Evaluation of Lynch's Qualities in Image Elements; In Campus Settlement Sample

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ABSTRACT
Legibility in the campus settlement is important for users to find their ways on campus, to make them feel safe and to help them appropriate to the campus. Also a legible campus settlement design strengthens the meaning and identity of the campus. Based upon Lynch's '' The Image of the City'', this study concentrates on the legibility of KTU Kanuni campus as one of the campuses, like cities, that contains numerous functions in itself. It discusses the prominent qualities of the image elements for all grades of students, the difference;or lack there of, on these prominent qualities among different grades of students and whether or not these qulities coincide with the qualities Lynch asserted in his study to guide the designers.This study consists of two parts. The first part reviews the literature on legibility and imageability, Lynch's image elements and his qualities. In second part architecture students are asked to create mental maps of the Kanuni campus and based on these maps, the most effective or strong image elements for all grades of students are determined. Afterwards students are asked to evaluate these qualities by taking a questionnaire. The final section of this study examines and analyses the datas and reach to conclusion.This study will show that even though there are differences in quality because of experience differences among the different grades of students, there are also some common qualities. These common qualities coincide with Lynch's form qualities.
Keywords: legibility, imaginability, Lynch's image elements and quaities, Campus

1. INTRODUCTION
Way-finding in the environment is an important problem. Primarily the observer identifies his surroundings, feels safe in that familiar surrounding and appropriate the environment. Although this process is only one dimension of the relationship between the observer and the environment, it forms perception which is the basis of this relationship.

Lynch in his book good city form summarized these requirements in five points. The sense is one of these requirements. Sense is the degree of fit between the physical city (form) and the way people recognize and organize it in their minds. In other words, it is the degree of homogeneity between environment and observer. Sense then, reflects the clarity with which people perceive the space (Lynch, 1981).

Sensivility of the city reflects the influence of observer and environment on each other. "nothing is experienced by itself, but in relation to its surroundings, the sequences of events leading up to it" (Lynch,1960). Sense of the city represents the relationship between physical environment and cognition, since its components are the observer and his environment. Three components of sense –congruence, transparency and legibility – described 'explicit connections of settlement form to nonspatial concepts and values'. At a deeper level of connection was 'the expressive or symbolic significance of a place. Lynch saw the urban environment as a medium of communication that used explicit and implicit symbols or signs to provide useful and interesting information. He wrote: 'This is a component of sense that we might call legibility: the degree to which the inhabitants of a settlement are able to communicate accurately to each other via its symbolic physical features (Lynch, 1981).

In the words of the Oxford English Dictionary, a text that is 'legible' is defined as one that is "plain, easily made out", and "accessible to readers, easy to read, readable". Lynch applied this concept to the ease or difficulty of 'reading" the external urban environment. Thus just like a legible text, a legible city would be one that is relatively easy to read and comprehend by virtue of its clear spatial structure and physical form, and its clarity of urban form would, in turn, enable us to form a clear mental map or image of the city (Taylor, 2009).

Wiseman (1981) defines legibility as the degree of facility with which finding one's way is possible in a given built environment. Legibility or "the degree of distinctiveness that enables the viewer to understand or categorize the contents of a scene; the greater the legibility the greater the preference".

Legibility is the quality which makes an area understandable. Lynch (1960) considers legibility as a physical and spatial characteristic of the environment, so visual sensations of color, motion, smell, touch and sound…etc. are all cues of orientation that reinforce legibility.

Imageable elements are not necessarily visual, they can be distinctive sounds, smells or tactile experiences. Their imageability depends on the intensity of certain characteristics and their relative singularity or uniqueness in their particular context (Appleyard, 1969)

According to Lynch (1960) definition, legibility can enhance the identity, structure and the meaning of environmental surroundings. "City order is related to the way in which people perceive or read and understand the environment" (Moughtin, 2003). Legible Cities provide connections and information about what is already there and create positive re-assurances to people that details are cared about. (Bristol City Council 2001).in 'reading' or perceiving the legibility of an urban environment one's prime purpose is to orient and locate oneself within that environment in order to navigate one's way through it (Taylor, 2009). The degree of legibility depends upon the formation of cognitive maps within wayfarer's mind (Arthur & Passini, 1992).

