PRODUCTION OF SPACE THROUGH ACTION AND BODY IN FIRST YEAR ARCHITECTURAL EDUCATION

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ABSTRACT

The recent sociological and technological developments have considerably changed the way we deal with "space" as an architectural concept. It is not considered merely a physical state anymore since it has evolved into a concept also related to abstract properties obtained through life experiences. Similarly, designed space is a limit set for actions and users (body), and it should be considered together with other components. This notional transformation affects our perception of space, our production methods and inevitably the design of architectural education. At this point, the program to be followed in the first year of architecture departments, as an introduction to profession, is important since it might provide the very first environment where they learn how to make causal reasoning, how to question, how to be creative and how to look at life from a different perspective. The inclusion of new interpretations and productions of "space" and approaches accompanied with action and body interaction into first year programs of architecture departments enables students to make their unique and original interpretations about current architecture knowledge.

In this study, the approaches questioning the relationship between space and experience through body and action will be discussed in relation to the related studies within the scope of the first-year design studios at Eskisehir Technical University, Department of Architecture in 2018-2019 academic year. The scope of these practices include content through which one can produce interactive and experimental spaces that are in harmony with actions, question the role of body and allow flexible applications within the framework of an experienced space idea. How practices are constructed, learning processes and learning outcomes will be presented. In the light of the data obtained, ideas and approaches regarding the production of space will be questioned in the context of Bernard Tschumi's thoughts on the relationship between action, body and space.

Keywords: Production of space, action and body, first year architectural education

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1. INTRODUCTION

Body-space relationship has always been questioned as an important issue since ancient times. In earlier times, body-space interaction was often evaluated based on body sizes and numerical values; however, abstract characteristics obtained through experience have also been topics of discussions thanks to the developments as of the 20th century. Today, there is a holistic approach to "body" which deals with its both abstract and concrete qualities. "Movement" and "action" are important in body-space interaction. Both concepts play significant roles in shaping a space physically and through experiences.

Tschumi's approaches stand out in body-action-movement and space interaction because of the following reasons: he has conducted studies by examining all the artistic content specifically focusing on this issue; he suggests that body movements and actions produce new spatial dynamics through associations with "in-betweens"; he deals with these concepts by taking their potential to create innovative architectural and spatial contents into consideration; and he attaches importance to concept and experience approaches in architectural design process.

Tschumi's innovative approaches towards space production through body-action-movement might be considered an effective perspective in finding original and creative solutions by improving different thinking and interpreting skills in architectural education and practices. It might effectively increase motivation if the program allows experimental practices in first year architectural education, during which students become familiar with architectural terminology and acquire critical and relational thinking skills and the basic knowledge of architectural education are discussed.

In this study, four works completed by students attending Department of Architecture in Architecture and Design Faculty at Eskişehir Technical University in 2018-2019 as a part of first year design studio course contents were examined by using comparative analysis method within the context of Tschumi's innovative approaches in space production. The data obtained from this analysis were interpreted within the context of their original contents, processes followed and the learning outcomes. The study also revealed the potential to design innovative approaches in space production in first year architectural education.

2. ACTION-BODY-SPACE RELATIONSHIP IN ARCHITECTURE

Body has been a focused issue in architectural practices since Vitrivius, who suggested that body scales and ratios should be used in design processes in order to achieve "the ideal" in spaces (Vitrivius, 2005). Inspired by Vitrivius,

Leonardo da Vinci drew his famous "the ideal body" after a number of golden ratio sketches through which he discovered the ratios of body. Body was involved in Renaissance architecture as a way to obtain ideal sizes and use them in design concepts. Cartesian thought, which perceives body only as a physical and static object, also supports this approach. Finally, Le Corbusier elucidates "body" in ideal sizes in his well-known Modulor figure.

Above mentioned approaches explain body-space relationship in reference to ideal sizes and numerical values. However, as of 20th century, body has started to play an active role in art and the spaces designed based on ideal bodies as triggered by Modernism movement often have looked like each other. As a result, body-space relationship has been questioned claiming that this relationship should not have merely a physical dimension. According to Ponty (2005), evaluating only the physical presence of body and trying to give it a meaning through this evaluation do not provide us with accurate knowledge. Body is a living organism that should be understood in relation with all the things around it (Merleau-Ponty, 2005). In other words, a space should be evaluated with its both abstract and concrete components. Zevi (2015) highlighted that architecture is not only about structure and measurements. He suggested that a three-dimensional perception would not be enough to understand a particular space. Thus, time and movement are important concepts to consider in architectural processes as well.

