

*Designing and Validation of a Selective Attention-Based Curriculum using Upside down Approach in work and technology lesson for freshman high school students*

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**Abstract**

The purpose of this study was to design and validate a curriculum based on selective attention with Upside down approach in work and technology lesson for freshman high school students. This research was carried out using a sequential heuristic approach using a hybrid method. First, it was extracted by qualitative content analysis of the elements (purpose, content, teaching method, evaluation) of the selective attention-based Upside down curriculum. The exploratory and confirmatory factor analysis method was used for quantitative analysis of data. 15 individuals were selected as statistical sample and in the quantitative section, all teachers teaching work and technology lesson for freshman high school students in Fars province numbered approximately 800 (315 men and 485 women). Using multi-stage cluster sampling with Cochran formula, 340 teachers of work and technology were selected. The data collection tool was a semi-structured interview qualitative section and a researcher-made quantitative questionnaire of selective attention with 31 items on a five-point likert scale. Results: The results showed that the components of working memory, competitive selection, Top-down Control and Bottom-up Control are effective in explaining Upside down curriculum pattern based on selective attention. Conclusion: If the Upside down curriculum is based on selective attention, learners can be effective in teaching, performing, and memorizing teacher verbal information and classroom visual information.

**Key Words:** Upside down Curriculum, Selective Attention, work and technology Lesson.

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### *Introduction*

From the perspective of human beings, there are some functions of the cortex. In order to get into the process of perception processing, one first should pay attention to it. Given that humans cannot process the objects that are often used in the disciplines, it is possible for them to choose and process them for processing Exit (Groom, 2015). The tube can be moved to the fastest or most dislocated part of the body, in a way that looks exactly the same as it did with the other (James, 2014). The amount of learners' attention to the subject is one of the key factors in teaching and learning, as Bandura emphasizes that the initial stage of any learning begins with attention, and if attention is not sufficient, one's learning is impaired (Hartman, Hunfalvay, 2015). In fact, one of the challenging issues is the complexity and severity of this phenomenon in most cognitive activities (Challis & Kohen & Kinoshita, 2016). In addition, many students with learning disabilities have attention problems, especially selective attention, and in addition to maintaining and sustaining attention in the tasks they begin with, they also have distraction problems and selective attention (Skottun & Skoyles, 2010). Selective attention as a component of executive function refers to a set of complex mental operations that include focusing on the target, engaging with it, keeping or tolerating and listening to the alarm for a long time, character encoding. Stimuli and focus shifts from one

goal to another (Vander & Hartman & smith & Visscher, 2017). The first dimension and the most important feature of attention is the selectivity of the stimulus presented. Selective attention refers to the prohibition on the entry of some data into the information processing system. One of the main features of selective attention is its limited capacity in the sense that the brain can only focus on limited issues at any given moment and must ignore the distracting stimuli in order to focus on task-related stimuli (Mogui & Nakazat al-Husseini & Esfarjani, 2018). In the past decades the volume of information was more limited, the method used could easily afford to remember and link with each other and build new findings cope, but now the volume of information narrow boundaries prior to hitting, traditional methods of learning than can be about information. Be kind to the trainee. Another factor to be a learning method is the one that comes from the learner. Whereas on the right focal point in the field, it is now expected that the learner will not have knowledge, ability, understanding, and applicability. On the other hand, the emphasis is on more effective abilities and learning strategies, more than other factors in the learning method (Kaviani et al, 2018). In recent years there have been important developments globally that have made curricula more attractive to policymakers, researchers, and planners seeking to transform curriculum and educational output at different

levels of education (Nowruzzadeh & Fathi Wajjarah, 2016). Upside-down curriculum as a new idea related to curriculum architecture or macro-level curriculum can be instrumental in transforming the curriculum of secondary education and especially primary education (Mehr Mohammadi, 2014). The curriculum combines upside-down theory with theory and introduces the student into practice by considering part of the on-the-job training that will bring students closer to the workplace (s) and to the workplace; In fact, this type of learning is an experience-based learning. This concept is considered as a key strategy for enhancing learner learning that focuses on work practices alongside the acquisition of technical knowledge and skills (ghaderi et al, 2017). Motamedi and Yamani Dozi Sarkhabi (2019) , conducted a research on the characteristics of sustainable development education curriculum from the perspective of adaptive systems and concluded that curriculum should be based on interdisciplinary approach and on educational system developments in Worldwide in: Developments in learning and the role of learners; Developments in the type of education and emphasis on integrated vocational and theoretical education; Developments at schools and their roles; Developments in learning; and development in curricula. Khanjani et al (2019), in a study that investigated the impact of cognitive remission on diffuse attention, selective attention, and