Characteristics of environmental elements, whether they are natural or man-made, determine the visual quality of the built environment, these characteristics are what Lynch (1960) named Imageability, "It is that quality in a physical object which gives it a higher probability of evoking a strong image in any given observer".Lynch's (1960) own research suggested that there are five distinguishable components to the legibility or the 'imageability' of townscapes: pathways, nodes, edges, districts and landmarks. Accordingly, if each of these components in a townscape is clearly distinguishable, then that townscape as a whole should be easily legible.As the environment is 'an enormous communications device'. It is constantly being read by people.People look for different clues to understanding, but 'the identity and legibility of places provide a common visible base to which all people can give their own interpretation' (Lynch, 1990).

Shortly, like cities, the structures on campus contain multiple functions in itself. Therefore, they can be accepted as small cities. Also legibility in the campus settings is crucial firstly in the wayfinding then for feeling safe and appropriating the environment.Moreover, a legible campus design strengthens the structure and identity of campus. This study will discuss the image elements of cities and qualities underlying the Lynch's study about city's legibility on Kanuni campus of Karadeniz Technical University (KTU).

1.1   LYNCH'S IMAGE ELEMENTS and QUALITIES

In his well-known book '' the Image of the City, 1960" Lynch examined the cities of Boston, Jersey and Los Angeles. He set three principles for a good city form. These principles are legibility in the cognitive image formed by the perceiver, the harmony within city blocks, facilities buildings and spaces, the permanence of the city for the

walking perceiver. Based on this data, he concentrates on mental maps or cognitive maps as expressed cognitive images.

The contents of the city images, which are referable to physical forms, can conveniently be classified into five types of elements: paths, edges, districts, nodes and landmarks. These elements defined as

- Paths are channelsalong which the observer customarily, occasionally or potentially moves.people observe the city while moving through it, and along these paths the other environmental elements are arranged and related.
- Edges are the linear elements not used or considered as paths by the observer. They are the boundaries between two phases, linear breaks in continuity.
- Districts are the medium-to-large sections of the city conceived of as having two-dimensional extent, which is the observer mentally enters "inside of" and which are recognizable as having some common, identifying character.
- Nodes are points and strategic spots in a city into which an observer can enter and which are the intensive foci to and from which he is traveling.
- Landmarks are another type of point-reference, but in this case the observer does not enter within them, they are external. They are usually a rather simply defined physical object. Their use involves the singling out of one element from a host of possibilities (Lynch, 1960). Landmarks are very important cues in way-finding process when they are distinctive and not too many.Landmarks are distinguished by their dominance and singularity of shape, color, size, height, location, visibility and finally, their sharp contrast with background. Landmarks should be in a tune with their surroundings and not too many, as too many landmarks can undermine their helpfulness (Kaplan, et al., 1998).

Lynch (1960) explain form qualities as the categories of that direct interest in design. These qualities defined as

- Singularity: sharpness of boundary;closure; contrast of surface, form, intensity, complexity, size, use, spatial location.these are qualities that identify an element, make it remarkable, noticeable, vivid, recognizable (Lynch, 1960). Distinctiveness giving places their identity is a major requirement of wayfinding (Arthur & Passini, 1992).
- Form simplicity; clarity and simplicity of visible form in geometrical sense, limitation of parts. Forms of this nature are much more easily incorporated in the image, and there is evidence that observers will distort complex facts to simple form, even at perceptual and practical cost. Simple forms such as dome, rectangle or any regular form in general, are easily recognizable. "Way-finding is hampered in environments with a very complicated spatial layout" (Roberts &Russell, 2002).
- Continuity: continuance of edge or surface; nearless of parts; repetition of rhythmic interval; similarity, analogy, or harmony of surface, form or use.
- Dominance; dominance of one part over others by means of size, intensity, or interest, resulting in the reading of the whole as a principal feature with an associated cluster.
- Clarity of joint: high visibility of joints and seams; clear relation and interconnection. These joints are strategic moments of structure and should be highly perceptible.
- Directional differentiation; asymmetries, gradients, and radial references which differentiate one end from another; or one side from another; or one compass direction from another.
- Visual scope: qualities which increase the range and penetration of vision either actually or symbolically. These include transparencies; overlaps, vistas, and panoramas which increase depth of vision; articulating elementswhich visually explain a space; concavity which exposes farther objects to view; clues which speak of an element otherwise invisible.
- Motion awareness: the qualities which make sensible to the observer, through both the visual and the kinesthetic senses, his own actual or potential motion