Movement is more than a concept that only describes abstract relationships among objects. They are imperceptible phenomena that should be considered together with objects (Bergson, 2007). There are theoreticians who assert that space and movement complement each other. Spaces are formed through movements of our body, which may not always be perceptible. Movement, on the hand, is a perceptible feature of a space. Thus, movement and space have "visible-hidden" or "piece-whole" relationship due to their nature (Laban, 1966, cited by Alaçam – Çağdaş, 2016). Also, a series of movements initiate an action.

The relationship between action and space has always been a debatable issue in architectural practices. Christopher Alexander claims that a definition of space that lacks the actual life in it will not be realistic enough. He suggests that fragments of actions are very important while describing a particular space (Alexander, 1977). Similarly, Erzen (2015) states that relationship between actions and spaces form the basis of architectural practices. In addition, Tschumi (2017) suggests that "in between spaces" create opportunities for actions, and relationship between actions and "in between space" have the potential to form new experimental spaces. As the above mentioned opinions suggest, action, movement and body have been important concepts in today's architectural

practices. Thus, enriched by different disciplines, these practices now have an active role that is associated with body and shaped by actions and movements. At this point, Tschumi's approach has considerable importance.

2.1. Tschumi's Approach

Inspired by the ideas of Deleuze, Foucalt and Derrida, Bernard Tschumi tried to find a connection between architecture and literature by supporting them with his own ideas about narration. It is possible to create new and enjoyable narrations by bending grammar rules and using power of words or looking at these rules from different perspectives. Can the use of this method in the field of architecture allow new architectural narrations and perspectives? Would it be possible to create new spaces when the relationship between space and functions and content in buildings differs? He says that establishing different relational unities and disparities between space and what we do with our body – i.e our actions- will allow creation of new spaces according to architectural theory and practices. Tschumi points out that, conflicts, contrasts, reciprocities or indifferences, which are components of space, might be used as methods to create new contents. Accordingly, he coined new terms such as cross programming, transitive programming or dis -programming referring to the gap between actual content of a space and what it should contain by explaining the situation through program.

Tschumi, in his article titled Architectural Paradox (1975), stated that he tried to combine concept and experience approaches (Tschumi, 2017). Architecture is no longer defined as a field which produces fixed components of environment and later watches what will happen next, and its changing nature and dynamism of the relationship individuals establish with their environments has become more prominent. In 1950s, Victor Turner suggested the term "performative turn" stating that the actions of body are "performed", so they should be approached with new perspectives rather than clichés. This concept highlights that actions may not always occur as we dream about them and they might develop impromptu.

When "performative turn" was suggested, the issues such as body, the relationship established with body and the relationship body establishes with its nearby environment were largely being discussed in the field of art. As of 20th century, it has become a determining factor in the center of production instead of having a passive role both in art and architecture. Bauhaus, which was the innovative and interdisciplinary school of the period, carried out studies and activities that emphasize the active role of body both in performing arts and other fields. Some distinguished artists such as Trisha Brown and Bruce Nauman (Figure 1) dealt

with the relationship between body and space from different perspectives. The above mentioned developments in art also affected architecture, and this issue has become a significant topic of speculation in architectural contexts for a long time.

Figure 1: Trisha Brown, "Man walking Down the Side of a Building (Url-1) and Bruce McLean Pose Work for Plinths (Url-2)

The active role of space in narrations due to the presence of body and action together has been reflected in different ways by artists having different opinions. Some artists believed that space restricts body and movements and reflected this approach in their works accordingly (Url-3). However, others adapted space to their performances, perceiving them as a whole. They took space not a limitation, rather a piece of performance that might transform depending on actions and movements and might be shaped and deformed according to the features of body. All these performative narrations are valuable since they allow body to actively reestablish its relation with space and create new areas to question in architecture. Tschumi followed these developments and conducted studies to evaluate discussions on space-body-action-movement issues within the framework architectural practices.

According to Tschumi, architecture has close connections with daily life, movement and action. Dynamism of the relationship between movement and action might lead to new spatial relationships. Body-space relationship does not only involve movement of body in a space. Some possible and potential movements of our body might also create architectural spaces. However, this situation might not signify structures in which scenario completely matches actions and movements. Failure to match fully might also create different spatial approaches (Tschumi, 2017, s. 148). In addition, it is highlighted that the meaning of space and its content might change with movements and event elements. Güner (2012) points out that "event" is not very different from the definition of an action and it refers to sudden consequences emerging due to movements of

body. Tshumi (2017) used program and event interchangeably at the beginning but later differentiated between them by suddenly focusing reasons of a particular event. With his design, Parc de la Vilette coined the concept "event architecture", whose conceptual background he associated with J. Derrida and J.L Austin's "performance" concept and through which he builds movements and actions merging in different layers.

