



A Qualitative Study that the Effect of Scamper Technique on Concept Learning Is Analyzed: Ege University Example

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Abstract

Education regarded as the process that an individual engenders any terminal changes in his/her behaviours by his/her experiences and purposively comprises about a span of 16 years in an individual's life including undergraduate study in Turkey. It is seen that learning some terms and concepts aren't still able to be provided in either theory or application although education and training that individual receives during this period, and the undergraduate study in the field that individual aims at end. The main reason of this is that as a result of the traditional teaching method the terms and themes that the individual learns are learnt theoretically but can't be used in practice or the inability to individualize the required codes to transmit knowledge from short term memory to long term one and to not use actively. In this study measuring SCAMPER [Oriented Brain Storming] technic's effect which is thought to be helpful on the individualization of the knowledge with abstract, complex or foreign terms parts after cognitive process and making them permanent have been aimed. In accordance with this purpose the population of the study is composed of Ege University and the sample is of the 4 Class students of Department of Midwifery in İzmir Atatürk Vocational Health School. The sample group who is on the verge of finalizing their bachelor degree has been asked what the term they had difficulty in learning during their bachelor education and the frequency and percentage distribution with SCAMPER technic has been evaluated. Then this term is identified by analysis as DIC. The sample has been determined randomly by having been separated into test and control group and groups were asked what they remember about DIC and their readiness were determined accordingly. Before the application began DIC phases were explained to both groups besides test group was given information about SCAMPER technic. After the application control and test group have been asked what they have learnt and test group has been also asked to do the application on how they can pass through cognitive process with SCAMPER technic. The data obtained has been subjected to content analysis with qualitative analysis method. As a result of the analysis of data; among the students of control group level of knowledge on DIC with traditional teaching method has been observed to increase while among the students of test group it has been observed that students learn the most difficult term better with SCAMPER technic which helps knowledge to be individualized and passed through the cognitive process and at that process by organizing the necessary regulations [unification, adaptation, alteration, using with different purpose, annihilating and rearranging] and letting them to learn the most difficult term better.

1. Introduction

Besides being a user-friendly and funny brain storming technic which can be used to improve the creativity and creative thinking skills of students Scamper [Yağcı 2012) means ``fast short step running`` in English [Longman 2015] and an acrostic formed with first letter of SCAMPER, S: Substitute, C: Combine, A: Adapt, M: Modify, Minify, Magnify, P: Put the other uses, E: Eliminate ve R: Reverse, Rearrange and can be applied in all levels starting from pre-school times [İslim 2011].

2. Importance of the study:

Including bachelor education an individual's life in Turkey covers a period of approximately 16 years. This results in time, although the individual's bachelor education of finish to learn some of the terms and concepts are seen still not achieved. Because of this reason, thinking that students have to learn better and can apply this knowledge by individualizing during their life different methods and technics have been used and the technic called SCAMPER has been applied on the most difficult learnt term and to determine how successful it is on teaching while teaching students.



3. Method

The study is a qualitative study and data has been evaluated with content analysis. The population of the study is composed of Ege University and the sample is of the 4th Class students of Department of Midwifery in İzmir Atatürk Vocational Health School. The sample group who is on the verge of finalizing their bachelor degree has been asked what the term they had difficulty in learning during their bachelor education and has been evaluated by looking into the frequency and percentage distribution (82%) and this term is identified by analysis as DIC. The sample has been determined randomly by having been separated into test (26) and control group (26) and groups were asked what they remember about DIC and their readiness has been determined accordingly. After both group have been asked if they have any information about SCAMPER and again by looking into the frequency percentage it has been found that their knowledge is not enough and this one is not a method applied before. For students assigned objectively, in test group teaching with SCAMPER technic and in the control group traditional teaching have been done and students have been asked what they have learnt about DIC after the class and codes have been formed with the received answers then the frequency and percentage of them have been calculated as the sub-category of them.

4. Findings

Table 4.1. The frequency and percentage of the answer of the undergraduates forming experimental and control group to the question what teaching methods and techniques are applied during their undergraduate study

