Increasing Effectiveness of Strategic Planning Seminars Through Learning Style

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Abstract: This research tests the effectiveness of taking learning style variables from the Kolb learning model in designing strategic planning seminars. We observe in our research that the participants in the seminar – school principals – positively judge the effectiveness of the seminar. The research also tests the seminar's effectiveness in terms of the appropriateness of the schools' strategic plans. The research finds that the plans are largely successful. The findings indicate that the effectiveness of in-service training seminars increases when the learning styles of the participants are taken into account when planning the seminars.

Introduction

Individuals gain knowledge, or learn and understand, in different ways. These differences depend on many factors, including who we are, where we are, how we see ourselves, what we notice, and what other people demand and expect from us. There are two important differences about how we learn and understand, or how we acquire knowledge. The first of these differences is how we perceive information. The second difference is how we process information. Each of us perceives reality differently, and situates information in our mind using different methods. Some of us recognize reality by feeling, some by watching, some by thinking, and others by doing (McCarthy, 1987; 1990: 31).

Beyond our individual knowledge acquisition styles, two important tasks underlie the development of successful directors. These tasks are the development of the organization and of the individual. First, in developing the administration, the purpose is to promote the growth of the organization, its ability to stand on its own feet, and its healthy performance. Second, in developing the administrator, the aim is to promote the development of the individual, and to ensure that the individual carries out their responsibilities healthfully and successfully (Drucker, 1994: 308). Directors must acquire the skills necessary to enact change within the administration, and also in education, through in-service training activities.

In-service training includes all types of educational activities to improve the vocational knowledge and competencies of teachers, for the purposes of enhancing their performance and productivity throughout their professional life. In Turkey, in-service training is performed in accordance with the directives based on the 214th clause of Civil Servants Law No. 657, National Education Fundamental Law No. 1739, and the Law on Organization and Duties of the Ministry of National Education No. 3797 (National Education Fundamental Law, 1973).

In-service training programs in Turkey are generally not considered to be successful. As Yalin concludes in his (2001) research on this issue, conducted to determine the effectiveness of in-service training programs, these programs, as they are implemented in Turkey, are insufficient both in terms of quantity and content, and they generally do not meet the requirements of teachers.

Yildirim, Yazici, and Bekoz (2009) also find there are problems in methodology and technique in their assessment of in-service trainings from 450 cases of education personnel(teachers and principals), dissatisfied with their training. When analyzing the suggestions of the teachers about the seminars, the authors find that the seminars should be institutionalized, and that the participants would prefer active participatory methods and techniques. In similar research, Ozdemir (2003) finds that in-service training activities are not performed as desired, either in terms of quantity and quality (Ozdemir, 2003; 450).

Individuals' knowledge of their own learning style helps them to be effective problem solvers. The problems that an individual faces in life, or in the practice of his/her profession, generally include the following stages: defining the problem, selecting the problem to be solved, generating different solution methods, evaluating possible consequences, and executing the solution (Fidan, 1986: 195-197).

Understanding one's own preferred learning style has two benefits. It helps improve our own understanding of our areas of weakness, and thus gives us the opportunity to work on becoming more proficient in the other areas, therefore also helping us to realize our strengths. These benefits also might be useful in certain situations in society, such as deciding on a career (Kelly, 1997).

We cannot underestimate Kolb's contributions to this area. Despite its limitations, by presenting a model of experiential learning in scientific form, Kolb has helped move the locus of educational thought from the instructor back to the learner. As many of the major contributors to the field have pointed out, experiential learning has once again become a viable topic of discussion (Brookfield, 1990; Cross, 1981; Jarvis, 1995; Kemp, 1996; Knowles, 1990; McKeachie, 1994; and Peters, 1991,translation by Kelly, 1997).