- Time series: series which are sensed over time, including both simple item-by – item linkages, where one element is simply knitted to the two elements before and behind it, and also series which are truly structured in time and thus melodic in nature.
- Names and meaning: non-physical characteristics which may enhance the imagineability (Lynch, 1960).

2. RESEARCH
2.1 The Purpose and Method of the Study

In this study legibility of Karadeniz Technical University (KTU) Kanuni Campus is discussed through Lynch's image elements and qualities for three cities. This campus is in Trabzon, a seaside city, located on the Black Sea coast of northeastern Turkey. Campus located just across from the airport is 4 km from the city centre and 2 km from the bus terminal. It is positioned in close range to Black Sea, city centre and transportation infrastructure. Because of its location, it is perceived as easily in the urbantransportation. The campus, positioned parallel to the coast, is located linearly and suitable on a sloping topography and it is bordered on the north by the Trabzon-Rize coastal road, on the east by the Konaklar district, on the south by the hospital road.Kanuni campus has four entrances: A Gate is the main entrance gate. The campus has a number of functional spaces as faculty buildings, administrative buildings, commercial buildings, cultural buildings, accommodation buildings, resting and dining areas, indoor, outdoor sport complexes and green areas.

In the study, working group is established from architecture students whose environmental awareness and self-expression skills in drawing form is more improved than other students.This research consists of two parts. In the first one, a map of campus, without names of places on it, is given to the first, second, third and fourth grade students and image elements are explained to them, then the students are asked to sign these elements in a map and write the names of these places stated by image elements explained with the common symbols. The data, in which names of places are not stated correctly, is not taken into consideration on the grounds because the place is not memorable enough.

Based on the Lynch's study conducted on 60 people from three different cities, a similar study conducted totally on 120 students, 60 first and second grade students and 60 third and fourth grade students with different levels of experience about campus. Image elements obtained from the image maps, these data are sorted and elements emphasized the most are determined.

In the second one, a survey questionnaire is conducted. Before the survey Lynch's qualities are explained to the students with examples. This explanation both provides students with the knowledge of the qualities and also makes them remember the previous knowledge. Then, students are asked to evaluate and to give number, from 1 to 5 (5 being the max.), to these qualities.

This study is to answer the questions of what are the common image elements associated with the KTU Kanuni campus, which of Lynch's qualities distinguishes in these elements and whether or not these qualities differs depending on the grades of students. In this direction, assumptions of this study are sorted below;
- Campus settings can be approached as a city in terms of size and different functional spaces. According to Lynch, a good city must be legible. Hence a good campus design also must be legible.
- To Lynch each individual creates and carries his own image however a consistent reconciliation can be seen among the members of the same group. Hence, common grounds are expected to be reached among themselves in terms of image elements.

- Prominent qualities in strong image element which is expressed by all of the students is the same, although students spend different time and have different a levels of education is expected.
- Notwithstanding the differences in experience, qualities of image elements design Lynch revealed in terms of imageability are expected to be the prominent qualities.