ÖYT	Teaching Methods and Techniques	The code of undergraduates in control group	f	%	The code of undergraduates in experimental group	f	%
ÖYT ₁	Role play	K _{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,23,24,25}	2	2	D _{1,2,3,5,6,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25,26}	2	2
ÖYT ₂	Presentation/Powerpoint/Demonstration	K _{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,20,22,24,25}	4	6	D _{1,2,3,5,6,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25,26}	3	5
ÖYT ₃	Brainstorming	K _{5,6,7,11,12,18,19,20,21,22,23,24}	2	3	D _{1,2,9,11,19,20,21,22,23,25}	2	2
ÖYT ₄	Visual material	K _{1,2,5,8,9,11,13,16,18,19,20,21,26}	1	1	D _{2,5,6,10,14,15,16,17,18,19,20,22,23,24,25,26}	1	1
ÖYT ₅	Interview Report	K _{2,5,9,10,18,19,20}	3	3	D _{2,22,23}	6	8
ÖYT ₆	Questionnaire	K _{5,16,18,26}	7	7	D ₃	3	3
ÖYT ₇	Interactive education	K _{1,2,6,7,9,11,12,13,14,23,25}	4	4	D _{5,6,7,9,10,11,14,15,16,17,18,19,20,24,25}	1	1
ÖYT ₈	Debate	K _{1,3,10,21,24}	1	0	D _{17,19,20}	5	6
TOTAL			98	100		91	100

As is seen from Table 4.1., it has been observed that the undergraduates in experimental group have been applied role play (12%) method technique at most and questionnaire application (1%) at least during undergraduate study while those in control group have been applied role play (13%) method technique at most and questionnaire application (2%) at least.

Table 4.2 The frequency and percentage of the answers of the undergraduates forming experimental and control group to whether they have any ideas about SCAMPER technique

SAMPLE	STATUS OF HAVING KNOWLEDGE ABOUT SCAMPER PREVIOUSLY			
	YES		NO	
	f	%	f	%
EXPERIMENTAL GROUP	10	53	16	48
CONTROL GROUP	9	47	17	52
TOTAL	19	100	33	100

As it is seen in Table 4.2., it has been regarded that both experimental group and control group do not have any ideas about SCAMPER technique. The fact that the percentage of those having ideas is quite few has been seen.

Table 4.3. The frequency and percentage of the knowledge that the undergraduates in control group have about DIC (YDP) before the application

UÖKDİCİB	Knowledge about Control Group DIC before application	Codes of undergraduates	f	%
UÖKDİCİB ₁	Emergence as a result of deterioration of balance between disseminated Intravascular coagulation and fibrinolysin	K _{1,2,4,5,6,8,9,10,11,12,14,15,16,17,18,19,20,21,22,23,24,25,26}	23	62
UÖKDİCİB ₂	A life-threatening condition as it results in death	K _{6,13,14,15,16,23,24}	7	19
UÖKDİCİB ₆		K _{10,15}	2	5
UÖKDİCİB ₉	A condition having emboly risk	K _{6,8,16,18,22}	5	13
TOPLAM			37	100

As it is seen in Table 4.3., The themes UÖKDİCİB₁ coded (62%) at most and UÖDDİCİB₆ coded (5%) at least comprise the learning of experimental group about DIC.

Table 4.4. The frequency and percentage of the knowledge that control group learned about DIC (YDP) in consequence of the the lesson given by conventioanl teaching method

USKDİCİB	Knowledge about Control Group DIC after application	Codes of undergraduates	f	%	
USKDİCİB ₁	Being an iatrogenic illness	K _{1,2,4,6,7,8,9,13,14,16,17,18,20,21,22,25,26}	17	15	
USKDİCİB ₂	Emergence as a result of deterioration of balance between coagulation and fibrinolysin	K _{2,5,6,9,10,11,12,14,17,19,20,21,24,25}	14	12	
USKDİCİB ₃	Evacuation of uterus is the treatment in pregnancy	K _{1,2,3,5,7,12,14,15,16,17,18,24,26}	13	11	
USKDİCİB ₄	Reasons	Infection Heat Stroke Embolism in the wake of formation of too much firbrin	K _{1,12,13,18,23} K ₂₃ K _{7,12,23}	5 1 3	17
USKDİCİB ₅	Clinical Symptoms	Obstetriic illenesses Shock Bruise Bleeding Organ Failure Tromboemboly Necrosis	K _{1,3,4,5,12,13,17,18,21} K _{14,23} K ₂₃ K _{4,11,13,14,16,18,23} K _{4,8,12,14,15,18,19,22,23} K _{1,12,13,14,18,19,23} K ₂₃	9 2 1 7 9 7 1	25
USKDİCİB ₆	Symptoms	Hypotension Edema Tachycardia	K ₁₈ K ₁₈ K ₁₈	1 1 1	3
USKDİCİB ₇	Surgical operation(invasive) should be abstain from	K _{1,16,18,19}	4	4	
USKDİCİB ₈	The treatment is blood transfusion	K _{1,3,8,11,12,15,17}	7	6	
USKDİCİB ₉	It is vital as death risk is high	K ₁₅	1	1	
USKDİCİB ₁₀	Deterioration of vessel integrity	K _{8,14}	2	2	
USKDİCİB ₁₁	Abort and the case encountered in ablatio placentae	K _{1,9,13}	3	3	
TOTAL			109	100	

When Table 4.4. is analyzed it is seen that the theme USKDİCİB₅ (25%) coded at most and USKDİCİB₉ (1%) at least taking place in the learning of the undergraduates as a result of conventional teaching.