According to Kayes (2005: 250), every one of Kolb's four learning styles, including assimilation, accommodation, divergence, and convergence, is a description of the characteristics of how individuals learn. **Divergence** describes individuals who learn through creating, generating new ideas and imagining possibilities. **Assimilation** describes individuals who like to choose and learn from multiple sources of information, and prefer organizing logic and systematic information. **Convergence** describes individuals who like to learn through solving practical problems, making decisions, and interacting with problems. Finally, **accommodation** describes individuals who like to learn through undertaking actions, risks and leadership roles. According to Erden, (2006: 22-23) the dimensions of these learning styles are five-fold. These dimensions include how individuals prefer to perceive and process information, and how they prefer to obtain information. They also include individuals' congenital personality characteristics, skills of students, and the studying conditions preferred by individuals

Literature Review

Scholars have introduced various approaches to the classification of learning styles. These approaches stem from different characteristics of the individual regarding the learning process. Each one of these various approaches to learning styles have contributed resources to the next learning style approach. Therefore, in our survey of the literature, we identify the approaches to learning style that have guided studies and benefitted much of the research in this area. The following models are based on these approaches and can be ordered as follows:

- Dunn and Dunn's Model of Learning Styles (1974)
- Grasha and Riechmann's Classification of Learning Styles (1975)
- Kolb's Model of Learning Styles (1976)

- Reinert's Classification of Learning Styles (1976)
- Jung's Theory of Learning Types (1977)
- Gregorc's Classification of Learning Styles (1982)
- Honey and Mumford's Learning Preferences (1986) (Guven, 2004: 19)

Kolb's Learning Model, the learning model used in this research, was developed and tested by David A. Kolb in 1985. The model was later adapted by Askar and Akkoyunlu (1993) who performed a reliability test of the model and translated it into Turkish. Kolb later designed the Learning Style Inventory (LSI) in 1976 to evaluate the learning orientation of individuals. Later, in 1985, the inventory was reorganized and redeveloped in light of the psychometric criticisms it received. The LSI was redesigned with the aim of experimentally evaluating skills of individuals in learning process. The Inventory was further redeveloped in 1996.

Loo (2004: 100)described the Kolb learning styles as follows. First, diverging individuals are persons who best observe tangible situations from many different perspectives. Second, assimilating individuals are persons who understand best through dividing comprehensive information into logical and proper forms. Third, converging individuals are persons who best discover through the practical use of ideas and theories.Finally, accommodating individuals are persons who learn best through instinct, feeling, and available experience, rather than logic or analysis.

According to Desmedt and other scholars, (2004: 49), Kolb's perspective on learning style implies that every learning environment, academic discipline, or academic area have different specific demands on learners. Furthermore, different disciplines depend on different learning styles, and those different styles have different learning requirements. While individuals with converging learning styles especially tend toward professions in engineering fields, individuals with assimilating learning styles choose professions that fall under natural sciences and mathematics. These areas include social professions such as education and law.

Crow (2000: 15) matches Kolb's learning styles with teaching techniques that best suit to each group. The matching is provided below in Table 1.

Learning Style	The Best Teaching Techniques
Accommodating	Graphing, Oriented interpretation, Examples, Expert in classroom, Films, Portfolio, Reading texts, Role playing, Analogy, Study guidance, Speaking loudly, Three stage study group, Consecutive performance.
Assimilating	Collaborative learning, Conference, Complete learning, Recalling technique, One minute studies, Intermittent discussion, Projects, Proofs-Theories, Study guidance, Term projects, Hypotheses, Assumptions.
Converging	Case studies, Collaboration / internship, Fieldwork, Homework problems, Process following, Laboratory work, Similar environment.
Diverging	Caricature, Four square, Group discussion, In-class presentations, Diaries (newspaper), Posters, Panel discussions, Student-teacher discussion.

Table 1. Comparison of Learning Styles and Teaching Techniques (Crow, 2000: 15-16)

The evaluation of the learning style of individuals is essential for the teaching-learning process (Hein and Budny, 2000). It is possible to use information obtained through the determination of students' different learning styles to instruct educators about how to develop a method for identifying learning style in an adult learning-teaching environment (Akkoyunlu, 1995). According to Babadogan (2000), if it is possible to know individuals' learning styles, it is easier to understand how individuals learn and therefore, which type of education design to choose. Therefore, with this knowledge, teachers can create proper teaching environments,

first for themselves, and then for their students. Second, if learning styles of the individuals are known then it will also be easier to know which teaching strategies, teaching methods and techniques, and essential teaching materials should be chosen. These choices allow for the design of education to be in accordance with the interests of students (Peker, 2003: 185).