executive functions of adults with stroke, found that there was a significant improvement in selective attention by the cognitive rehabilitation program which may occur as a result of changes in neural organization in response to injury. It seems that the observed improvement in sporadic attention and executive function due to mismatch and parallel processing in different brain regions is due to the infarct tissue. Davoodi (2018), they conducted a research to design and validate an experienced curriculum based on an Upside down curriculum model at Farhangian University. The results showed that the elements of purpose, content, method, and evaluation interacted and complemented in some way. The designed curriculum enabled the student to find the best operational mechanism to train students to think like teachers. Take a look at the processes of practice in which contemplation is a prerequisite for professional qualifications. Seifi et al (2018), conducted a study aimed at the effect of brain-compatible learning on students' cognitive flexibility and selective attention. Gain mental focus between different stimuli and increased flexibility. Accordingly, the outcome of the tutorials for teachers and students is conscious education and informed learning which provides the basis for selective attention in the learning process. According to the research results of Amani et al (2018), who compared planning, selective attention and cognitive flexibility in students with and without

specific learning disorder (reading impairment). The results of this study showed that there is a significant difference in cognitive flexibility, planning and selective attention from executive function components between children with specific learning disorder (reading impairment) and normal children. The results of this study indicate that there is a defect in the executive functions of children with specific learning disorder (reading impairment). Steer (2017), in a study of 8 adolescents with learning disabilities and 8 homogeneous normal adolescents, found that people with learning disabilities had poorer visual and selective attention, shifting attention, and sustained attention, and the difference between the two groups was significant. Guajardo and Cartwright (2016), In a study we examined the relationship between theory of mind, reasoning, and executive function (cognitive flexibility) with concepts of language acquisition and reading comprehension in preschool and elementary school children. The sample consisted of 31 preschool and elementary school children. In their study, they concluded that cognitive flexibility was significantly associated with concepts of language acquisition and reading comprehension.

Siftsey (2015), In a study that aimed to investigate the impact of using project-based learning in social studies education on primary school students' attitudes toward social studies curriculum, they found that using active teaching methods such as project-based

learning can be effective in students of social studies. It created a positive attitude Kane, Oakhill, and Bryant (2014), in a study, investigated the cognitive performance of working memory in elementary students. The results showed that word processing speed and coding during reading, use of phonological skills and range of cognitive and metacognitive skills, activation of previous information, analysis and processing of information in accordance with learning style were related to performance and memory capacity. The work and technology curriculum was created from the sixth grade of elementary school and then the first year of high school as an educational content with a practical and applied approach. The concepts of this course are taught to students in two dimensions: module and technology skills. This course has an activity-oriented format and is one of the technical and workshop competency courses. Acquiring the competencies of this course content is a very important aspect for the future career success of the learners. Lack of proper variety in designing the classroom space, not creating learning opportunities Attractive and lack of necessary skills in using electronic devices such as computers and lipsticks (which with audio and video capabilities simultaneously engage more senses in humans (visual and auditory sense) and lead to greater concentration and attention of the student Caused students not to pay enough attention when teaching and learning. The nature of this

course is such that it requires the design of a special curriculum in which clinical experiences and work in the real environment of learners are given importance, and with the existing conditions, a fundamental change in the curriculum and teaching and learning methods in This lesson is obvious Given the problems presented in the teaching of work and technology and the concepts and principles presented, this study seeks to answer the question of how the upside-down curriculum model based on selective attention to work and technology for freshman high school students?

#### *Research question*

What is the design and validation of an upside-down curriculum model based on selective attention in work and technology lesson for freshman high school students?

