

The Analysis of reminiscence-learning process in basic sciences with SWOT model

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Abstract

The main purpose of this study is to analyze the teaching-learning process of basic science courses with the SWOT model. First, the theoretical foundations of the teaching-learning paradigm are stated, and then, using the SWOT model, the teaching-learning process of basic sciences is identified, and finally, executive strategies for improving education are proposed. This research has been done in a descriptive and analytical way. Its statistical population included male students in the field of experimental sciences and teachers of basic sciences in Kohgiluyeh and Boyer-Ahmad provinces in the academic year 2018-2019 (pre- corona period). Sample selection was done by simple multi-stage random sampling method and 240 people were selected. Various exploratory methods, questionnaire tools, viewing documents and interviews were used to collect information. Data analysis by analysis of variance, Kruskal-Wallis and SWOT matrix in SPSS21 software environment and drawing diagrams using software. Ms. Excel done. The results showed

that the influences of the education promotion triangle in the teaching-learning process of basic science courses have been the most important threat point. Education To move towards an effective education, it must prioritize defense strategies based on mitigating weaknesses, including: educational design, output, numerous media, and teacher skills.

KeyWords: Teaching-Learning, SWOT Analysis, Basic Science Courses, Influences Of Education

1. Introduction

One of the most important and underlying systems in each country is educational systems that are considered as central to the development of human capital and sustainable and comprehensive development [21].

The use of traditional and passive methods in teaching basic sciences courses can lead to stingy, inenotation, heartbreak, lack of motivation and reduction of students' learning. In recent years, active learning and creative thinking have been emphasized in teaching basic sciences courses. Because this type of learning enables the student to study and understand their learning needs, achieve an active role in the education process, strengthen critical thinking ability, increase decision-making ability in different clinical situations, and strengthen problem solving skills [11; 4].

Learning is a process in which knowledge is obtained and meaningful. The result of growth learning is a change in thinking, feeling and action [7]. Learning can be defined as a relatively stable change in mental processes, emotional performance or behavior as a result of experience [2]. Different provinces of Iran have the same educational structures. In each

province, educational policies, programs and objectives are the same, and education efforts are aimed at keeping the education system of each region in line with social developments and cultural developments tailored to the 21st century.

Developing education and transforming it requires understanding the process of education and awareness of new teaching and learning methods [11].

In any society, education is the second of economic, social, political and cultural development. The study of effective factors in the development and progress of advanced societies indicates that all of these countries have been affected by efficient education [12].

In the formal education process, academic evaluation is one of the effective factors in education. Academic evaluation, with this sensitivity and effectiveness in education, is valid when the content and its implementation are determined according to scientific criteria. Because otherwise, not only will self-evaluation be questionable, but the results, which affect the group of learners, teachers and authors, will also be validate.

2. Importance And Necessity

In teaching basic courses (biology, chemistry, physics, etc.) the method of providing lessons can be very effective in increasing learners' learning. Providing basic sciences courses with new methods, especially with methods that express the relationship between them and skills training, increases students' motivation for learning. One of the requirements for the quality of education, especially in the courses of biology, chemistry, physics, mathematics and geology, is to identify the strengths and weaknesses in the teaching-learning process of these courses. The results of studies show that no study has been conducted on "studying the strengths and weaknesses in teaching-learning process of

basic sciences courses in schools of the province and presenting executive strategies".

In this regard, achieving the desired situation requires a clear road and a comprehensive plan that considers all parts of education and determines the necessary policies. Education of Kohgiluyeh and Boyer-Ahmad province

seeks to achieve goals such as adapting the productions of the educational system to the labor market, having new educational strategies and approaches, and the productivity of modern technology. Since achieving these goals is not yet ideal, comprehensive studies on discovering strengths and weaknesses in the teaching-learning process of basic sciences courses in secondary schools [Kohgiluyeh and Boyer-Ahmad province] are essential.

3. Research Objectives

3.1. The Analysis of teaching-learning process of basic sciences courses with SWOT model is [strengths, weaknesses, opportunity and threats].

3.2. Research Objectives

3.2.1. The Understanding the Internal Factors Affecting the Teaching-Learning Process of Basic Sciences Courses.

3.2.2. The Recognition of external factors affecting teaching-learning process of basic sciences courses.

3.2.3. The Achieving worthy strategies affecting the teaching-learning process of basic sciences courses.

4. Hypotheses

4.1. The main hypothesis of the research
There is a difference between internal and external factors affecting teaching-learning process of basic sciences courses.

4.2. Sub-Research Hypotheses

4.2.1. There is a difference between the individual and professional characteristics of basic sciences teachers and the school where they serve.

4.2.2. There is a difference between supporting the classroom of basic science teachers' schools.

4.2.3. There is a difference between the curriculum of basic science teachers' schools.

4.2.4. There is a difference between classroom management of basic sciences teachers' schools.

4.2.5. There is a difference between the physical space (numerous media) of schools of basic sciences teachers.

4.2.6. There is a difference between extra-structural factors affecting the teaching-learning process of basic sciences courses.

5. Theoretical Foundations

5.1. Learn

Learning is a function by which knowledge, behaviors, abilities or new or existing choices are understood or strengthened and corrected respectively, which may lead to a potential change in data composition, depth of knowledge, approach or behavior towards the type and range of experiences. In humans, learning begins at 32 weeks after fertility, indicating that the central nervous system has developed sufficiently and is ready for memory to start.

5.1. 1. Some Learning Theories

Learning theories focus on how people learn [3]. A theory that fully proves how learning happens has not yet been determined, and as a result, there are different theories in this case that each one has been able to answer only a part of the learning questions [18]. Some of the most important theories of learning are:

5.1.1.1. Behavioral Learning Theory: Behaviorism has had a great impact on education compared to other movements and its principles are being used appropriately and successfully today [7].