Mutlu's (2003) research on science teaching based on learning style aims to determine sixth grade science education's level of accordance with learning styles. The author considers Kolb's (1985) LSI norms in the determination of students' learning styles. Statistical analyses produced two findings; first, science teachers do not excessively consider learning styles of the students, and second, students who participated in the research are mostly in second type, or analytic learners.

Ekici's (2001) doctoral thesis analyzes biology education based on learning style to determine whether the teaching of biology courses in high schools is performed in accordance with learning styles of students or not. The author's research indicates that biology teachers mostly use Abstract Consecutive Learning Style-oriented teaching approaches at the first level thinking stage, Concrete Consecutive-oriented teaching approaches at the second level thinking stage, and Abstract Consecutive Learning Style-oriented teaching approaches at the third level thinking stage.

Basibuyuk (2004) uses an adaptation of the aforementioned Kolb learning style inventory (LSI)by Askar and Akkoyunlu (1993)to perform an applicability study of the LSI in research on learning styles for mathematics teachers, or the McCarthy Model. The research determines the learning styles of candidate teachers. More than half of the candidate teachers are second type learners, approximately one-third are third type learners, and very small portion are fourth type learners.

Theoretical Framework

The research performed for the study reported in this paper includes the design and implementation of an in-service training seminar according to the Kolb Learning Model. The seminar's aim is to teach school principals to prepare strategic plans through providing schools with strategic management practice. The Kolb Learning Model used in the study is as follows (Askar and Akkoyunlu, 1993):

Concrete Experience

(*Learning by feeling*)

Accommodating (acclimatizing)   **Diverging**

Active Experimentation   Reflective Observation

(*Learning by doing*)   (*Learning by Watching*)

Converging   **Assimilating**

Abstract Conceptualization
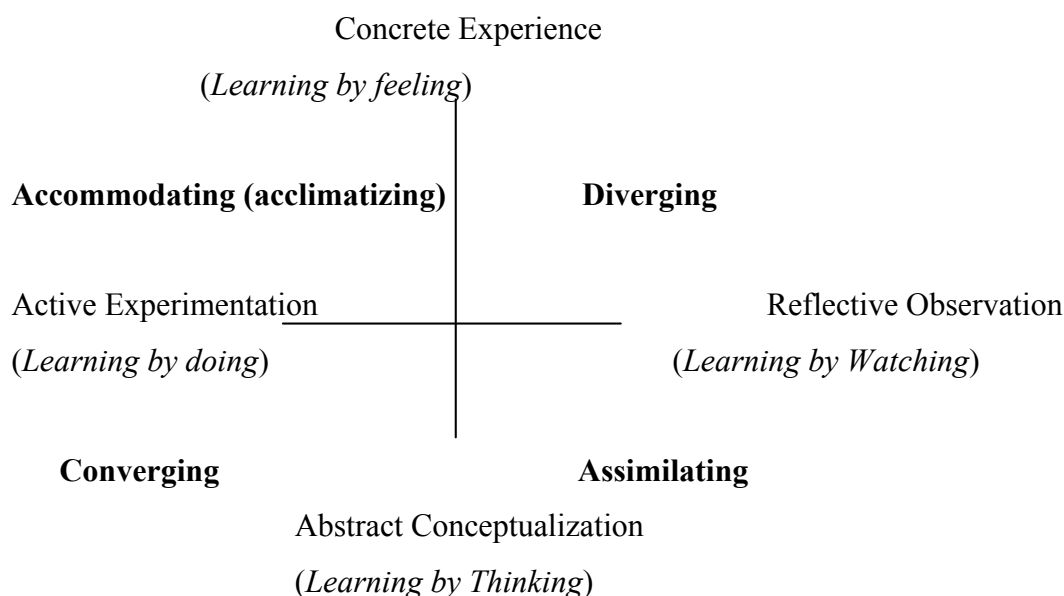
(*Learning by Thinking*)

Figure 1. Kolb Learning Model

In Kolb's learning model, individuals' learning styles have a cyclical form. Scholars utilize the LSI to determine where individuals are currently located within this cycle. Kolb developed the LSI (Figure 1) through analysis of how individuals approach events, phenomena, and ideas, and what type of methods they use to solve the problems they face in their daily lives. Kolb explains individuals learning through four separate preference points located at the ends of the two axes. The individuals located at the top point of the vertical axis trust in their personal senses rather than having a systematic, or logical approach, which is dominant for those located on the other side of this axis. These individuals prefer to abstract objects and events logically, rather than to relate objects and events with themselves (Ozden, 1999: 76-77).