If we describe a space only through its physical elements, we may not describe it with its all dimensions. The potential of actions and movements to create a spatial limit might be affected by relationship type. In addition, there is a continuous conflict between conceptual one (meaning) and perceived one (experience) and it is not necessary for this conflict to result in an agreement but strengthening this tension might be a method to build up new relationships (Tschumi, 2017). Suggesting new methods and applying them to build spatial relationships in today's changing and improving architecture environment allow the development of new perspectives by creating new topics to discuss.

This study emphasizes that space does not consist of only physical elements and spatial experience is also important. Body is our most important tool in perceiving all these abstract spatial elements mentioned above. Our body is not a static entity; it is rather a dynamic one which should be thought and perceived in relation with its movements. Our actions, their coming together and relationships also affect how we produce a particular space, which allows us to develop new approaches in design. Developing in parallel with architecture environment, architectural education involves practices focusing on different space production methods. First year design studio courses are ideal educational environments for these practices since students' minds are still fresh and they are ready to develop their personal design approaches. In this respect, it is essential to evaluate students' works in first year design studio courses through Tschumi's approaches on body-movement-action-space relationship.

3. AN EXPERIENCE-BASED APPROACH TO PRODUCTION OF SPACE THROUGH ACTION AND BODY

Architecture is a continuously improving structural art which aims to meet time-based needs (Öymen Gür, 2017). This continuous improvement implies that architecture is a multidimensional discipline which is influenced by different dynamics and therefore continuously updates its knowledge. Original, critical and relational thinking skills as well as environmental awareness are essential in this process. These basic skills are acquired and improved in architectural education, especially in architectural design studios. When original and dynamic information sharing between each student and project supervisor or instructor is

combined with a creative production atmosphere involving all students, an effective design environment is created and it turns into a valuable experience allowing prospective architects to acquire design skills through individual and / or group work practices (Öktem Erkartal, & Durmuş, 2017). Architecture students experience this process for the first time in their first year education.

Architecture students meet multidimensional, vague and relation-based world of architecture in their first year education. "First year studio courses in architectural education is a dynamic environment in which multidimensionality of architecture is discovered by observing, experiencing, transferring, drawing, reading, researching, doing and asking questions (Sönmez, Şenel, and Ertaş, 2017). This environment supports a design process which researches, questions and is fed by different information resources and creates new opportunities to get to know with relation-based world of architecture. This relational world is a multi-layer structure involving different connections with each other

Multilayer structure of architecture might lead to original interpretations of design knowledge which involves different relationships. At this point, creativity becomes essential to achieve original design. Considering creativity as the essence of design, Salama defines "creativity in architecture" as a stimulus for the architect based on knowledge and as the knowledge applied to talent. He also deals with creativity as the determining mode of complex cognitive activities which result in the realization and conceptualization of new, original and unusual products (Salama, 2015). Based on the interpretations of Salama, creativity in architecture and architectural education is considered the main component affecting design process due to its direct relationship with design information. Transforming conceptualized abstract information into an abstract, original and creative product is also essential in architectural design process.

Another important issue to consider in first year architecture design studios in terms of design knowledge is motivation, which might be described as the triggering force of these studios. This central position affects other issues such as themes, content and methods to be used in these studios and become an indispensable requirement to ensure quality and sustainability of architectural education. Different approaches might be developed to create and sustain motivation (Sönmez, Şenel, and Ertaş, 2017). How knowledge and skills are conveyed and the relationship between instructor and student in terms of learning process also largely affect the success of design process.

Architectural terminology plays an important role in promoting an effective relationship between instructor and student so that they talk in familiar terms. First year studios are the first environments where they meet and initiate this relationship. Basic terms to define, build up and interpret this network of

relationships have a fundamental role here. "Space" is one of the most important concepts in architecture and one of the targets to achieve. Spaces produced by students by interpreting design knowledge they acquire can be considered a holistic interpretation of knowledge skills they acquire as well as different perspectives.

This study, which dealt with the effect of spatial experience and cognitive style on solutions to space-based design problems, was conducted with 20 first year architecture students by using protocol analysis method. The findings showed that students' cognitive style and past spatial experiences affect design process. At this point, it is suggested that the negative effects of these past spatial experiences should be minimized and there should be attempts to increase their awareness about their cognitive styles before they become design fixations (Erkan Yazıcı, 2013). Allowing architecture students to have rich spatial experiences and encouraging them to improve their visual memory by increasing their awareness are important in architectural education. Such a practice will eliminate their cliché past experiences and help them develop an experience-based perspective in design process.