#### *Research method*

The purpose of this study was to design and validate a curriculum based on selective attention using Upside down approach in work and technology lesson for freshman high school students. This research was carried out using sequential heuristic approach and Mixed method. The Participant of the study included 15 professors and curriculum experts working in Iranian universities (Shiraz University, Islamic Azad University of Lamerd branch, Allameh University, Tehran University, Mazandaran University, Tabriz University and Sari branch of IAU. And in the

quantitative phase, all teachers for freshman high school students in work and technology course in Farsi were approximately 800 (315 men and 485 women). Analysis based on data collected from 15 subjects and 340 subjects in qualitative and quantitative stage, based on purposeful sampling for qualitative part and Cochran formula by multistage cluster sampling. For a small part, the community was done. Data was collected through a semi-structured interview, a checklist, and an interview to identify the Upside down curriculum components and selective attention in the qualitative section and a researcher-made questionnaire based on the components presented in the study. Content validity was used in relation to the validity of the questionnaires, which were approved by experts according to the final CVI and CVR of all selected attention constructs (31 items). The reliability of the questionnaires in terms of composite reliability in all three criteria (Cronbach's alpha, composite reliability coefficient (CR) and mean coefficient of extracted variance (AVE) were acceptable and acceptable. Qualitative analysis was used to analyze the qualitative data. In the quantitative part, descriptive statistics were used to describe the data, and inferential statistics were used to investigate the research questions by means of SPSS and AMOS software. Exploratory and confirmatory factor analysis were used to investigate the research questions.

**Research findings**

At first, the appropriate curriculum framework was developed in the form of Tyler's

four element (purpose, content, teaching-learning methods, evaluation) derived from the interviews.

**Table 1. Proposed Framework of Selective Attention-Based Curriculum with Upside down Approach in work and technology lesson (Based on Interviews Subjects)**

Elements of Selective Attention-Based Curriculum with Upsidedown Approach				
Evaluation	teaching-learning methods	content	purpose	
-Students' success in complex practical tasks -Deep and semantic learning -Assessment of tasks folder	-Critical Thinking -Problem-based approach -Multimedia Builder Teaching Method (MMB) -field trip	-Intertwined concepts - Visualization of designs	-Storing verbal information -Using simulated environments -Using real environments -Saving visual information	Working memory component
-Innovation in production - creativity in production -Important and key choices -Performance-based evaluation -Product-based evaluation Attitude to jobs- (Power of Thinking, Problem Solving, Reasoning) -Choose specific and directional categories - Assessment by other students - Applying what has been learned -Group evaluation	-Collaborative learning approach -The game-making approach (finding a way to play education)	-New subject -Variety -Preventing irrelevant information and learning interference -selective	-According to cognitive function - Specified goals at the beginning of each class -Identify key points -Set specific goals -Select information relevant to the purpose	Competitive selection component
- Considering the time limit criterion	- Workshop teaching	- Reduce bulk	-Reduction of unintentional	To p-do

	method -Situational Learning (Situational Teaching Method) -field trip	information at a time	stimuli - Based on the received messages - Strengthen timely responses - Strengthen appropriate responses to locations	
-Group evaluation -self assessment - Project Evaluation -Modality evaluation	-Workgroup and select one -Group (Leadership Experience) -Project-based learning	- Validation of information -Changing focus on different topics  - Marking input information	- Tracking information -Control and selection of information - Get information tailored to the purpose -Access to sustainable education - Directing inclusive activities	Bottom-up Control component

According to Table 1, which is derived from interviews, questionnaires were prepared for selective attention and were among 340 sample subjects. First, we explored whether exploratory factor analysis was able to measure the intended purpose or not. Generally, the purpose of exploratory factor analysis is to discover the main dimensions of the structure designed to measure the desired variable. To determine if the number of data (sample size and relationship between variables) is appropriate for factor analysis? Kaiser-Meier fit test and Bartlett

test were used. The Kaiser-Meier fit test is an indicator of sampling adequacy that examines the small partial correlation between variables. The index is in the range of zero and one. If the index value is close to one, the target data (sample size) is suitable for factor analysis, otherwise (usually less than 0.5) the factor analysis results are not appropriate for the target data. The value is between 0.5 and 0.69, the data are moderate and data should be extracted with greater caution and values greater than 0.7 indicate the sample size is appropriate.