Table 4.5. The percentage of frequency of knowledge the undergraduates in experimental group gained about DIC (YDP) before application

UÖDDİCİB	Knowledge about Experimental Group DIC before application	Codes of undergraduates	f	%
UÖDDİCİB ₁	Deterioration of balance between disseminated Intravascular coagulation and fibrinolysin	D _{1,2,3,5,6,8,9,10,12,13,14,15,16,17,18,19,20,21,22,23,26}	21	58
UÖDDİCİB ₂	Deterioration of tissue integrity	D _{2,3,7,8,11,14,19}	7	19
UÖDDİCİB ₄		D _{3,4}	2	6
UÖDDİCİB ₅	Abort and the case encountered in ablatio placentae	D ₃	1	2
UÖDDİCİB ₆	A vital case as it results in death	D ₃	1	2
UÖDDİCİB ₇	Clinical symptom shock state	D ₃	1	3
UÖDDİCİB ₈	It causes self-induced bruises	D ₃	1	3
UÖDDİCİB ₉	A case having emboly risk	D _{2,3}	2	6
TOTAL			36	100

As it is seen in Table 4.5., the themes UÖDDİCİB₁ coded (58%) at most and UÖDDİCİB_{5,6} coded (2%) at least comprise the learning related to DIC of the undergraduates in experimental group.

Table 4.6. The frequency and percentage of grades in teaching of the undergraduates in experimental group DIC (YDP) by SCAMPER technique

Table 4.6.1. The frequency and percentage of the answers of the undergraduates in experimental group DIC(YDP) in substitute grade of SCAMPER technique

SCAMPER GRADES	USDDICİB	Knowledge about Experimental Group DIC after application	Codes of undergraduates	f	%
SUBSTITUTE	USDDICİB ₁	Fatal Coagulopathy	D ₂₆	1	3
	USDDICİB ₂	Matter of intravenous coagulation	D _{1,5,6,7,10,12,13,14,15,16,17,18,21,24,}	14	50
	USDDICİB ₃	Steady incoagulable bleeding	D _{3,8,11,19,22,23,24,25}	8	29
	USDDICİB ₄	Matter of coagulation leading shock	D ₁	1	3
	USDDICİB ₅	Symptoms of iatrogenic illness	D _{1,9}	2	6
	USDDICİB ₆	Deterioration of tissue integrity	D ₄	1	3
	USDDICİB ₇	Unaccountable bleeding	D ₂₀	1	3
TOTAL				28	100

When Table 4.6.1.is analyzed, it is seen that the theme USDDICİB₂ coded has the percentage at most (50%) and the theme USDDICİB_{1,4,6,7}coded has the percentage at least (3%).

Table 4.6.2. The frequency and percentage of the answers of the undergraduates in experimental group DIC(YDP) in combine grade of SCAMPER technique

	USDDICİB	Knowledge about Experimental Group DIC after application	Codes of undergraduates	f	%
COMBINE	USDDICİB ₁	Coagulation mechanism	D _{1,4,5,6,8,10,11,12,13,14,15,16,17,19,20,22,23,24}	18	86
	USDDICİB ₂	Thrombocyte and fibrinogen	D _{13,18,21}	3	14
TOTAL				21	100

When Table 4.6.2. is studied, it is seen that the theme USDDICİB₁ coded has the percentage at most (86%) and the theme USDDICİB₂coded has the percentage at least (14%).

Table4.6.3. The frequency and percentage of the answers of the undergraduates in experimental group DIC(YDP) in Adapt grade of SCAMPER technique

	USDDICİB	Knowledge about Experimental Group DIC after application	Codes of undergraduates	f	%
ADAPT	USDDICİB ₁	Teaching by cardiovascular system	D _{1,}	1	4
	USDDICİB ₂	Teaching the factors leading bleeding with visual materials	D _{2,3,6,7,10,12}	6	24
	USDDICİB ₃		D _{5,6,8,9,15,16,17,18,21,24,25,}	11	48
	USDDICİB ₄	Making the term Turkish	D _{11,}	1	4
	USDDICİB ₅	Simplifying	D _{11,19,20}	3	12
	USDDICİB ₆	Teaching with phenylketonuria	D _{22,23}	2	8
TOTAL				24	100

When Table4.6.3. is analyzed,it is seen that the theme USDDICİB₃ coded has the percentage at most (48%) and the theme USDDICİB_{1,4} coded has the percentage at least (4%).