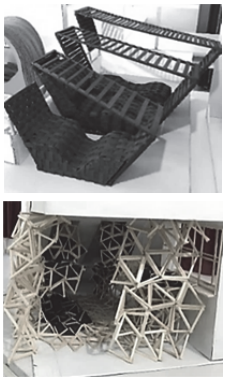
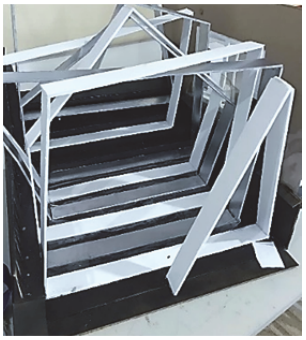
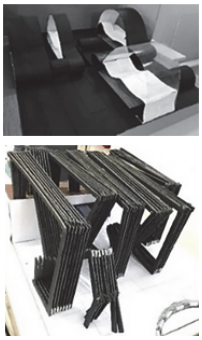
The first year studios offered at Eskişehir Technical University Department of Architecture consist of "Basic Design Studio" and "Introduction to Architectural Design Studio". Despite some differences in their contents, these studios focus on increasing students' awareness in terms of peripheral perception and spatial experience, improving their creative thinking skills and helping them to be competent in architectural terminology. In order to equip students with these basic skills, instructors adopt a design process which involves conceptualization through research, experience and abstraction. Learning occurs through discovering design knowledge together with instructors, through multi-dimensional thinking and analyzing many examples instead of directly transferring knowledge to students. The design knowledge obtained are interpreted and conceptualized through "hands-on learning" principles. This method is important in these studios so that students can learn faster, use representation tools more effectively and be familiar with different materials. Despite their common pedagogical approach, they might differ in terms of course contents, processes to follow and expectations.

In Basic Design Studio, creativity exercises and practices supporting hand-eye-brain coordination are carried out in parallel with other practices throughout academic year. It is highlighted that our world consists of networks of relationships and everything around us evolves into an order involving different inputs and relations. Order and relational dimension in design are discussed through different examples and design problems in terms of design principles

and elements. In addition to abstract order relations, concrete order relationships which involve body-action-space concepts when students achieve a certain level of knowledge level. In "Introduction to Architectural Design Studio", abstraction approach, which is effective in creative thinking process, is applied throughout academic year as a method supporting conceptual perspective to design process as well as concept development. Architectural planning-programming, design and use as well as physical environment characteristics affecting design are among the issues dealt with within the content of the studio. Basically, concepts related to architectural space production are discussed and an approach focusing on human-body-action-experience is adopted by giving importance to scale-ratio, human dimensions, user needs and human-environment relationships. Although the content, restrictions and expected solutions for design problems differ in both studios, there are experience-focused practices by which space is reproduced through actions and body. This study focuses on Form-Hub work and Body-structure work in Basic Design Studio and Shell project and Urban Niche project in Introduction to Architectural Design Studio.

In Form-Hub work applied as part of Basic Design Studio, the students were asked to design a 15 m^3 –volume which was expected to have a central importance in the Department of Architecture by using Basic Design principles and components. The word "Hub" was taken as "the center of an action". The limitations of the design were as follows: taking into consideration human body and its actions in a design which is expected to allow at least two of the actions related to meeting point, information exchange, displaying, having a rest, sleeping, socialization; and thinking about different formation options according to different users at different times of the day. In addition, it was recommended that one of the actions allowed by the design should be dominant and the design should be named based on this domination such as "info-hub, techno-hub, sleep-hub" etc. It was also highlighted that body-space relationship should be questioned and the locations of the design in the department building should be chosen according to the dominant action. The application was conducted as a group work at 1/5 scale. The outcomes of Form Hub works are displayed in Table 1 below.

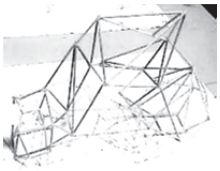
Table 1: Form Hub Working Outputs

FORM HUB WORK		
		
Theoretical Analysis	**Process Analysis**	**Learning Analysis**
*Space production through actions in "hub" design as the center of certain actions and basic design principles and components, * How one-week observation of momentary cases and actions in the department of architecture affects the decision about the dominant action and place for the designs, * Questioning form options according to different users and different times of the day by considering human actions and body sizes	*The preliminary work involving spatial behavior analysis and conceptual research, * Evaluating functional analysis in conceptual research * The design process in which abstract and concrete thinking progress simultaneously, * The development of sketch and model works through various materials and representation methods	* Ability to interpret Basic Design principles and components in space production, * Ability to question body-action relationship and to produce flexible, original and easily transformable spaces due to its potential to allow dominant and different actions