**Table 2. Results of KMO Index and Bartlett Test for Selective Attention Structure**

Kaiser Meier fit test number and Bartlett test		Structure
0.966	KMO	Selective attention
4566.13	Bartlett	
276	Df	
0.0009	P-Value	

Table 2 shows that the value of KMO (sampling adequacy) is 0.966 and the significance level of Bartlett's Spearman test is 0.0009. Therefore, in addition to the adequacy of sampling, the implementation of factor analysis based on the correlation matrix studied will also be justified. Three composite reliability indices, mean variance extracted, and factor loadings are used to evaluate the construct reliability (Fournell & Larker, 1981). The condition for establishing the reliability of the construct is that the composite reliability (CR) is greater than 0.6 and the mean extracted variance (AVE) is greater than 0.4 (Fournell & Larker, 1981). Content validity and AVE (diagnostic validity) were used to determine the validity of the questionnaire. Using this coefficient, questions with a factor

load less than 0.4 in each construct were eliminated. In general, according to Table 3, the results of the mean of the extracted variances of AVE show that all the components in the measurement model have a value greater than the standard limit of 0.5, which indicate a convergent validity. Also, the composite reliability (structural reliability) indicates that the values obtained from the components are higher than the standard limit of 0.7. To determine the internal reliability of the questionnaire, the reliability coefficient (Cronbach's alpha) was used. Values greater than 0.75 indicates acceptable and appropriate reliability. Therefore, the subject of values obtained from AVE, CR and Cronbach's alpha in the questionnaire is confirmed in Table 3.

**Table 3. Structural Reliability Analysis of Selective Attention**

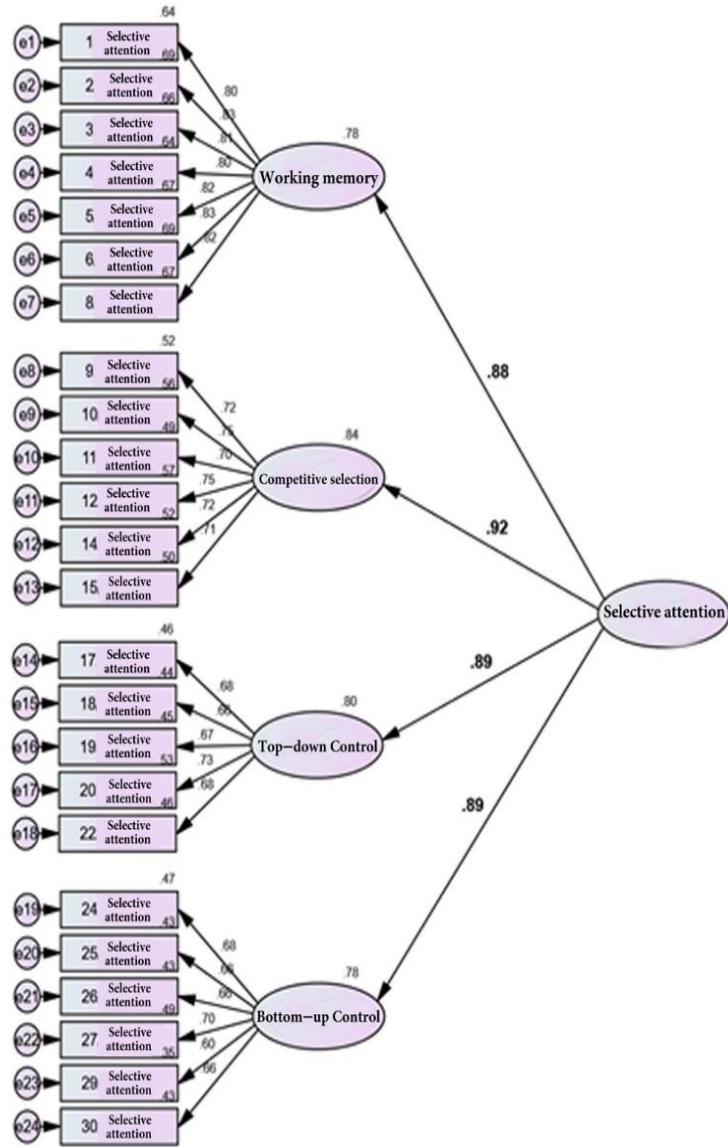
average coefficient of variance extracted (AVE)	Composite reliability coefficient (CR)	Cronbach's alpha	Variables
0.60	0.90	0.87	Competitive selection
0.71	0.95	0.93	Working memory
0.57	0.87	0.82	Top-down Control
0.53	0.87	0.82	Bottom-up Control

As can be seen, the constructs used in this study had acceptable

reliability in terms of composite reliability for all three criteria.