Behaviorism means that behavior should be explained by visible behaviors, not mental processes. Behaviorists observe exactly the answers and then hand over the environment to bring about change [3].

5.1.1.2. Cognitive Learning Theory: They emphasize the importance of what occurs within the learner. Cognitive learning theories emphasize the belief that learning is an internal process that may not appear to be an immediate change in open behavior [17].

The role of teacher in cognitive theories is to facilitate mental processes by helping the learning of "learning how to learn". Therefore, the aim of this approach is to create the ability and skill of the learning for self-directed learning [19].

In cognitive theories, the student has an active role. Transfer of information from teacher to student by information and memory processing strategies and attentional and motivational mechanisms for organization and its understand [18].

Cognitive learning theories include several well-known perspectives such as Gestalt,

information processing, Azobole's meaningful learning, construction and social cognitive theory [3].

5.1.1.3. Construction Theories: Piaget and Vigutsky believe that learning is growth and that recruitment, adaptation and construction are basic processes of practice in learning. The learner creates new knowledge through the internal display of existing knowledge through individual interpretations of experience [18].

In the theory of construction, teachers need to facilitate active learning and interact socially with students. Based on construction theory, three important factors for creating an effective learning-teaching environment including: 1) increasing active learning, 2) facilitating social interaction and 3) creating quality learning materials [10].

The definition of Ernest Rpgte Hilgard and Marquise and a group of colleagues and psychologists is defined as this: learning is a relatively lasting change in one's feeling, thinking and behavior based on experience (Figure 1).

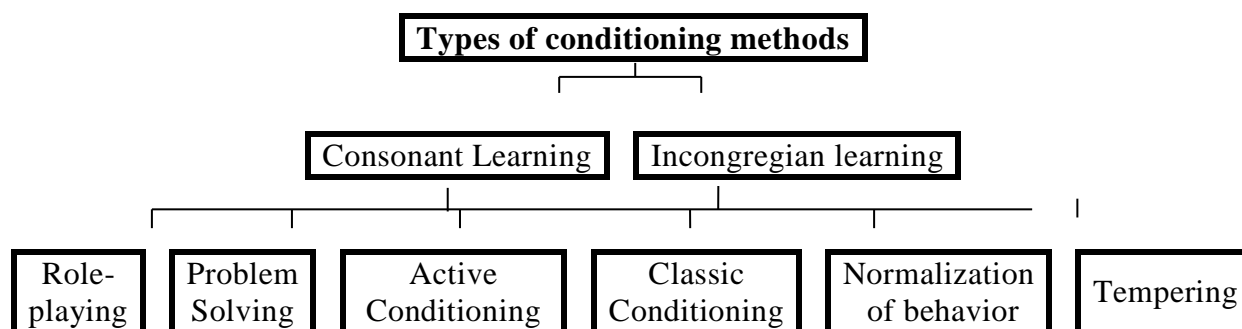


Figure 1: Types of Learning Methods (Yazdanpanah et al., 2020).

5.2. Triangular pattern of learning promotion: The first and most important side of the pattern that constitutes the triangle rule is educational design. This side includes the most important measures and care that lead to the formation of an effective learning process. The second side emphasizes the use of numerous media in the learning process and the third side emphasizes the importance of providing learning as a learning exogenous by students.

5.2.1. The first side, educational design: We need an educational design for each learning unit. The most important measures and cares that designers should pay attention to in an educational design are: the purpose of competency, precise design, growing, gradual, logical course, valuable and achievable stairs, a good start, attention to pre-knowledge, selection of teaching patterns, active learning, concept production by learner, application of learning in new situations, attention to individual differences in learning, integrated approach, front of presentation and evaluation, out-of-class activities, reverse class activities. And metacognition.

5.2.2. On the second side, numerous educational media: media such as educational videos, active PowerPoints, video and audio files, various educational texts, information graphic pages (infographics) etc. are all of the supporting media of class and school, and we all consider them to be learning media, such as encyclopedias, magazines, thematic books, reference books, posters and charts. Like audio files, images, TV shows, educational videos, computer software, and

more recently mobile applications, they are all learning media. In such an environment, teachers whose skills have been improved can not only use computers and internet space for targeted searches, but also help students play an active role in promoting learning (search skills). The use of these facilities should not downsize the role of teachers in the production of learning media, but the teacher himself can choose a subject and produce about it. That is, while choosing learning media is desirable, it is also necessary to manipulate these parts and produce self-made educational components. This requires acquiring capabilities that have not been discussed for teachers before. The ability to work with different audio and video software and produce simple tasks is possible by participating in an intensive training course and throwing yourself into the field of action. Media production can be done both individually and in teamwork (self-made media production) and teachers can disseminate and share the products they have for their classrooms through the networks they have at their disposal so that others can use it, for example, when a teacher produces an interesting and engaging conceptual map or an information graphic, or from an experiment. It takes video, can load it into cyberspace so that other teachers use it (share).

5.2.3. The third side is the presentation of the learned by the students (the outline): the emphasis is on the resulting presentation and the exogeneity of learning and the opportunity to provide the students with the opportunity to present the learnings. The

purpose of the presentation is that the student displays his or her middle or hidden achievements from the course and journey of learning and, in the most effective way possible, to others. Teaching is the interaction or interaction of the teacher and the pupil, based on the teacher's disciplined and targeted design, to make a difference in the pupil's behavior. Teaching different concepts such as attitudes, tendencies, beliefs, habits and methods of behavior and generally includes the types of changes we want to make in students [13].

5.3. New Teaching Methods: some of the most important new teaching methods are:

5.3.1. Conference Method: This method is different from the lecture method because in the lecture method, the teacher is responsible for giving information to students. However, in this method, information is collected and presented by students.