Table 4.6.4. The frequency and percentage of the answers of the undergraduates in experimental group DIC(YDP) in modify grade of SCAMPER technique

	USDDICİB	Knowledge about Experimental Group DIC after application	Codes of undergraduates	f	%
MODIFY	USDDICİB ₁	Vascular coagulaopathy giving shock symptom	D _{1,18,20,23}	4	31
	USDDICİB ₂	Steady incoagulable bleeding	D _{3,4,10,11,12,14,19,22,26}	9	69
TOTAL				13	100

When Table 4.6.4. is analyzed, it is seen that the theme USDDICİB₂ coded has the percentage at most (69%) and the theme USDDICİB₁coded has the percentage at least (31%).

Table 4.6.5. The frequency and percentage of the answers of the undergraduates in experimental group DIC(YDP) in Put to other use grade of SCAMPER technique

USDDICİB	Knowledge about Experimental Group DIC after application	Codes of undergraduates	f	%	
PUT TO OTHER USE	USDDICİB1	Organ failure	D1	1	6
	USDDICİB2	The results of leukaemia	D4	1	6
	USDDICİB3	Impression of premature infant	D5,10,23	3	21
	USDDICİB4	Side delivery position	D6,26	2	14
	USDDICİB5	Wrong case plan	D9	1	6
	USDDICİB6	Intense vessel matter	D11,19,24	3	21
	USDDICİB7	Help! The vessel blew up	D16,17	2	14
	USDDICİB8	Disseminated vascular program	D20	1	6
	USDDICİB9	Insufficient Vascular Coagulum	D26	1	6
TOTAL				15	100

When Table 4.6.5. is analyzed, it is seen that the theme USDDICİB_{3,6} coded has the percentage at most (21%) and the theme USDDICİB_{1,2,5,8,9} coded has the percentage at least (6%).

Table 4.6.6. The frequency and percentage of the answers of the undergraduates in experimental group DIC(YDP) in Eliminate grade of SCAMPER technique

USDDICİB	Knowledge about Experimental Group DIC after application	Codes of undergraduates	f	%	
ELIMINATE	USDDICİB1	The change of the word of "disseminated"	D1,3,4,5,6,10,11,15,17,18,19,20,24,26	14	74
	USDDICİB2	Withdrawal of intravascular	D7,8,13,24,25	5	26
TOTAL				19	100

When Table 4.6.6. is analyzed, it is seen that the theme USDDICİB₁ coded has the percentage at most (74%) and the theme USDDICİB₂ coded has the percentage at least (26%).

Table 4.7.7. The frequency and percentage of the answers of the undergraduates in experimental group DIC(YDP) in Reverse grade of SCAMPER technique

USDDICİB	Knowledge about Experimental Group DIC after application	Codes of undergraduates	f	%	
REVERSE	USDDICİB1	Intravascular Structural Coagulopathy	D1,5,6,7,10,11,15,16,20,22,24,26	12	60
	USDDICİB2	Disseminated vascular coagulum	D3,	1	5
	USDDICİB3	Distruption in relation between Coagulation and fibrinolysis	D4,8,14,19,25	5	25
	USDDICİB4	Indicating it as an iatrogenic illness	D22,23	2	10
TOTAL				20	100

When Table 4.6.7. is analyzed, it is seen that the theme USDDICİB₁ coded has the percentage at most (60%) and the theme USDDICİB₂ coded has the percentage at least (5%).

5. Discussion and suggestions

The basic matter of our education system stems from the fact that individual is not able to bring to bear the education he/she receives but he/she just uses it in theory, and some lamenesses in adaptation period that we pass the knowledge from short-term memory to long-term one. Although individuals have training materials that have developed due to the current technology, these materials remain in theory because people do not integrate in their cognitive process. However the educational environment which takes individual differences into consideration is not provided for all that individual relativity principle that is one of the teaching principles, the knowledge can be ensured to be more permanence by applying different methods and techniques to conventional teaching system. Our study is for sample group and conducted through the term that they have difficulty to learn mostly. This method can be applied to different branches, different lesson contents and on different subjects. The fact that it will make a contribution is a stubborn fact that individuals go through a cognitive process by getting some clues from the points she/he finds necessary for the interpretations of the knowledge they want to learn and by deducting the expendables thus it will make a contribution to the interpretation, explanation and learning of knowledge. SCAMPER technique is the leading of the methods and techniques that indicate this factuality. By making this method more active, individuals are supported to personalize knowledge and by this way a permanence education is provided.



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