Body-Structure work was carried out as a requirement of Basic Design Studio in the spring term of 2018-2019 academic year. In this work, the students were first asked to record an impromptu video in which they can easily see their own body movements. They were also told to take the following criteria into consideration while recording this video: it must last 5 to 10 seconds; it must be recorded in the buildings of Architecture Department; the camera must be fixed and do horizontal recording; the camera angle must be wide enough to include all movements;

and the movements to be displayed must include dynamic actions allowing body joints to move such as running, jumping, stretching and hitting etc.. Later, the students made a sketch of the process through the abstraction of movements by resuming the recordings 20 times. Based on these abstractions, the students were expected to produce a transition space that transforms through body and actions. The use of 35X50 size drawing paper horizontally was recommended for this 1/10 scale work. The students discovered the advantages of wire and wooden materials in this work. This particular space's structural relations which were transformed and formed through actions were also important in this work. The outcomes of Body-Structure works are displayed in Table 2 below.

Table 2: Body Structure Working Outputs

BODY STUCTURE WORK		
 		 
Theoretical Analysis	**Process Analysis**	**Learning Analysis**
* Space production which transforms and whose limits are determined according to momentarily occurring actions in a predetermined design area. * *Understanding relational dimension of successive actions and how they are reflected on space *Production of space by taking human body sizes and movements into consideration	* Experience-oriented momentary design concept that does not involve conceptual research and analysis * A design process that questions structural content and abstract relationships of tangible movements that occur through body and actions *Development of sketch and model works through predetermined materials and different methods of representations	* Understanding the potential of space to transform and be shaped according to human body and actions * Understanding abstract order in experience-based concrete design products, relational dimension and their reflections on space

Shell exercise, which was the final exam project of Introduction to Architectural Design studio for 2018-2019 fall term, was a comprehensible work completed in several phases. In the first phase, the students were asked to choose one of the vegetables/fruit they were given as options (pomegranate, citrus fruit, walnut, purple cabbage, pineapple, kiwi and corn) and later to cut them in half and draw cross-sections and images displaying their internal structure. In the second phase, cross-sections were reproduced through abstractions. As for the phase 3, the structural information obtained from the abstraction of length and height sections was used together with other structural relationships, components and layers in the making of the model, and later, a structure core was obtained. At this point, students had the opportunity to see and perceive two-dimensioned abstract cross-sections in three-dimensioned formats. In the later phase, the developed structure core model was transformed into a shell by thinking about different movements of having rest, sitting and sleeping and by taking the principles of body-space interaction into consideration. As a result, initial space design proposals were given based on the determined actions. In the last phase, the produced shell was used as a resting area for one-person during the festival organized on the campus, which reflects its body-space-environment relationship. At this point, it was important that students questioned temporariness-permanency concepts and evaluated physical environment conditions and inside-outside relations. The outcomes of Shell Design works are displayed in Table 3 below.

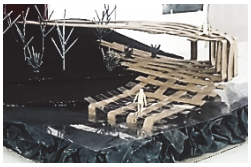
Table 3: Shell Design Working Outputs

SHELL DESIGN WORK		
		
Theoretical Analysis	**Process Analysis**	**Learning Analysis**
* Space production by interpreting structural relations based on conceptual knowledge obtained through abstraction and by transforming them according to actions * Clarity of layered structure of structural relations based on conceptual knowledge, its temporariness-permanency and transformability potential * Spatial transformation related to context and scenario by taking human body size and movements into consideration.	* Design concept based on personal interpretation of conceptual analysis, * Obtaining abstract design knowledge from concrete-organic object knowledge and using this knowledge while producing a concrete design object *Improving sketch and model works by using different materials and representation methods	* Understanding space production potential of abstract design knowledge produced as the outcome of conceptual analysis by transforming it according to different parameters such as body, action, context etc. * Understanding structural relationships in concrete space production through abstract design knowledge obtained as the outcome of conceptual analysis

In Urban Niche project carried out as a part of Introduction to Architectural Design Studio in the spring term of 2018-2019 academic year, the students were expected to examine inner dynamics of predetermined areas associated with Eskişehir Porsuk River and to design an Urban Niche that strengthens existing spatial elements, allows new ones as well as new types of perception and coalesces with existing dynamics. The students, who worked in groups of four, chose one of three areas associated with Porsuk River. First of all, they analyzed all the data obtained on different days and hours by making use of sketches, documents, photographs and similar tools. This analysis, called "Urban Diary", was submitted by the students in a notebook involving these sketches, documents, photographs etc. In the next phase, an analysis sheet was formed together with the data obtained from "Urban Diary". This sheet includes sketches, collages and

photographs. Later, based on the information obtained from Urban Dairy and Urban Niche work, a collage work was prepared reflecting the location choice and design decisions for Urban Niche designs. This collage study shaped design ideas and model design ideas generated through abstraction. In this phase, experience-based knowledge about design area is especially important because the decisions of actions to take place in the context and other design decisions during Urban Niche design process were based on this experience-based knowledge. The outcomes of Urban Niche works are displayed in Table 4 below.