5.3.2. Multi-sense (mixed) method: The use of this method requires the use of all senses and the learning process is done through all senses.

5.3.3. Problem Solving Method: This method is one of the active teaching methods. In this method, education is done in the context of research and leads to original and deep and sustainable learning in students. In this method, first, the teacher should determine the problem, then collect the information by the students and after collecting the information based on the collected information, the students should hypothesis and finally the hypotheses should be taken from us and concluded. If the problem solving method is done correctly, it can lead to rainfall or intellectual storm. In other words, if the teacher acts correctly in the method of problem solving teaching, it will also lead to the method of teaching brain precipitation. In general, if the education system wants to play an important role in strengthening the potential areas of creativity, it is the clamping of problem solving teaching methods and intellectual precipitation in the classroom by teachers.

5.3.4. Project method: In this method, students can choose according to their interests and actively participate in

concluding that subject, and also learn how to do the lesson regularly and step by step, and this method strengthens the management, planning and self-control power and strengthens the confidence of students because there is a proper educational relationship between them and the teacher. Finally, it strengthens cooperation, sense of responsibility, discipline of patience and tolerance in doing things and tolerance of other people's beliefs and basic research skills in students.

5.3.5. Lecture Method: The teacher verbally presents information and concepts in the class within a period of time that may last from a few minutes to an hour or more. In the speech, the teacher can be imagined as the messenger and the student as the recipient' message. In this view, speech is a one-way method for transmitting information, in which the general usually plays an inactive role. The content of the lecture is determined by the teacher before entering the class.

5.3.6. Discussion Method: In the discussion method, students actively participate in learning and learn the concept from each other. In this way, the teacher can be thought of as an adhering, the starter of the discussion and the guide. The teacher raises questions or problems in a way that encourages students to respond or solve problems. This method is used when the teacher wants to teach learners a new concept and stimulates the student's mind to move and search.

5.3.7. Experimental method (method of implementation or learning by action): Testing is an activity in which students actually gain experience by using special tools and materials about a particular concept. The test is usually done in the laboratory, but not having a well-equipped laboratory or appropriate equipment in school should not be a reason not to do the test in class, so simple tools that the teacher and even the student can easily prepare.

5.3.8. Using visual and auditory resources: The teacher can use visual and auditory equipment in any teaching. Sometimes in teaching, devices such as radio, TV, recording and broadcasting of audio, diagrams and maps can be used. For

example, the teacher may use a picture during the speech, or use the chart to show a scientific relationship. In general, the correct use of visual and auditory resources is very effective in arousing students' curious and encouraging students.

5.3.9. Reverse classroom education: In reverse learning, traditional and conventional structures of the learning process are turned upside down, and in a word, what was most commonly done in the classroom is assigned home, and the processes that most students performed at home are transferred to the classroom.

5.3.10. Teaching the 7E/5E Model: This model is designed based on a structuralist approach in the learning process and believes that learners build any new knowledge based on their current knowledge. This model can be used for any age and in any subject. Each step in this model describes a learning section, allowing the teacher and the student to build new knowledge with joint activities on their current knowledge. These steps are as follows (Figure 2):

5.3.10.1. Engage: stimulating curiosity and interest, putting education in a meaningful field, asking questions for research revealing students' current thoughts and beliefs of activities or texts in multiple patterns for researching or stimulating motivations, asking questions, stimulating students to ask their questions in any way possible, such as writing play shows, etc. in a way that the

teacher discovers students' thoughts and can make decisions about directions.

5.3.10.2. Explore: The student expresses and tests their thoughts, examines or solves problems. For the experience of phenomena, it offers researches, tests thoughts through observation and measurement, and answers questions.

5.3.10.3. Explain: Introducing a conceptual tool for interpreting evidence and expressing phenomena and creating multiple patterns based on justifying the claims made on the basis of the collected evidence, comparing the explanations provided by students and different groups. Design skills acquired by students (e.g. preparing a poster, presenting as PowerPoint, painting, writing, engaging audiences to clarify an idea, etc.).

5.3.10.4. Elaborate: The use and application of concepts and its description in the new field to examine the application of its general purpose. Recording and developing testimonials and understanding its use and integration into writing, diagram, math activities, student research, training and student assignments, and sharing ideas in different ways

5.3.10.5. Evaluate: Providing opportunities for students to explore their thoughts and reflect on skills and learning. Show evidence to prove the change in students' thoughts and beliefs. This method of work has been developed in practice to 7E (first part of **Extraction** and **Extend** phase

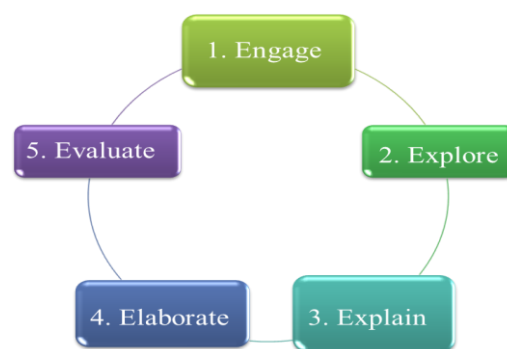


Figure 2- Education to model 5E/7E [21].

5.4. Variables and conceptual framework of research:

a) Independent variable 1 and 2: teaching-learning method and evaluation of basic sciences courses, b) dependent variable:

strengths and weaknesses, c- determinant variable: factors promoting education and d)

control variable: gender (boys), field of study and research area (Figure 3).