This study conducts cognitive map method and a survey questionnaire prepared with referenced to Likert Scale method. As Lynch stated in mental map method, mapping is an abstraction, not the physical reality itself.It shows generalized impressions the real form leaves on the observer. This method is used by various diciplines like geographer, architects, planners, urban designers etc. In Likert Scale is prepared two opposite point as effective and ineffective. All of yhe Lynch's qualities are listed. The Likert Scale have five-point scale.Each of the five responses would have a numerical value 1-2 hardly effective, 2-3 slightly effective, 3-4 effective. 4-5 highly effective (Gür 1996)

RESULTS
About Strong Image Elements;
Firstly,the most effective or strong image elements stands out for all grades of the students is determined by examining the cognitive maps of students. The students bring out the road between A Gate and Department of Architecture as path, A gate as a landmark, A festival area as node, dwelling zone as district and campus-coasted road limit as edge (Figure 1).
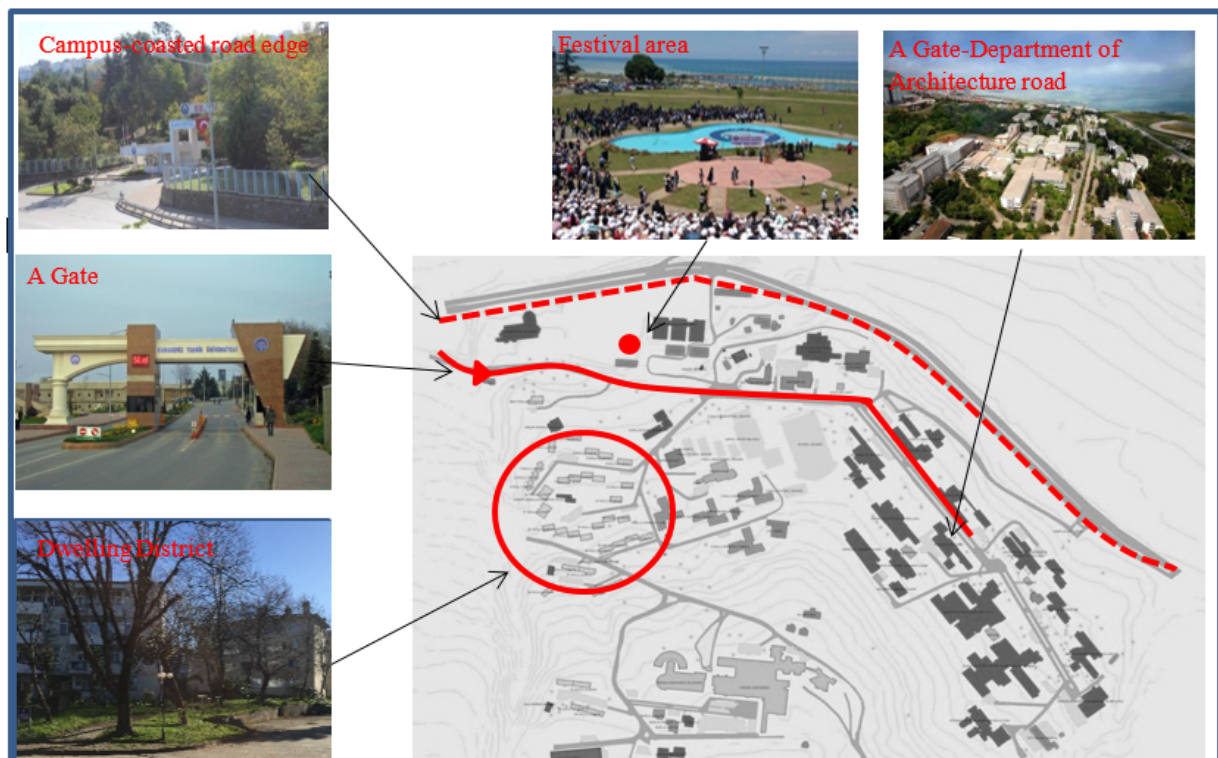

Figure 1.Strong image element for all grade of students

- Strong path is the road between A Gate and Department of Architecture.Ithas been mentioned by 86% of all grades of students. It is indicated by 87% of the 1st grade and by 83% of the 2nd grade, by 80% of the 3rd grade, and 93% of the 4thgrade of students.
- Stronglandmark is A Gate.It has been mentioned by 40% of all grades of students. It is indicated by 20% of the 1st grade and by 27% of the 2nd grade, by 90% of the 3rd grade, and 23% of the 4thgrade of students.