Table 3: Urban Niche Working Outputs

URBAN NICHE WORK		
 	 	
Theoretical Analysis	**Process Analysis**	**Learning Analysis**
* Production of space through conceptualization of knowledge acquired through experience and how it is shaped according to actions in relation with context * Reflection of experience-based knowledge and model knowledge produced through abstraction on space. *Space concept based on human body sizes and movements	* Space concept based on personal interpretation of model knowledge produced through abstraction and experience-based knowledge * Design process using its own potential to allow flexible and different experiences * Improving sketch and model works by using different materials and representation methods	*Understanding space production process in which abstract experiment-based knowledge transforms into abstract design knowledge through contextual relationships, * Understanding transformation of structural relationships through transition between actions.

4. METHODOLOGY

In this study, four works (Form-Hub, Body-Structure, Shell Design and Urban Niche) completed by students attending Department of Architecture in

Architecture and Design Faculty at Eskişehir Technical University in 2018-2019 as part of first year Basic Design and Introduction to Architectural Design studio course contents were examined by using comparative analysis method within the context of Tschumi's innovative approaches in space production.

In the first phase, the studies conducted by Bernard Tschumi, who suggested innovative approaches in space production, were examined and the literature was reviewed to determine evaluation criteria. Later, the content of first year architecture education, its originality and the contents of architectural design studio courses at Eskişehir Technical University were examined. The sample works were chosen for that study according to body-action-movement concepts and whether space production is present or not. They were analyzed in terms of their contents, the processes followed and the learning outcomes.

In comparative analysis phase, evaluation criteria were determined by using the data obtained through literature review. Tschumi emphasized that space should be evaluated as a whole with its abstract and concrete elements and action, body and movement are important because of their role in creating space content and experiences. Therefore, "contribution of body and movement" was determined as the first criterion and "the potential to transform through action" as the second one. In addition, Bernard Tschumi focuses on events' being instant, which will bring about a new approach in architectural practices. Accordingly, "defining content with fragments (instant occurring spaces)" was determined as the third criterion. Finally, Tschumi stated that the relationship between what is conceptual and what is experimental might be used as a method, which brought the fourth criterion: conceptual content (transformation through experience).

In conclusion, these criteria were used to examine all four study-specific works, which were designed through experimental approaches in first year design studios. The findings obtained from comparative analysis were interpreted in terms of first year architectural education content and their original contents, the processes followed and the learning outcomes of the works.

5. EVALUATION

The works completed by the first year students attending Department of Architecture at Eskişehir Technical University in 2018-2019 academic year as part of design studio courses content were evaluated according to the criteria based on the innovative approaches suggested by Tschumi to produce space by taking body-action-movement concepts into consideration. The comparative analysis applied in this evaluation process is displayed in Table 5 below. The criteria determined for this comparative analysis are as follows: contribution of body and

movement to space production; its potential to transform through actions; defining a specific content through fragments (instantly occurring spaces, coincidences) and transformation of conceptual content through experience.

Table 5: Evaluating the works of first year students attending Department of Architecture at Eskişehir Technical University through Tschumi's approaches

		CONTRIBUTION OF BODY AND MOVEMENT TO SPACE PRODUCTION	ITS POTENTIAL TO TRANSFORM THROUGH ACTIONS	DEFINING A SPECIFIC CONTENT THROUGH FRAGMENTS	TRANSFORMATIO N OF CONCEPTUAL CONTENT THROUGH EXPERIENCE
BASIC DESIGN	FORM HUB WORK	*Potentials of body sizes and movement *Reinterpretation of space through movement as directive which allows other options of use	* Determining a dominant action and developing the design in parallel with this design * Being shaped according to different actions		*Forming a concept in the initial phase of a design and an experience space design in parallel with this concept
	BODY STRUCTURE WORK	*Potentials of body sizes and movement * Experiencing a space through body; combination of experience and movement to form the borders of the space	*Space that is shaped according to body movements and its potential to be deformed based on actions	*Representation of a instant situation, Structure production through a fragment and its transformation into a space	
INTRODUCTION TO ARCHITECTURAL DESİGN	SHELL DESIGN WORK	*Potentials of body sizes and movement *Body movements that shape the shell and structural movement	*Ability to create a program content which is likely to allow different actions		* A concept produced through organic object in the initial phase of the design and shell space production that develops in parallel with this concept
	URBAN NICHE WORK	*Potentials of body sizes and movement *Movement as directive force in public areas	*Public Spaces that might be transformed according to dif ferent actions		