Then, using second-order factor analysis to explain each of the main components. We pay attention to choice. Second-order factor analysis and standard coefficients and t-values were used to determine the impact of each of the variables and their significance

coefficients. To assess the adequacy of the model, Chi-square, Normal Fit Index, Adaptive Fit Index, Goodness-of-fit Index, Estimated Error Squares Index, Modified Goodness-of-fit Index, Incremental Fit Index and Non-Normal Fit Index were used.



Chi\_square=287.398; DF=248; P-VALUE=.043; GFI=.937;CFI=.991;RMSEA=.022

Figure 1. Second-order factor analysis model of selective attention in standard coefficients mode

**Table 4. Second-order factor analysis of selective attention**

Priority	Results	P-Value	The values of t	Standard coefficients	Explanatory Explanation of Selective Attention Structural Factors
3	It is meaningful.	0.0009	15.082	0.88	Working memory
1	It is meaningful.	0.0009	13.638	0.92	Competitive selection
2	It is meaningful.	0.0009	12.272	0.89	Top-down Control
2	It is meaningful.	0.0009	12.316	0.89	Bottom-up Control

As shown in Table 4, the standard factor of working memory variable in explaining Upside Down curriculum pattern based on selective attention is 0.88, t value is 12.082 and P-value is less than 0.05. The result is that, from the perspective of research participants, working memory is effective in explaining the pattern of Upside Down curriculum based on selective attention.

The standard factor coefficient of competitive selection variable in explaining Upside Down curriculum pattern based on selective attention is 0.92, t value is 13.638 and P-value is less than 0.05. Competitive choice research is effective in explaining Upside Down curriculum pattern based on selective attention.

The standard factor coefficient of the variable Top-down Control in explaining Upside Down curriculum pattern based on selective attention is 0.89, t value is 12.227 and P-value is less than

0.05. The result is that, from the perspective of the research participants, Top-down Control is effective in explaining the pattern of Upside Down curriculum based on selective attention.

Standard Factor Coefficient of Bottom-up Control Variable in Explaining Upside Down Curriculum Pattern Based on Selective Attention is 0.89, t value is 12.126 and P-Value is less than 0.05 in the present study, Bottom-up Control is effective in explaining Upside Down curriculum pattern based on selective attention.

In order to prioritize the components of the Upside Down curriculum model based on selective attention, considering the standard coefficients of the second-order factor analysis, the competitive selection variable is the first priority and the Working memory variable is the final priority.

**Investigating the adequacy of second-order factor analysis of selective attention**  
**Table 5: Fit indices of second-order confirmatory factor analysis model of selective attention**

Desirability	The amount of research findings	Acceptable value	Indicators
Model approval	287.398	-	Chi square) $\chi^2$ (
Model approval	0.043	-	P-Value
Model approval	248	$df \geq 0$	Df (Degree of freedom)
Model approval	1.159	$\chi^2/df < 3$	$\chi^2/df$
Model approval	0.022	RMSEA < 0.1	RMSEA
Model approval	0.939	NFI > 0.8	NFI
Model approval	0.923	AGFI > 0.8	AGFI
Model approval	0.937	GFI > 0.8	GFI
Model approval	0.991	CFI > 0.8	CFI
Model approval	0.991	IFI > 0.8	IFI
Model approval	0.0295	The closer to zero.	SRMR

As can be seen in Table 5, the chi-square statistic value in the 2887.398 model also has 248 degrees of freedom, yielding a ratio of 1.159 which is an acceptable value. On the other hand, model fit indices such as CFI, IFI, NFI, AGFI, GFI are all acceptable and appropriate, and SRMR is 0.0295.