- Strong node is A Festival area. It has been mentioned by 54% of all grades of students. It is indicated by 40% of the 1st grade and by 47% of the 2nd grade, by 73% of the 3rd grade, and 57% of the 4thgrade of students.
- Strong district is Dwelling zone. It has been mentioned by 48% of all grades of students. It is indicated by 57% of the 1st grade and by 40% of the 2nd gradeby 57% of the 3rd grade, and 40% of the 4thgrade of students.
- Strong edge iscampus-coast road limit. It has been mentioned by 10% of all grades of students. It is indicated by 17% of the 1st grade and by 7% of the 2nd grade, by 10% of the 3rd grade, and 10% of the 4thgrade of students (Table 1).

Table 1. Effective degrees of strong image elements

		1 grade	2 grade	3 grade	4 grade	Total (person)
Paths	A Gate - Department of Architecture road	26 (87%)	25 (83%)	24 (80%)	28 (93%)	103 (86%)
ndmarks	A gate	6 (20%)	8 (27%)	27 (90%)	7 (23%)	48 (40%)
Nodes	Festival area	12 (40%)	14 (47%)	22 (73%)	17 (57%)	65 (54%)
District	Dwelling zone	17 (57%)	12 (40%)	17 (57%)	12 (40%)	58 (48%)
Edges	Campus-coast road limit	5 (17%)	2 (7%)	2 (7%)	3 (10%)	12 (10%)

The road between A Gate and Department of Architecture,festival area, dwelling area are the most strong image elements in average and all grades within their groups.But, the most effective quality is changed for grades of students. A gate is seen as a landmark by 20 percent of the 1st grade students but culture center is seen by 30 percent and football area is seen by 23 percent of them. Besides A gate is seen a landmark by 23 percent of the 4th grade students but culture center is seen by 37 percent, department of Architecture is seen by 33 percent and library is seen by 27 percent of them.

Results about Prominent Qualities;
These elements are examined as singularity, simplicity, continuity, dominance, clarity of joint, directional differentiation, visual scope, motion awareness, time series, names and meanings. Each of the five responses would have a numerical value 1-2 hardly effective, 2-3 slightly effective, 3-4 effective. 4-5 highly effective.

In the road between A Gate and Department of Architecture as path; qualities other than clarity of joint and time series are found effective for 1st grades of students, respectively motion awareness (3,82), continuity (3,79), directional differentiation (3,58), dominance (3,37), singularity (3,31), visual scope (3,24), simplicity (3,06)qualities become prominent.

Qualities other than clarity of joint are found effective for 2nd grades of students, respectively continuity (4,33), motion awareness (4,06) and time series (4,00) qualities are found highly effective.

All qualities are found effective for 3rd grades of students, respectivelycontinuity (4,71), dominance (4,38), clarity of joint (4,38), motion awareness (4,38), directional differentiation (4,28), visual scope (4,14), timeseries (4,09) are found highly effective.All

qualities are found effective for 4rd grades of students, only visual scope is found highly effective.All qualities are found effective for all grades of students, pespectively continuity (4,19), motion awareness (4,07) are found highly effective (Figure 2).
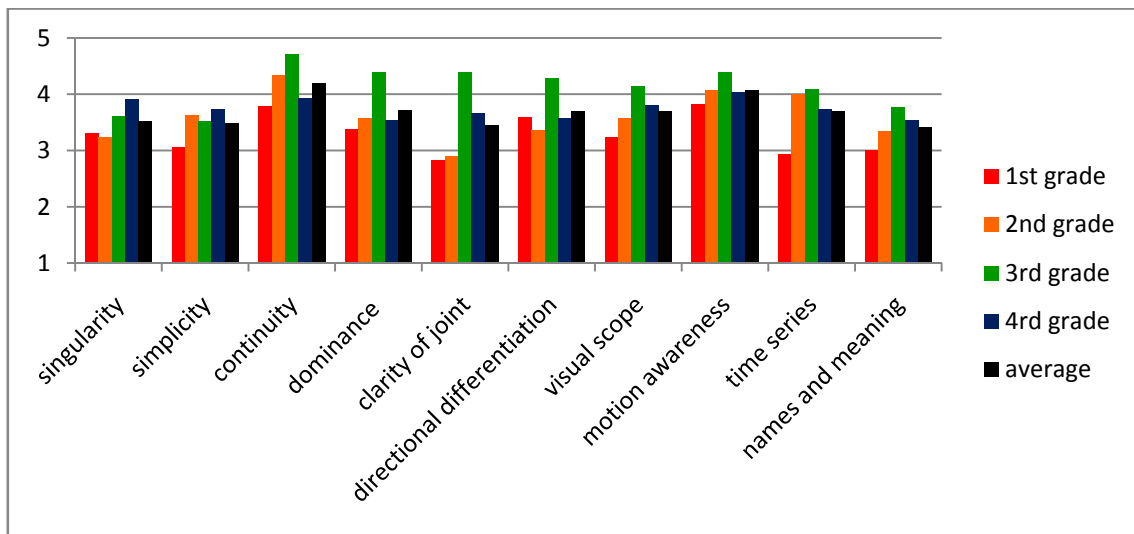