The first criterion – that is, contribution of body and movement to space production – was observed in the contents of all the works examined in the study. In all the works as the content of both courses (Introduction to Architectural Design and Basic Design), the potentials of body sizes and our body movements are important inputs in space production. However, movement is discussed from different perspectives in each work. In Body-Structure work, the movements of the students become elements that determine the outside boarders of space. In Shell work, movements become an element that plays a role in shaping a structure; i.e a space. As for Urban Nische work, they play a role in directing – guiding people and in the creation of "closed"- "semi-open" and "open" spaces in public areas. Finally, in Form-Hub work, space is reinterpreted through movements which allow different potential uses as a directive factor.

The second criterion is "the potential to transform through actions", and it plays an important role in the content of all four works examined in the study. Each work with different design inputs and outcomes has the potential to transform through actions during design process. The possibility of mounting and demounting is valid only for shell work. At this point, temporariness-permanency emphasis in the analysis of shell study is significant. The works in Basic Design course have the potential to transform according to different and flexible actions because of its relation to action. Therefore, more original works have been created because they do not have complex architectural structure. Especially in Body-Structure work, students created works that might be deformed according to movements of body. In Form-Hub work, spaces transform according to different users and different times of the day. As for the spaces produced as part of Introduction to Architectural Design course, how the relationships of spaces are questioned – that is how architectural program content is formed are important issues to consider. The most important evaluation criterion for the design proposals in shell work was the potential of space to be transformed according to actions, which allowed the production of flexible space that might be associated with each other. Finally, Urban Nische work aims to discuss how spatial relationships should be planned by bringing it to urban level. In other words, it aims to reveal designs that have the potential to produce multi-functional public areas that will transform according to potential actions.

Although the first two criteria related to body-movement and action are observed in all the works, the third criterion, which is "defining content through fragments", is observed only in Body-Structure work. This criterion was determined based on the idea that sudden situations rising from "instant" actions of body, which can be associated with Tschumi's (2017) "event" concept, can create new spaces. The works produced structurally create new designs by

abstracting instant events. Since students created this work by using their body and video recording, their motivation increased. Forming abstractions of their bodies and movements allowed them to define different "in betweens". Thus, it might be concluded that it increased their creativity and enabled them to understand action-space relationships by experiencing through their bodies.

Finally, the criterion "transformation of conceptual content into experience" was observed in all the works completed in both courses. In Form-Hub work, which was a part of Basic Design Course content, the students were asked to produce a conceptual content in their design. This conceptual content was created not only in terms of form or meaning but also in terms of functions. The students were also asked to decide on at least two functions and make a conceptual interpretation based on these functions as well as basic design elements. As Tschumi (2017) stated in his article titled Architectural Paradox, the relationship between our perceptions, our experiences and what is conceptual has the potential to produce new spaces. As for Form-Hub work, the relationship between what is conceptual and what is perceptual resulted in semi-open space design. Shell work, which was made as part of Introduction to Architectural Design course, focused on a concept produced through an organic object during initial phase of the design and on a shell space design developed in parallel with this concept. Interpretation of structural relationships established on conceptual knowledge obtained through abstraction and their transformation according to actions were considered important in this process. Due to the lack of experience-based knowledge in shell design work, there is not a relationship between what is conceptual and what is perceptual as in the Form-Hub work.

6. CONCLUSION

Today, both experience-based knowledge and physical knowledge and using them together in design concepts are important due to innovative approaches to "space". These developments have brought about different dynamics to space production process. Body, action and movement especially play important role in obtaining experience-based knowledge and identifying abstract qualities of a particular space. Tschumi's innovative approaches regarding space production, which emphasize and question these concepts for their potentials to produce different spatial relationships, spatial dynamics and spatial contents, are the essence of the evaluation made within the scope of this study.