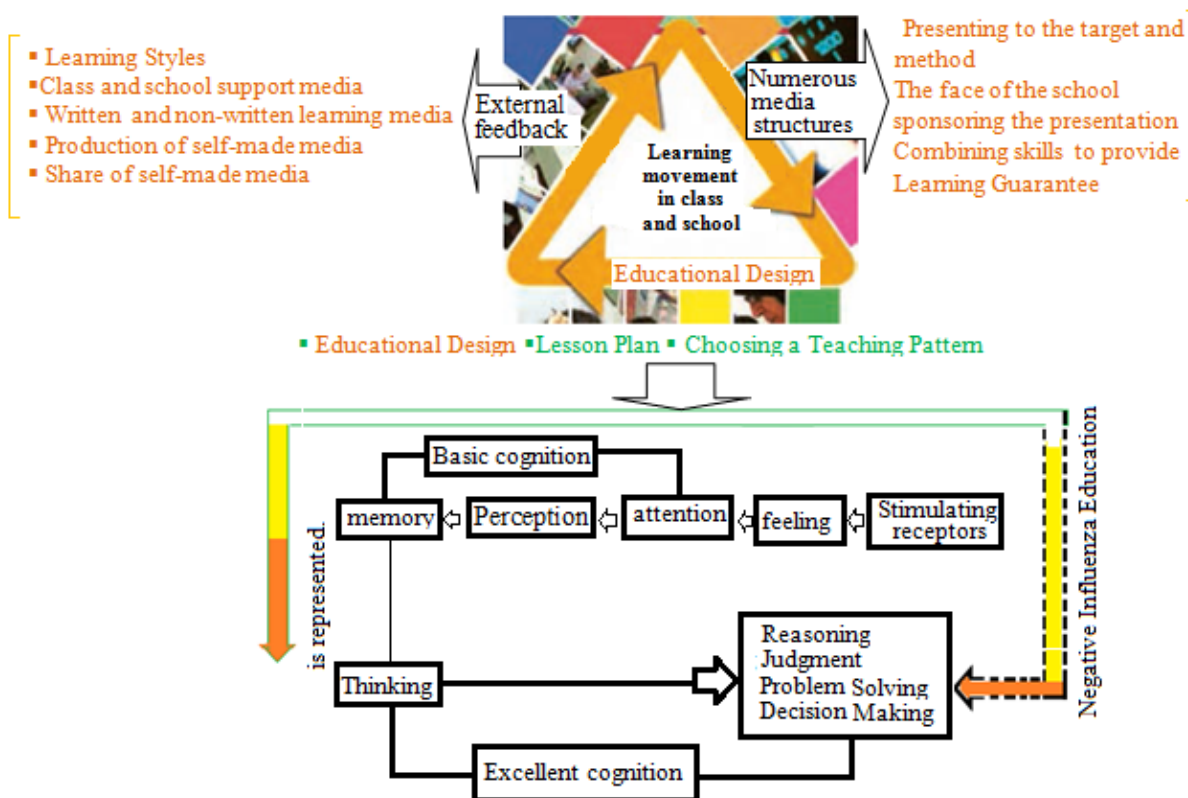


Figure 3- Conceptual framework of strengths and weaknesses in teaching-learning process of basic sciences courses based on cognitive model [21].

5.5. History of Researches

There is no comprehensive study on the strengths and weaknesses of teaching-learning process of basic sciences courses in secondary schools (2) abroad and inside the country. Below are some research close to the topic.

-Sajedi et al. (2017) analyzed the content of the 10th grade math book based on William Roman's technique. These mathematical researchers tried to investigate the amount of active methods in presenting the content of the 10th grade mathematics book of secondary school in 2016 and for this purpose, they analyzed how to present mathematical content (1), secondary school in three parts: activities, images and text based on William Roman technique. Also, the analysis of the work sections in the classroom, activity and practice of the course based on Bloom's cognitive domain

and the method used in this study was content analysis. The statistical population of the study was the 10th high school math book of 2016. The findings of their research showed that the text conflict coefficient was 0.70, indicating that the text of the 10th grade math book of secondary school was written actively. The conflict coefficient of images was 0.81 which showed that the book's images involved the student in learning. Also, in the analysis section of the book's activity-oriented index, the conflict coefficient was determined to be 0.83, indicating that the book is activity-oriented. In the analysis section, based on Bloom's cognitive domain, it was found that 40.72% of the exercises, activities and issues of the book were at the level of understanding. This analysis showed that in the book, the number of exercises, activities and issues at high levels of cognitive domain is very low.

- **Habibi Rad et al. (2017)** investigated the effect of different educational assisted methods on academic achievement of mathematics course of secondary school students using BCC model and investigated the effect of several different educational assisted methods on academic achievement of math course of secondary school students. In this study, several different educational assistive methods were performed in classrooms, after which several academic achievement tests were held for these students and their results were evaluated using BCC model of data enveloping analysis. The method of work is determined according to the results of the model and their analysis and according to this research, it will be used as a suitable educational aid method in math classrooms [these researchers].

- **Khani et al. (2015)** have investigated library and descriptive methods of teaching-math learning in elementary school and their application. In their review, they stated that mathematics is scientific with the concepts of commitment. The possibility of learning mathematics makes it difficult to feel concepts and thus makes it difficult to teach and learn so that it requires certain educational methods. One of the factors that affects learning processes and therefore in the state of math education in elementary school is teaching-learning methods of this course. The teaching method is the interaction or interaction between teacher and pupil based on the regular and targeted design of the teacher to make changes in the behavior of the students, and they have also stated the general purpose of their research is to investigate the new teaching-learning methods of math lessons in elementary school and their application. One of the results of this study is that among the new methods of teaching mathematics that teachers can play an important role in teaching-learning process in elementary school mathematics through familiarity with their characteristics, stages and application are: teaching method of intellectual precipitation, creativity-based method, problem solving method, constructionism,

exploration, exploration, metacognition, game method, cooperative method, active method, method of fick, etc. methods that willingly and willingly students. They add more to math lessons and make them more curious.