Figure 2. Prominent qualities in A Gate- Department of Architecture path for different grade of students

In the A Gate qualities other thandirectional differentiation and time series are found effective for 1st grades of students, respectively dominance (3,9), visual scope (3,82), simplicity (3,7), names and meaning (3,65), clarity of joint (3,62), simplicity (3,58), motion awareness (3,17) and continuity (3,1) qualitiesbecome prominent.

Qualities other than directional differentiation are found effective for 2nd grades of students, respectively names and meaning (4,2), visual scope (4,1) and dominance (4,00) are found highly effective.

Qualities other than directional differentiation and simplicity are found effective for 3rd grades of students, respectively names and meaning, dominance (4,38), singularity (4,28), visual scope (4,23) ve clarity of joint (4,04) are found highly effective.

All qualities are found effective for 4rd grades of students, respectively visual scope (4,3), dominance (4,23) ve singularity (4,13) is found highly effective.
Qualities other than directional differentiation are found effective respectively dominance (4,12), visual scope (4,11), names and meaing (4,01) ve singlarity (4,00) is found highly effective for all grades of students (Figure 3).
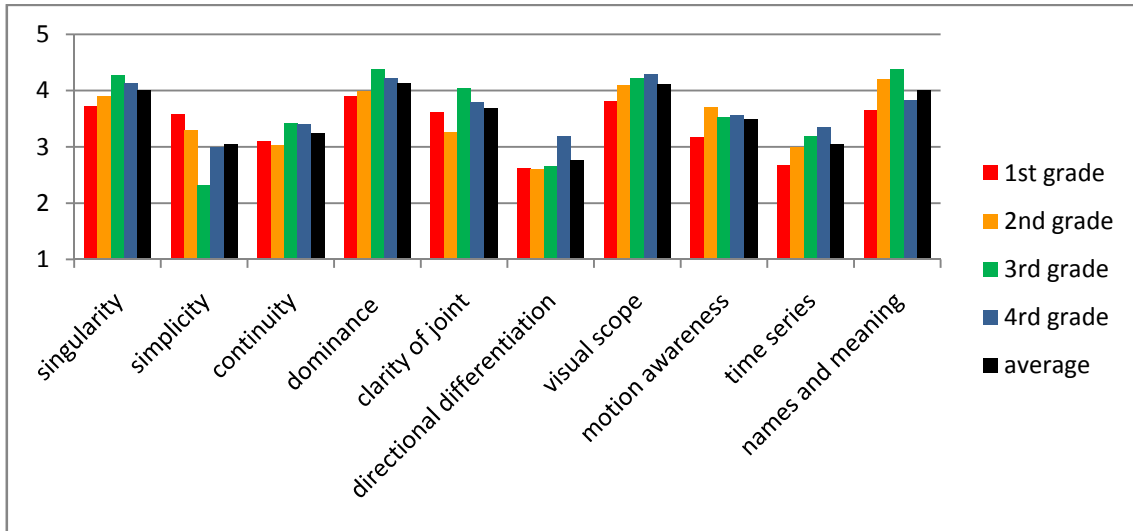
Figure 3. Prominent qualities in A gate for different grade of students

In Festival area all qualities are found effective for all grades of students.Dominance is found highly effective for 1st grades of students. Respectively dominance (4,23), time series (4,23), visual scope (4,16 are found highly effective for 2nd grades of students. Respectively dominance (4,52), names and meaning (4,52), visual scope (4,42), singularity (4,33), motion awareness (4,28), clarity of joint (4,23), directional differentiation (4,04), continuity (4,00) are found highly effective for 3rd grades of students.Continuity is found highly effective for 4rd grades of students.