Kolb's original model was a cyclical process composed of four steps, including concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE) (Katz and Heimann, 1991: 240; Sutliff and Baldwin, 2001: 22). The paths taken for learning in each learning style were each different from the others. These paths were, respectively, learning by *"feeling"* for concrete experience, learning by *"watching"* for reflective observation, learning by *"thinking"* for abstract conceptualization, and learning by *"doing"* for active experimentation (Askar and Akkoyunlu, 1993).

In the seminar conducted for the study reported in this paper, a practical training was designed based on the results of doctoral research conducted by Yildirim (2007). Yildirim's (2007) research on learning styles of school principals found that the dominant learning style of the principals was first **"accommodating (acclimatizing),"** and second, **"converging"**. The learning path preferred by individuals with tendencies toward both accommodating and converging learning styles was learning by **"doing"**. Based on the results of the researcher's previous study, the current study prepared, held, and analyzed an in-service training seminar on strategic planning for school principals.

Table 2 shows the characteristics of individuals with convergence and accommodation learning styles as proposed by Tennant (1996 translation by Smith, 2001**).**

Learning style	Learning characteristics	Description
Convergence	Abstract conceptualization + active experimentation	· Strong in practical application of ideas
		· Able to hypo-deductively reasonfor specific problems
		· Un-emotional
		· Interests are limited
Accommodation	Concrete experience + active experimentation	· Greatest strength is doing things
		·Prefers to take risks
		· Performs well when reacting to immediate circumstances
		· Solves problems using intuition

Table 2.The characteristics of individuals with convergence and accommodation learning styles. (Source: Kolb and Fry on learning styles in Tennant 1996)

Before the seminar, research took place to determine the learning styles of the participants. Accommodation (acclimatization) and convergence were the dominant learning styles. As shown in Table 1, according to Crow's (2000) interpretation of the Kolb learning

model, the learning styles appropriate for those with accommodating and converging learning styles are through doing group work, building similar environments, and cooperation. Thus, the individuals will learn both "by doing" themselves and by feeling.

For the seminar, learning paths for "doing" and "feeling" were prepared and implemented according to the learning styles of the participants. The six hour-long seminar program was designed accordingly and is shown in Table 3.

Implementation number	Course Hour	Activity to be performed	Learning path
1	1	Conceptual presentation	Watching, thinking
	2	Formation of groups and practicing	Doing, experiencing
2	3	implementation	Doing, experiencing
	4	Implementation	Doing, experiencing
	5	Presentations	Feeling
3	6	Evaluation	Feeling

Table 3: Seminar program design based on Kolb's learning model

As seen above, because the dominant learning styles of school principals and the participants were accommodation and convergence, conceptual presentation was limited to one hour (Yildirim, 2007). The effective learning paths for accommodation and convergence learning styles are learning by "doing" and learning by "feeling". For this reason, the seminar included three hours of group work. We reserved the last two hours of the seminar for presentations and evaluations to enable the participants to learn by "feeling" the study they have performed.

Research Design

This section of the paper details the implementation of the seminar program, the questions that the seminar sought answers to, the method of the study, how data was gathered and analyzed, and the findings of the research.

Seminar Format

The format of the seminar had several major points of implementation. Before the seminar, we required participant schools to complete a Strengths, Weaknesses, Opportunities, and Threats, or SWOT analysis, in their preliminary preparations. Hence, the participants gained experience with SWOT, or status analysis, one of the fundamentals of strategic planning. Second, we gave basic information about the in-service training directive for education professionals in a short time period. Next, in the active learning portion of the seminar, we utilized social, or colleague, learning, cooperative learning methods, and brainstorming techniques. We divided participating school principals into similar groups with respect to their schools. For example, principals from the same residential area were included in the same group.