-**Yazdanpanah (2015)** In a meta-analytical study of "Studying the progress/academic failure of biology and laboratory (2) and pre-university in june 2015 test compared to the June 2014 test", they concluded that the most important reasons for academic failure based on analysis of field and workshop visits of biology teachers are: lack of teachers' use of active teaching method, lack of proper position of students' thinking, lack of timely and logical use of educational equipment; Lack of guidance of students to group formation and group participation, absence of attendance in meetings, festivals and call groups, non-compliance with the principles of designing questions, lack of research and research assignments, lack of use of specialized software and intelligent facilities, lack of importance to activities and critical thinking of textbooks, lack of introduction of scientific sites and resources tailored to the content, non-compliance with the budgeting of the course, lack of proper lesson plan, lack of familiarity with the educational objectives of the book and programs Fundamental transformation of education, lack of retraining of teachers, dominance of outside thinking such as following pen tests, other free institutions, on the thinking of fundamental educational transformation, which has caused a kind of conflict due to the lack of conformity of external educational programs with the internal structure of education, in most cases the lack of strong managers and counselors in schools, injustice and lack of a scientific procedure to promote and utilize biology teachers in accordance with their scientific capabilities in schools; The Council of Secretaries, which can be a meeting and even a scientific workshop for retraining and transferring information among teachers not only biology but also basic sciences and humanities, has not yet found its true meaning, and by addressing issues such as

addressing the absence of learners, recording scores and materials of this category, lack of skills and weakness of biology teachers in the use of laboratory equipment and lack of description and use of information technology in Education, the inability to use intelligent facilities, removes the shape, diagram and activity in the design of the teacher's test questions from learners.

5.6. Analysis Strength, Weakness, Opportunity and Treat (SWOT): One of the tools used for strategic management of organizations. This model is a systematic analysis to identify strengths and

weaknesses within organizations, and opportunities and threats outside each organization that is able to present and formulate a strategy for adaptation and interaction between these factors. This model identifies two internal (strengths and weaknesses) and external (opportunity and threat. this model is a method for analyzing strengths, weaknesses, opportunities and threats, and is a tool for analyzing the inner and outer environments that provide a systemic attitude and support for how [9].



Figure 4- Analysis ComponentsStrength, Weakkness, Opportunity and Treat (SWOT) [21].

5.6.1. How to perform SWOT analysis for teaching-learning process of secondary school basic sciences courses.

In this analysis, internal and external factors evaluation matrix is used. After internal factors (strengths and weaknesses) have been identified, priority factors are placed in a matrix column and scored using specific coefficients and ranks to finally determine that the strategic plan (providing solutions) teaching-learning basic sciences courses of secondary schools in the future they want to plan for will have more strengths or will face more weaknesses. The method of preparing the matrix is as follows: In this matrix, strategic or priority internal factors were listed in the first column in the form of strengths and weaknesses. Then, in the second column, the initial coefficient matrix of each of the obtained cases is

obtained. In the third column, the weight matrix of each case is presented. In the fourth column of the matrix, according to the key or normal.

The strengths and weaknesses are ranked 4th or 3rd respectively and ranked 2 or 1 to weaknesses, respectively. Allocation of rank was that if the strength ahead of teaching-learning process of secondary sciences courses in Kohgiluyeh and Boyer-Ahmad province was a great strength, ranked 4th and if a strength was weak, ranked 3rd to the desired factor, and also if the weakness ahead of the teaching-learning process of basic sciences courses was a common weakness, ranked 1st and if it was a serious weakness, it would be ranked 2nd. After specifying the rank, the average of each case is obtained and according to the weight of each case, it is calculated as the rank of each case. In the

fifth column, the weight matrix of the third column and the ranks of the fourth column were multiplied for each strength or weakness to determine the strength or weakness score for the teaching-learning process of the second grade science courses. At the end of this column, the final score is determined in terms of strengths and weaknesses [20].

6. Research Methodology

The method of this research is descriptive-analytical. The statistical population consisted of male students of experimental sciences and basic sciences teachers of Kohgiluyeh and Boyer-Ahmad province in the academic year 2018-2019 (pre-Corona era). The sample was selected by multistage simple random sampling method and 240 people were selected. Data were collected using multiple exploratory methods, questionnaires,

observation of documents and interviews. In order to analyze the data from descriptive statistics including: mean, standard deviation and graphs and from inferential statistics including ANOVA, Kruskal-Wallis test and SWOT matrix in SPSS21 software and at 5% probability level ($\alpha=5\%$), as well as graphs were plotted using Ms.Excel 2013 software [20].

6. Findings

6.1. Descriptive statistics: Descriptive findings of this study included statistical indicators such as frequency, percentage, mean, standard deviation and number of subjects.

6.1.1. Educational Design (Daily and Long-Term Lesson Plan and Teaching Model): Most basic science teachers lack lesson plan and long-term educational design (Chart 1).