The comparative analysis done according to the criteria determined based on Tschumi's approaches showed that all the works emphasizing the "contribution of body and movement to space" reflected such contributions in various ways such as being a prompt, being structural and being instant. As Tschumi suggested,

body is an important concept which experiences and shapes a space in addition to its quantitative qualities. The works examined also revealed that our body movements might experience, shape and prompt space production and contribute to development of new approaches, which implies that body and movement are one of the fundamental concepts that influence spatial experience and boarders of spaces. "The potential to transform according to actions" is another criterion observed in all the works examined in this study. Although this potential might differ according to the contents of the works and design processes, it is an important criterion that enables students to question and understand the relationship established with people and body. In addition, this potential brings a sort of unity between structural relationships and spatial concept and user relationships. Tschumi's approach which highlights a close relationship between our actions and spaces we experience also supports this situation. The criterion "defining content through fragments-instantly occurring spaces-coincidences" was observed only in Body-Structure work, which does not reflect a complex architectural solution. In this work, the reflection of instant formations on space is supported by Tschumi's "event architecture" concept. Two works in which "transformation through conceptual experience" criterion was observed reflect Tschumi's idea, which suggests that formed concepts conflict with or are in parallel with experiences– i.e the realization of these concepts. Finally, it was observed that students tried to develop an approach in parallel with experience in the works encouraging the formation of conceptual content (Form-Hub and Shell Design works).

The criteria determined based on Tschumi's approaches can be used in developing new methods of space production in today's architectural environment. These concepts, which play an active role in actual architecture theory and practice, are valuable because they are covered in first year studios, which are the first learning environments where students meet "design" as a concept, and help students keep up with the current developments in architectural education. Thus, Design Studio courses offered at Eskişehir Technical University Department of Architecture in 2018-2019 academic year mainly aimed to help students understand body-action-movement-space relationship.

Tschumi's innovative approaches towards space production through body-action-movement might be considered an effective perspective in finding original and creative solutions by improving different thinking and interpreting skills in first year architectural education and practices. It might effectively increase motivation if the program allows experimental practices in first year architectural education, during which students become familiar with architectural terminology and acquire critical and relational thinking skills and where the basic knowledge

of architectural education is discussed. This situation is also supported by the fact that experimental practices are welcomed in first year design studios due to their flexible programs. Evaluating experience-based approaches in terms of different relationships, technologies and contents during a design process and applying them in first year architectural education will help students to develop a different perceptions and original point of views.

REFERENCE

Alexander , C. (1977). *Pattern Language.* Oxford: Oxford University Press.

Bergson, H. (2007). *Madde ve Bellek: Beden ve Tin ilişkisi Üzerine Bir Deneme.* (I. Ergüden, Çev.) İstanbul: Dost Yayınları (Orjinal Yayın: 1939).

Erkan Yazici, Y. Effects of spatial experiences & cognitive styles in the solution process of space-based design problems in the first year of architectural design education. International Journal of Technology and Design Education 23, 1005–1015 (2013) doi:10.1007/s10798-012-9220-x

Erzen, J. N. (2015). *Üç Habitus - Yeryüzü, Kent, Yapı.* İstanbul: Yapı Kredi Yayınları.

Güner, D. (2012). Performans ve Edimsellik Olarak Mimarlık. *Ege Mimarlık*(4), 24 - 29.

Laban, R. (1966). *Choreutics.* London.

Merleau-Ponty, M. (2005). *Algılanan Dünya.* (Ö. Aygün , Çev.) İstanbul: Metis Yayınları.

Öktem Erkartal, P., Durmuş, S., "Mimarlık Eğitiminde Deneysel Ve Özgürleştirici Bir Tasarım Deneyimi Olarak Çalıştaylar" Ed: Şengül Öymen Gür, YEM Yayın, s.175-184, İstanbul, 2017.

Öymen Gür, Ş., "Bir Eleştiri Olarak Mimari Tasarım Stüdyosu"" Ed: Şengül Öymen Gür, YEM Yayın, s.11-32, İstanbul, 2017.

Salama, A. M. (2015). *Spatial Design Education - New Directions for Pedagogy in Architecture and Beyond*. London: Routledge.

Sönmez, N. O., Şenel, A., & Ertaş, H. (2017). Bir Derdimiz Var! Mimarlık Başlangıç Stüdyosu. İstanbul: Puna Yayın.

Tschumi, B. (2017). Mimarlık ve Kopma (1 b.). (A. Tümertekin, Çev.) İstanbul: Janus Yayıncılık (Orjinal Basım: 1996).

Vitrivius. (2005). Mimarlık Üzerine On Kitap. İstanbul: Şevki Vanlı Mimarlık Vakfı.

Zevi, B. (2015). Mimarlığı Görebilmek. İstanbul : Daimon Yayın Evi (Orjinal Basım 1948)

Url 1 - https://www.tate.org.uk/research/publications/performance-at-tate/case-studies/trisha-brown

Url 2 - https://www.tate.org.uk/art/artworks/mclean-pose-work-for-plinths-i-t03273

Url 3 - http://www.artfulliving.com.tr/sanat/performans-sanatinda-beden-mekan-iliskisi-i-1133