We provided these groups with brief information about mission, fundamental values, and the vision establishment process. We collected examples of these parts of the strategic planning process as well. The groups combined the SWOT analyses of their own schools, and then presented it to other groups as a single analysis. The groups discussed the SWOT analyses shared missing viewpoints and opinions. After the SWOT analysis, we requested that the groups define their priorities for the next 5 years. While defining priorities the groups

were asked to pay attention the following points: "How can I maintain my strengths? How can I make my weaknesses less strong? How can I benefit from my opportunities? What kind of precautions can I take against my threats?"

The groups then shared their priorities with other groups. Next, we gave examples of the transformation of these priorities into goals, and of the goals into targets. We also explained the process of budgeting and establishing performance criteria. The groups presented similar priorities after conducting strategic planning in five steps, including goals, targets, implementation steps, performance criteria, and budgeting. Finally, all of the groups listened to the strategic plans prepared and presented by other groups, and indicated any points they thought were missing, or gave their opinions. The groups collectively transformed their prepared plans into tables and evaluated the group seminar.

Questions Answered in the Seminar

To assess the effectiveness of in-service training seminar, which was prepared and implemented based on Kolb learning styles, answers to the following questions were sought.

- Considering the conducted study, how did the seminar participants judge the effectiveness levels of the design of the seminar?
- Were the schools' strategic plans, prepared by seminar participants after the seminar, and delivered to Tokat National Education Directorate, successful in terms of strategic planning? In order to answer this question, the following sections are evaluated:
    a) Analysis of current status (SWOT);
    b) Mission, Vision;
    c) Strategic goals;
    d) Targets that will lead to the strategic goals;
    e) Implementation steps;
    f) Budgeting;
    g) Performance criteria.

Methodology of the Study

The methodology of this study was action research. Action research is a social situation study aimed at improving the quality of actions within that social situation (Eliot, 1991, translation by Aksoy, 2003; 477). The target population of the study was composed of 216 education professionals who participated in an in-service training on strategic planning.

Data Gathering and Analysis

In order to evaluate the success of the seminar, we prepared a questionnaire. We asked questions based on a 5-pointLikert Scale, such as "What level do you consider the effectiveness of the seminar program designed and implemented in accordance with Kolb learning model?" Answers given to the questions by the participants were on a scale from very good to very bad, including: Very good (5), Good (4), Medium (3), Bad (2), and Very bad (1).

The questionnaire distributed and completed by the participants after the seminar. We analyzed and interpreted the data from the questionnaire using the statistical SPSS 11.00 program. We assessed the effectiveness level of the seminar using arithmetic average and

percentage calculations. We also included open-ended questions in the questionnaire and requested the opinions of the participants about the seminar. We analyzed the opinions of the participants using the qualitative technique document analysis.

We gathered expert opinions regarding the prepared questionnaire from eight academicians at the Gaziosmanpasa University who work in the area of education sciences. Four of these eight academicians also work on learning styles. The questionnaire was initially prepared with 12 questions, and then reduced to 10 questions after considering the views of the experts. We calculated the reliability coefficient, or Cronbach's alpha, of the questionnaire to be .88. This result indicates that the questionnaire is reliable.

Moreover, to assess whether the seminar achieved its goal or not, we analyzed the strategic plans prepared by the participants' schools using content analysis. The details of the population of schools' strategic plans are shown in the table below.

Schools	n
Multi-grade class (1-5) Elementary Schools	60
Single grade class (1-8) Elementary Schools	124
Secondary education institutions	32
Total	216

Table 4. The schools' strategic plans

168 of the 216 schools that prepared strategic plans for their schools and delivered it to Tokat National Education Directorate were elementary schools, and 32 were secondary schools.