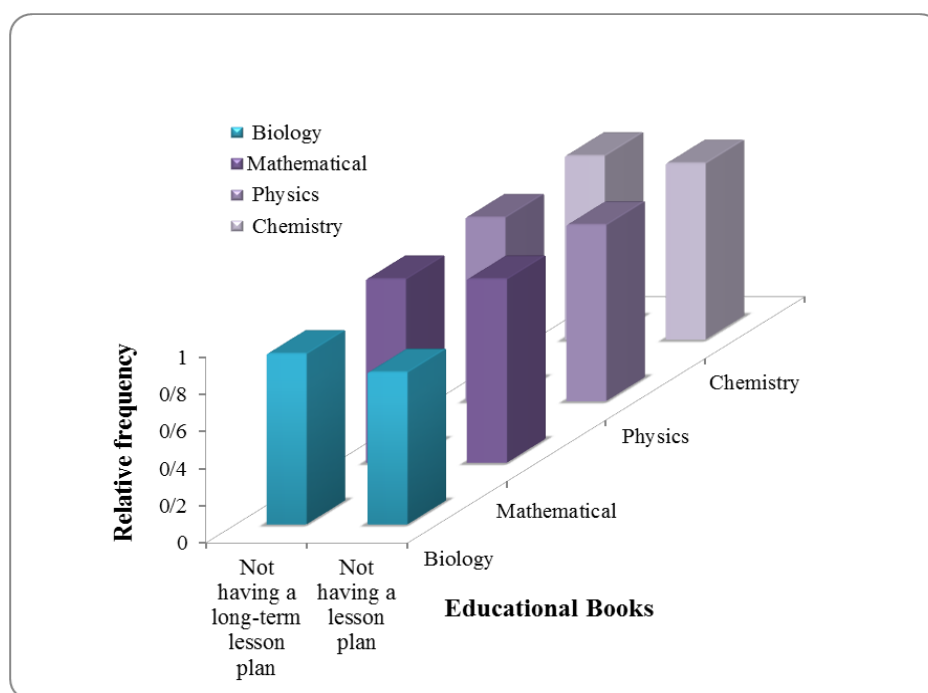


Chart 1- Relative frequency distribution of male teachers of Yasuj basic sciences based on having/not having design [20; 21].

6.1.2. Teaching Method: The greatest frequency of teaching patterns for basic

science teachers is lecture method (Chart 2).

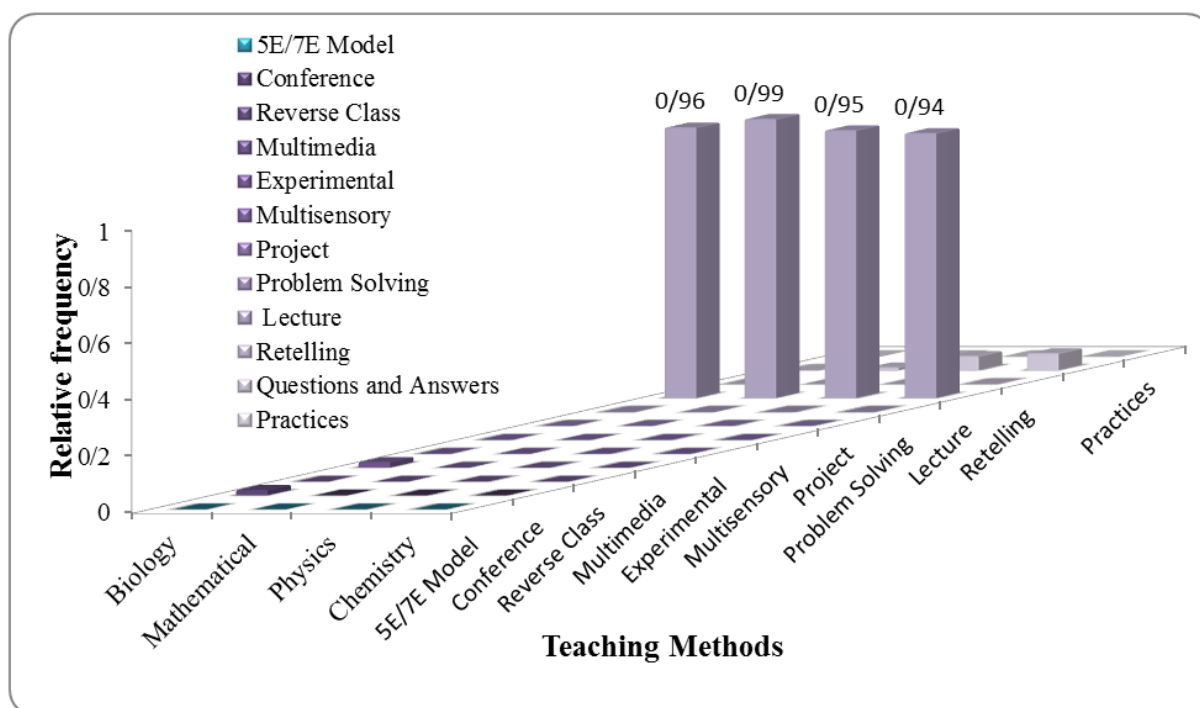


Chart 2- Relative frequency distribution of male basic sciences teachers in Yasuj city based on TEACHING model [20; 21].

6.2. Inferential analysis: In this section, the test of hypotheses is investigated through Analysis of Variance (ANOVA).

6.2.1. The main hypothesis: Investigating the main hypothesis: Is there a difference between internal and external factors affecting the teaching-learning process of basic sciences courses.

6.2.1.1. First hypothesis: The first hypothesis: There is a difference between the individual and professional characteristics of basic sciences teachers and the school where they serve.

The Analysis of variance was used to test this hypothesis (Table 1).

Table 1- The Results of analysis of variance on personal and professional characteristics of basic sciences teachers and school of service.

Variables	Count Data	sig	F
Personal and professional characteristics of basic sciences teachers and school of service	240	1.00	0.108 ^{n.s}

^{n.s} No significance

According to table 1 data, Fisher's statistics on individual and professional characteristics of basic science teachers in Yasuj city were 0.00 and the probability value related to the significant study was 1.00 which is greater than .05 ($p > .05$). Therefore, with the confidence of 0.95, the first statistical hypothesis ($H_1: \rho \neq 0$) and the hypothesis zero statistical ($H_0: \rho = 0$) are accepted and we conclude that there is no difference between the individual and professional characteristics of the basic sciences teachers and the school where they work [20].

