explain difficult ideas to each other.	IE_2
f. I encourage my students to praise each other for their accomplishments.	IF_2
g. I ask my students to discuss key concepts with other students whose viewpoints are different from their own.	IG_2
h. I create "learning communities," study groups, or project teams	IH_2
i. I encourage students to join at least one campus organization.	II_2
j. I distribute performance criteria to students so that each person's grade is independent of others.	IJ_2
Items of Principle 3: Encouraging active learning	**Item Code**
a. I ask my students to present their work.	IA_3
b. I ask my students to summarize similarities and differences among research findings.	IB_3
c. I ask my students to relate outside events or activities to the course.	IC_3
d. I ask my students to undertake research or independent study.	ID_3
e. I encourage students to challenge ideas.	IE_3
f. I give my students concrete, real-life situations to analyze.	IF_3
g. I use simulations, roleplaying, or labs in my classes.	IG_3
h. I encourage my students to suggest new readings, research projects, field trips, or other course activities.	IH_3
i. My students and I arrange field trips, volunteer activities, or internships related to the course.	II_3
j. I carry out research projects with my students	IJ_3
Items of Principle 4: Giving prompt feedback	**Item Code**
a. I give quizzes and homework assignments.	IA_4
b. I prepare classroom exercises and problems which give students immediate feedback on how well they do	IB_4
c. I return examinations and papers within a week.	IC_4
d. I give students detailed evaluations of their work early in the term.	ID_4
e. I ask my students to schedule conferences with me to discuss their progress.	IE_4
f. I give my students written comments on their strengths and weaknesses on exams and papers.	IF_4
g. I give my students a pre-test at the beginning of each course.	IG_4
h. I ask students to keep logs or records of their progress.	IH_4
i. I discuss the results of the final examination with my students at the end of the semester.	II_4
j. I call or write a note to students who miss class.	IJ_4
Items of Principle 5: Emphasizing time on task	**Item Code**
a. I expect my students to complete their assignments promptly.	IA_5
b. I clearly communicate to my students the amount of time they should spend preparing for classes	IB_5
c. I make clear to my students the time that is required to understand complex material.	IC_5
d. I help students set challenging goals.	ID_5
e. When oral reports or class presentations are called for I encourage students to rehearse.	IE_5
f. I underscore the importance of regular work, steady application, and scheduling	IF_5
g. I explain to my students the consequences of nonattendance.	IG_5
h. I make it clear that fulltime study is a full-time job.	IH_5

i. I meet with students who fall behind to discuss their study habits.	II_5
j. If students miss classes, I require them to make up work.	IJ_5
Items of Principle 6: Communicating high expectations	**Item Code**
a. I tell students that I expect hard work.	IA_6
b. I emphasize the importance of holding high standards.	IB_6
c. I make clear my expectations orally and in writing for each course.	IC_6
d. I help students set challenging goals for learning.	ID_6
e. I explain to students what will happen if they do not complete their work on time.	IE_6
f. I suggest extra reading or writing	IF_6
g. I encourage students to write a lot.	IG_6
h. I publicly call attention to excellent performance.	IH_6
i. I revise my courses	II_6
j. I periodically discuss how well we are doing.	IJ_6
Items of Principle 7: **Respecting diverse talents/ways of learning**	**Item Code**
a.I encourage students to speak up when they don't understand	IA_7
b. I discourage stride remarks and class behaviors that may embarrass students.	IB_7
c. I use diverse teaching activities	IC_7
d. I select reading and activities related to student background	ID_7
e. I provide extra material for students who lack essential skills	IE_7
f. I integrate new knowledge about underrepresented populations.	IF_7
g. I make explicit provisions for students who wish to carry out independent studies	IG_7
h. I have developed mastery learning, learning contracts, or computer assisted learning.	IH_7
i. I encourage my students to design their own majors	II_7
j. I try to find out about my students‟ learning styles, interests, or backgrounds	IJ_7