In this section, after confirming the construct of selective attention, we examine the descriptive variables of the research variables. Table 6 shows the Descriptive indicators such as Average, Median Mode, and Standard deviation, minimum and maximum relevant to the research variables.

**Table 6. Descriptive indicators of the variables of interest for the selected**

maximum	Minimum	Standard deviation	Mode	Median	Average	Number	Research variables
5.00	1.14	0.87	3.00	3.00	3.06	340	Working memory
5.00	1.00	0.78	3.00	3.00	2.93	340	Competitive selection
5.00	1.20	0.75	2.80	2.90	2.96	340	Top-down Control
4.83	1.00	0.73	2.83	3.00	3.01	340	Bottom-up Control
4.25	1.42	0.69	2.92	3.00	3.00	340	selective attention

As can be seen, the Working memory variable has an Average of 3.06, Median 3, mode 3, standard deviation of 0.87, the lowest is 1.14 and the most is 5. The competitive selection variable has an Average of 2.93, median 3, mode 3, standard deviation of 0.78 the lowest is 1 and the most is 5. Top-down Control variable has an Average of 2.96, a Median of 2.90, a mode of 2.80, a standard deviation of 0.75, a minimum of 1.20 and a maximum of 5 Bottom-up Control variable has an Average of 3.01, median of 3, mode of 2.83, standard deviation of 0.73, minimum of 1 and maximum of 4.83. The selective attention variable has an Average of 3, median of 3, mode of 2.92, standard deviation of 0.69, minimum of 1.42 and maximum of 4.25.

### *Discussion and conclusion*

The purpose of this study was to design and validate a curriculum based on selective attention with at Upside down approach at work and technology lesson for freshman high school students. In this regard, select the dimensions of the decision (working memory,

competitive selection, Top-down control and Bottom-up control) in line with the Upside down curriculum model in the field of expert work and legal advice. The results showed that the components of working memory, competitive selection, Top-down control and Bottom-up control are effective in explaining the Upside down curriculum pattern based on selective attention and according to the model fit indices, the amount of chi-square statistics and the degree of freedom of the model. The value is acceptable, indicating that the Upside down curriculum model based on selective attention in the first secondary vocational technology course has a good fit. Examining the dimensions of four components of competitive selection, working memory, Top-down control and Bottom-up control showed that these components are effective in terms of goal setting, content production, teaching-learning strategies and evaluation and in the pattern of selective attention. Based on standard coefficients and factor analysis, the component of competitive selection was identified as the first priority and

the component of working memory as the final priority. In explaining these findings, it can be acknowledged that in the Upside down curriculum based on selective attention, in the dimension of working memory, students can keep verbal or spoken information of the teacher and visual information in the vocational technology lesson in their minds. Also illustrate plans for practical activities in the vocational technology course and focus on a specific unit of work during the training by using active methods in the vocational technology course. In the competitive selection dimension, students can categorize more important information from the mass of course-related information, avoid interfering with irrelevant and unimportant information in homework, and be able to make important and key choices related to work and technology course objectives. In the dimension of Top-down control, it is possible to reinforce appropriate answers in terms of time and place of activity for learners. And students can pay close attention to the processing of incoming messages. In the Bottom-up control dimension, it allows students in the IT course to change their focus from one topic to another, and to encrypt the input information in the IT course, recognizing and decoding it at appropriate times, and have proper control over its use. Due to the novelty of the research model and the lack of similar research, the researcher has faced limitations in making comparisons:

The results of Motamedi and Yamani Dozi Sarkhabi (2019) Concerning the specifics of the curriculum of sustainable development from view point adaptive systems, the curriculum should be based on an interdisciplinary approach and on the evolution of the education system around the world in: Evolution in learning and the role of learner ; Development of the type of education and emphasis on integrated vocational and theoretical education, change in schools and their roles, change in knowledge, and change in curricula. In the present study, it was attempted to adopt a new approach to first-grade work and technology lesson using selective attention-based Upside Down curriculum. The Upside Down curriculum model emphasizes the following: changes in the role of the learner and learning and the evolution of the type of education (using a hybrid approach). Therefore, the research and results obtained from Motamedi and Yamani Dozi Sarkhabi can be considered in the same direction with the present research. The results of Davoodi's (2018) study aimed to design and validate an experienced curriculum based on an Upside Down curriculum model at Farhangian University showed that: The designed syllabus enables the student to find the best operational mechanism for the training of student intellectual teachers. In the present study, the researcher, by analyzing the existing literature and consulting the experts, has realized the