6.2.1.2. Second hypothesis: The secondary hypothesis: There is a difference between supporting the classroom of basic science teachers' schools.

The Analysis of variance was used to test this hypothesis (Table 2).

Table 2- The Results of analysis of variance supporting the classroom of science teachers' schools.

Variables	Count Data	sig	F
Supporting the classroom of basic science teachers' schools	240	1.00	0.207 ^s

^{n.s} No significance

According to table 2 data, Fisher's statistics supporting the classroom of basic science teachers' schools in Yasuj city was 0.00 and the probability of significant study was 1.00 which is higher than .05 ($p > .05$). Therefore, with the confidence of 0.95, the first statistical hypothesis ($H_1: \rho \neq 0$) is rejected and the zero statistical hypothesis ($H_0: \rho = 0$) is accepted and we conclude

that there is no difference between supporting the classroom of basic science teachers' schools [20].

6.2.1.3. Third hypothesis: There is a difference between the curriculum of basic science teachers' schools.

The Analysis of variance was used to test this hypothesis (Table 3).

Table 3- The Results of analysis of variance support for classrooms of science teachers' schools.

Variables	Count Data	sig	F
Basic Science Teachers' School Curriculum	240	0.001	7.369 ^{**}

^{**} significance level .01

According to table 3 data, Fisher's statistics of the curriculum of schools of basic sciences teachers in Yasuj city were 7.369 and the probability of significant study was 0.001 which is less than .001 ($p < .05$). Therefore, with the confidence of 0.999 the first statistical hypothesis ($H_1: \rho \neq 0$) confirms and the hypothesis zero statistical ($H_0: \rho = 0$) is rejected and we conclude

that there is a difference between the curriculum of the schools of basic sciences teachers [20].

6.2.1.4. Fourth hypothesis: There is a difference between classroom management of basic science teachers' schools.

The Analysis of variance was used to test this hypothesis (Table 4).

Table 4- The Results of Class Management Variance Test for Basic Sciences Teachers' Schools.

Variables	Count Data	sig	F
Classroom Management of Basic Sciences Teachers' Schools	240	0.001	25.34 ^{**}

^{**} significance level .01

According to table 4 data, Fisher's statistics on classroom management of basic science teachers' schools in Yasuj city were 25.34 and the probability of significant study was

0.001 which is less than .001 ($p < .05$). Therefore, with the confidence of 0.999 the first statistical hypothesis ($H_1: \rho \neq 0$) confirms and the hypothesis zero statistical

($H_0: \rho = 0$) is rejected, also based on Kruskal-Wallis test, the fourth hypothesis is accepted and we conclude that there is a difference between the management of the school class of basic sciences teachers [20].

6.2.1.5. Fifth hypothesis: There is a difference between physical space (numerous media) schools of basic science teachers. The Analysis of variance was used to test this hypothesis (Table 5)

Table 5- Results of physical space variance analysis (numerous media) of basic science teachers' schools.

Variables	Count Data	sig	F
Physical space (numerous media) schools of basic science teachers	240	0.001	8.50**

** significance level .01

According to table 5 data, Fisher's statistics of physical space (numerous media) of schools of basic sciences teachers in Yasuj city were 8.50 and the probability of significant study was 0.001 which is less than .001 ($p < .05$). Therefore, with the confidence of 0.999, the first statistical hypothesis ($H_1: \rho \neq 0$) confirms and the hypothesis zero statistically ($H_0: \rho = 0$) is rejected and we conclude that there is a

difference between the management of the school class of basic sciences teachers [20].

6.2.1.6. Sixth hypothesis: There is a difference between extraseal structure factors affecting the yadhi-learning process of basic sciences courses. The Analysis of variance was used to test this hypothesis (Table 6).

Table 6- The results of analysis of variance of extrase structural factors affecting the yadhi-learning process of basic sciences courses.

Variables	Count Data	sig	F
Extrase structural factors affecting the yadhi-learning process of lessons	240	0.001	1.22**

** significance level .01

According to table 6 data, Fisher's statistics of Extrase structural factors affecting the yadhi-learning process of basic sciences courses in Yasuj city were 1.22 and the probability of significant study was 0.001 which is less than .001 ($p < .05$). Therefore, with the confidence of 0.999, the first statistical hypothesis ($H_1: \rho \neq 0$) confirms and the hypothesis zero statistically ($H_0: \rho = 0$) is rejected and we conclude that there is a difference between the extraseal structure factors affecting the yadhi-learning process of basic sciences courses [20].

In cognitive theories, the student has an active role. The transfer of information from teacher to student does not automatically cause learning, but the student must extract meaning by information and memory processing strategies and attentional and motivational mechanisms for organization and its understand [3]. Information processing theory is a cognitive perspective that emphasizes the processes of thinking, thinking, reasoning and the way information is encountered and stored and memory function. Teachers' job is to familiarize them with information processing and learning thinking. Construction theory believes that learning is growth and attracting, adapting and constructing are basic processes