In the three months following participation in the seminar, the participants of the seminar prepared strategic plans. If the strategic planning-themed seminar program, prepared and exercised in accordance with the Kolb learning model, was successful, then the plans should have been of high quality. To assess the quality of the strategic plans after the seminar, we interviewed six experts, including academicians and practitioners of strategic planning, and established a set of compliance criteria. The experts established compliance criteria in the following areas: Analysis of the current status (SWOT); Mission, and Vision; Strategic objectives; Goals that will lead to achieving strategic objectives; Implementation steps; Budgeting; and Performance measures. The experts analyzed the plans together assessed their quality. The findings of this research are detailed in the following section.

Findings and Results

First, we analyzed the effectiveness levels of each of the steps implemented in the seminar according to the participants. The table below shows how the participants rated each of these steps on the Likert 5-point scale, with a rating of 1 being very bad, and rating of 5 being very good.

Implementation steps n=248		1	%	2	%	3	%	4	%	5	%	x	
						Effectiveness Level of the Seminar							
1	General information about the directive	5	2	2	.8	46	18.5	83	33.5	112	45.2	4.18	.90
2	Strategic planning examples	-	-	4	1.6	6	2.4	55	22.2	183	73.8	4.68	.60
3	Presentation format of planning steps	-	-	1	.4	7	2.8	49	19.8	191	77.	4.54	.72
4	Formation of groups	2	.8	2	.8	17	6.9	64	25.8	163	65.7	4.54	.72
5	Application of SWOT analysis	-	-	-	-	6	2.4	53	21.4	189	76.2	4.73	.49
6	Determination of priorities in planning	-	-	2	.8	8	3.2	75	30.2	163	65.7	4.60	.59
7	Determination of strategic goals	-	-	-	-	10	4.0	76	30.6	162	65.3	4.61	.56
8	Transformation of goals to targets	-	-	1	.4	11	4.4	70	28.2	166	66.9	4.61	.56
9	Determination of measurement criteria	-	-	2	.8	12	4.8	77	31	157	63.3	4.56	.62
10	Tabulation of the plan	-	-	-	-	6	2.4	56	22.6	186	75	4.72	.49
	Total											4.60	.41

Table 5. Effectiveness level on Likert 5-point scale of steps implemented in the seminar according to the seminars' participants

We found that the participants rated the seminar as effective at a level of "**very good**" (x=4.60) level. When we analyzed the different steps of the seminar separately, we found that the participants assess the step 'the information about directive' as the least effective, at the level of "**good**" (4.18). The participants rated all of the other steps effective at "**very good**" level. This finding could be explained by configuration of the study program according to the participants' learning styles.

We also prepared an open-ended question in the questionnaire for the participants to give their opinions about our study. The participants' opinions are given below in their own words as positive, neutral, or negative comments.

Positive Comments
- *A constructive study*
- *All education professionals should be provided with these kinds of seminars*
- *A very useful study*
- *It has been a productive and effective seminar*
- *Realization of practice has increased memorability and effectiveness*
- *It has been incisive and beneficial*
- *It was ultimately excellent*
- *I will be able to easily prepare strategic plans of my school*
- *It has been the most effective seminar I have attended since I became a teacher*
- *After this seminar I can also prepare strategic plans of myself and my family*
- *Other seminars should also be performed similar to this one*
- *The seminar conducted with reciprocal communication has been very successful*
- *The seminar turned into an enjoyable learning environment*

- *I have not benefited from any meeting this much*
- *It was exemplary that the timing given at the beginning of the meeting was realized"*
- *It has been useful to be in reciprocal interaction*

Neutral Comments

- *Practical training has not been boring*
- *It has been a training in which participants were active*
- *It was nice that it was practice-oriented rather than presentation-oriented*
- *I believe that I learned planning by doing it*
- *It has been instructive that it was practice-oriented rather than theory-oriented*
- *Conducting brainstorming as a group has commingled richness of ideas*

Negative Comments

- *Group formation could have been done more carefully*
- *I could not find a chance to sleep*
- *The time was not sufficient*

The analysis of the participants' opinions is, on balance, extremely positive. The comments are constructive and show that the participants were extremely satisfied. We find that our seminar program, the design and execution of which is based on Kolb learning model, has an important contribution in terms of learning strategic planning.