importance of the Upside Down curriculum based on selective attention in the work and technology lesson in the first high school and tried to present the model. Therefore, the results of Davoodi's research can be compared with the general results of the present study. Seifi et al., (2018) in a study aimed at the effect of brain-based learning on cognitive flexibility and selective attention of nongovernmental elementary school students in district five of Tehran showed that: The result of educations for teachers and students is conscious education and informed learning, which provides the basis for selective attention in the learning process.

Steer (2017) in a study showed that people with learning disabilities have poor performance on selective visual attention, attention shifting, and sustained attention. Overall, this research emphasizes the relationship between learning and attention. Therefore, it can be said that the results of Esther's research are in line with the general results of the research. In their research, Zeller et al. (2016) have considered the elements and components of goals, content, assessment tools, assessment timing, evaluation standards, and program completion time. In the present study, the dimensions of the Upside Down curriculum components including goal description, content and teaching-learning and evaluation strategies were obtained. Therefore, it can be said that the results of Zeller et al. Are in

agreement with some of the results of the present study.

Cain, Oakhill, Bryant (2014) in a study examined the cognitive performance of working memory in elementary students. Their results showed that word processing speed and coding during reading, use of phonological skills and range of cognitive and metacognitive skills, activation of previous information, analysis and processing of information in accordance with the learning style of performance and the memory capacity are relevant. In the present study, by analyzing the relevant literature, working memory was selected as one of the dimensions of concept of attention. Therefore, it can be said that these two studies have worked in the same direction. Miyake, Witzki, Emerson (2012) in their research, they showed that the performance of the SPD and the central executive system is related to working memory capacity and is an important variable in skill acquisition. In the present study, working memory was one of the components of selective attention and the spatial visualization was introduced as its sub-component. Therefore, the findings of Miyake, Witzki, and Emerson are consistent with some of the findings of the present study.

And in the end, given the findings, it can be said that learning is a permanent and internal process in which processes such as attention play an important role. The ability to pay attention enables learners to select only a few of the various types of information. Also, the amount of

learners' attention to the subject is one of the key factors in teaching and learning. Because if the attention is not enough, the person will have difficulty in learning. Attention is the most important activity of the mind and plays an important role in perception, intelligence and memory. Attention Deficit Disorder is one of the causes of student failure. In fact, attention plays a key role in learning and academic development activities, especially in school years and in general afterwards. But what factors affect attention are important and debatable. It seems that one of the factors affecting students' attention is the presentation of a teaching pattern or teaching style. Practices that are largely inactive and have a traditional approach, such as intensive, non-pausing teaching, wrapping up the teacher's inability to comprehend, the students' lack of involvement in teaching, the use of audio and video technologies, The overwhelming amount of material, and the inappropriate content of the lesson cause the students to be neglected, confused and distracted and this will undermine their interest and motivation, and this lack of interest will have an adverse effect on the results of the work output. Therefore, it is necessary to revise the teaching methods and use of the active methods by the teachers. In the meantime, use an approach such as the Upside Down curriculum using modern teaching and learning techniques such as using audio and video files, free discussions, problem solving,

teamwork, and using environments. Simulated environments can be an effective step in preventing students' inattention and attraction to content.

To apply and reinforce the selective attention-based lesson model with the Upside down approach it is suggested that:

Teachers use a variety of teaching methods such as problem-based approach, demonstrative teaching, scientific work, workshop teaching, etc. to avoid distraction. The goal is to be identified by the teacher at the beginning of each class, which allows the goal-relevant information to enter the student's memory. Use real-life or simulated environments to focus on relevant information. Build environments based on appropriate standards to address environmental factors that cause students to be neglected. The content should be formulated based on the principles of selecting and organizing the content of the lesson. Use visualization of designs to better store information in detail. Realistic evaluation of students based on their scores, product and performance.

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