7. Discussion and Conclusion

of practice in learning [3]. In the construction landscape, teachers need to facilitate active learning and interact socially with students. According to construction theory, three important factors for creating an effective learning-teaching environment include: 1.increasing active learning; 2. facilitating social interaction and creating quality learning materials. Based on the theory of meaningful learning, Azobole et al. of previous knowledge is a very important factor for determining the occurrence of new learning. The structurality refers to the human reserve of information. From Azobel's point of view, meaningful learning is due to the relationship between new knowledge and what it already knows. Learning involves real-life situations and is a source of internal learning while it is foreign [1]. In order to increase teachers' learning, they need to choose ways to rate the readiness of the learning and teach them based on their previous learnings, actively enter the students in the learning process, provide information that has meaning for the learning, and help the learners to integrated the information in an understandable way [8]. There was no difference between the individual and professional characteristics of basic sciences teachers and the school where they worked, and there was no difference between supporting the classroom of basic sciences teachers' schools. However, there was a difference between the curriculum of the schools of basic sciences teachers, between the classroom management of basic sciences teachers, between the physical space (numerous media) of the basic science teachers' classes, and the extra-structural factors affecting the yadhi-learning process of basic sciences courses of the teachers of Yasuj city. The results of this study with researches by Sajedi et al. (2017), Habibi Rad et al. (2017); Khani et al. (2015), Sadeghi (2013), Panahi et al. (2011) and Yazdanpanah (2015) are aligned. Influencer Corona Education poses a major threat to education, educational ethics and educational justice in Yasuj. In order to move towards an effective education, education should prioritize the strategies of the defensive group based on the reduce of weaknesses, including educational design,

outfited, the use of numerous media and teachers' skills, and avoiding threats, i.e. the crony influences of education and their abandonment.

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Reference

- [1] Abella, J., (2009), Adult learning Theories and medial education: a review. *Malta Medial.j.* 21(1):11-18.
- [2] Bastable, S, B., (2008), Nurse as educator: Principles of teaching and learning for nursing practice. 3rd ed. Boston: Jones and bartlet publishers.
- [3] Billings, D. M. and Halstead, J. A. (2009), Teaching in nursing a guide for faculty.3rd ed.
- [4] Bowles, D.J, (2006), Active learning strategies not for the birds! *Int J Nurs Educ Scholarsh.*
- Clark, CC, (2008), Classroom skills for nurse educators. Sudbury: Jones and bartlet publishers.
- [5] Doymus, K., Karacop, A. and Simsek, U. (2010). Effects of jigsaw and animation techniques on students'understanding of concepts and subjects in electrochemistry. *Educational Technology Research and Development.* 58(6): 671-91.
- [6] Doymus K. Teaching chemical equilibrium with the jigsaw technique. *Research in Science Education.* (2008), 38(2): 249-60.
- [7] Emerson, R. J, (2007), Nursing education in the clinical setting. 1st ed. St Louis: Mosby.
- Göçer, A., (2010), A comparative research on the effectivity of cooperative learning method and jigsaw technique on teaching literary genres. *Educational Research and Reviews.* 5(8): 439-45.
- [8] Hartzell JD, (2007), Adult learning theory in medical education. *Amj Med,* 120(11): e11
- Hoben, G., Lenie, k., Vanhoof, A. (1999). A Knowledge-based SWOT-analysis system as an instrument for strategic planning in smal and mediumsized enterprises. *Decision Support System.* 26: 35-125.
- [9] Kahraman, Cengiz, Demirel, Nihan C etin, Demirel, Tufan, (2007), Prioritization of E-Government Strategies Using a SWOT-AHP

Analysis: The Case of Turkey, *European Journal of Information Systems*, 16, 284-298.

[10] Kala, S., Isaramalai, S. A. and Pohthong, A, (2010), Electronic learning and constructivism: A model for nursing education. *Nurs Educ Today*. 30(1): 61-66.

[11] Karimi Moneghi, H., Binaghi, T, (2009), Teaching and Learning Style and the Application in Higher Education. Mashhad: Mashhad University of Medical Sciences.

[12] Kazemi, Z, 2013,. Model of enrichment of elementary school empirical sciences course for learning and development of cognitive skills of students, *Humanities Researches University of Isfahan*. 5 (27). 66-37.

Khani, R. A., feizi, F., 2015, A Study of New Teaching-Learning Methods in Elementary School and their Application, 2nd National Conference on Sustainable Development in Education and Psychology, Social and Cultural Studies, Tehran, Soroush Hekmat Mortazavi Islamic Studies and Research Center, Mehr Arvand Institute of Higher Education, Center for Sustainable Development Solutions.

[13] Mirza Mohammadi, M. H., 2004, M.Sc., Tehran, Poursan Pesheshesh.

[14] Panahi, R.A., Kazemi, S. A. and Rezaei, A. M., 2011, The relationship between learning styles and academic achievement: the role of gender and field of study. *Islamic Azad University, Marvdasht Branch*. 8 (30): 189-196. [In Persian].

[15] Sajedi, M., Robat Sarpooshi, J. and Sharifian, M. H. 2017, Content analysis of the 10th grade math book based on William Roman technique, 1st Conference on

Mathematics Education and Application, Kermanshah,

[16] Kermanshah, Scientific And Educational Association of Kermanshah Mathematics Teachers.

[17] Shabani H, (2003), Ravesh tadrish pishrafte, Tehran: Samt; [Persian].

[18] Salehi, Sh., (2004), Moghadamei Bar Parastari Balini. Isfahan: Daneshgah Oloum Pezeshki.

[19] Torre, D. M., Daley, B. J., Sebastian, J. L. and Elnicki, D. M., (2006), Overview of current learning theories for medical education. *Am J Med*. 119(10): 903-907.

[20] yazdanpanah, M., Karamizadeh, Sh., Rezaie, A., (2020), The Analysis of reminiscence-learning process in basic sciences with SWOT model. (provide: 7th International Conference Modern Research In Psychology, Counseling, And Educational Sciences, 17 November, Tbilisi-Georgia).

[21] Yazdanpanah, Mehrzad., 2019, Study of strengths and weaknesses in teaching-learning process of basic sciences courses in schools of Kohgiluyeh and Boyer-Ahmad province and presenting executive strategies (Case study: Boyer Ahmad boys' secondary schools). [Supervisor: Dr. Ayoub Rezaei [Research Project approved by the Ministry of Education, General Directorate of Education of Kohgiluyeh and Boyer-Ahmad Province, Deputy of Research and Information Technology (Research Council of Research Center)]. [121 pages].