Next, we present our findings on the quality of the participants' schools' strategic plans. The participants prepared these plans after the seminar, and delivered them to the Tokat National Education Directorate. We assessed the plans with the following criteria:

- The quality of the schools' SWOT analysis is better where strengths and weaknesses are expressed in situations within the boundaries of the school, and where opportunities and threats are expressed in situations outside the boundaries of the school;
- The schools' missions should be expressed as the reason the school exists;
- The schools' visions should be expressed as an imaginable future;
- The schools' strategic goals should be defined in line with school priorities and its SWOT analysis;
- The schools' strategic targets should be expressed as concrete stepsleading to goals;
- The schools' implementation steps should be expressed as the actions that will help to achieve the goals. The implementation should be rearranged according to the schools' own conditions.
- The schools' budgeting processes should be realistic and a true indication of their resources;
- The schools' performance criteria should objectively measure the achievement of goals.

We categorized the strategic plans to be delivered to the Tokat National Education Directorate in terms of school types. The findings are given below:

Strategic planning steps	Multi grade class (1-5) elementary schools. Number of appropriate schools (N=60)	Appropriateness %	Elementary schools (1-8) Number of appropriate schools (N=124)	Appropriateness %	Secondary school Number of appropriate e schools (N=32)	Appropriateness %
Analysis of current status (SWOT)	34	56	82	66	24	75
Mission,	35	58	85	68	25	78
Vision	32	53	65	52	27	84
Strategic goals	40	66	77	62	21	65
Strategic targets	38	63	71	57	20	62
Implementation steps	32	53	67	54	20	62
Budgeting	20	33	38	30	16	50
Performance Criteria	15	25	28	22	13	40
Total Average		58		59		73
Grand Average					58+59+73/3= 63	

Table 6.Qualitylevel of strategic plan components delivered by the schools

The analysis of Table 6 shows the percentage of strategic plan sections that are of high quality, or that meet the aforementioned criteria for high quality. The results show that:

- 63% of the schools' strategic plans were of high quality when judged according to the criteria for high quality in the different steps of the strategic planning process;
- Over 50% of the participants learned how to conduct SWOT analysis, how to determine mission and vision statements, how to set strategic goals, targets, and implementation steps, and how to prepare a strategic plan;
- Each of the three school types had specific problems with creating budgeting and performance criteria. These subjects are less successfully learned than the others. This finding could be explained by administrators' level of technical qualification, and by the fact that budgeting and performance criteria are more technical subjects;
- Secondary schools produced higher quality strategic plans than elementary schools. We may be able to explain this finding through further investigation of the background of secondary schools and their obligation to prepare strategic plans.

Conclusion

According to the participants of the seminar, overall, the in-service training on strategic planning was highly effective. The analysis of the effectiveness levels of the implementation steps showed that participants rated the "information about directives" step at the "**good**" level, while they rated all other steps as effective at "**very good**" level. In the analysis of participants' opinions, we found that the seminar was overwhelmingly considered to be positive and overall, the participants were extremely satisfied. Hence, we conclude that the seminar program design and implementation, based on the Kolb learning model, has made an important contribution towards learning effective strategic planning.

The participants' views show that in the design of a seminar program for individuals with accommodating and converging learning styles, an effective seminar may be organized with three major parts. First, the seminar should begin with an introduction in the form of a short conceptual presentation. Second, the participants can be divided into groups, and the groups should perform an application together. Finally, the participants should present their application in front of the other groups, allowing for discussion by all of the groups. This organization is effective in both making the participants happy, and achieving the goals of the seminar.

According to these results, we suggest that the following steps are included in the in-service seminar programs based on the Kolb learning model. First, researchers must determine the learning styles of the participants. Second, researchers must determine which learning techniques to apply according to the determined learning styles. For example, in this research, individuals were found to have accommodating and converging learning styles, and thus successful learning techniques included group work, building similar environments, cooperation, and more. Through these learning techniques, individuals both "do" and "feel."Finally, researchers must continually evaluate the success of the learning techniques based on the determined learning styles.

Suggestions for further research include the consideration of individuals' learning styles in the design of in-service training programs, the comparison of different test groups of individuals participating in in-service training workshops designed according to the Kolb learning model, and the application and testing of programs designed for training teachers according to the Kolb learning model.

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