All qualities are found effective for all grades of students, pespectively dominance (4,17), names and meaning (4,05) and visual scope (4,04) are found highly effective (Figure 4).
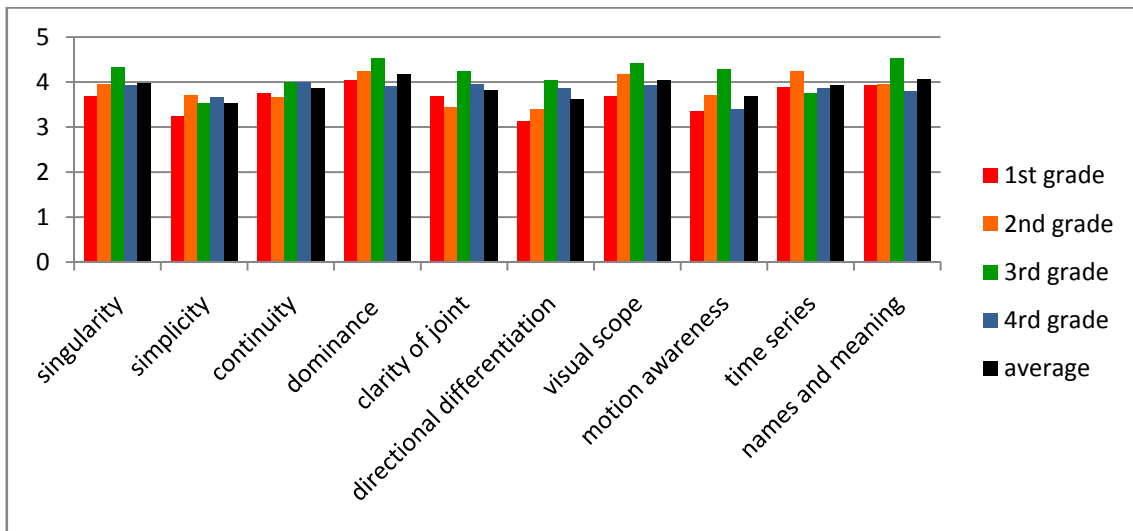

Figure 4. Prominent qualities in Festival area for different grade of students

In Dwelling District qualities other thanclarity of jointare found effective for 1st grades of students, respectively continuity(3,48), motion awareness (3,44), names and meaning (3,44), visual scope (3,41), directional differentiation (3,34), singularity (3,24), dominance (3,13), time series (3,06), simplicity (3,03) qualities become prominent.

Qualities other than clarity of joint are found effective for 2nd grades of students, respectively time series (3,07), motion awareness (3,46), directional differentiation (3,46), dominance (3,33), names and meaning (3,3), visual scope (3,3), continuity (3,2), singularity (3,16) and simplicity (3,06) qualities are found effective.

All of the qualities are found effective for 3rd grades of students, pespectively motion awareness (3,76), visual scope (3,66), directional differentiation (3,61), names and meaning, singularity, continuity (3,38), time series (3,33), clarity of joint (3,19) and simplicity (3,00) qualities are found effective.

All of the qualities are found effective for 4rd grades of students, pespectively continuity (3,76), clarity of joint (3,6), singularity, directional differentiation (3,46), dominance (3,43), motion awareness (3,4), visual scope (3,36), singularity (3,33), names and meaning (3,3) and time series (3,26) qualities are found effective.

All of the qualities are found effective for all grades of students, pespectively motion awareness (3,51), directional differentiation (3,46), continuity (3,45), visual scope (3,43), names and meaning (3,35), time series (3,33), dominance, singularity (3,31), simplicity ve clarity of joint (3,10) qualities are found effective (Figure 5).
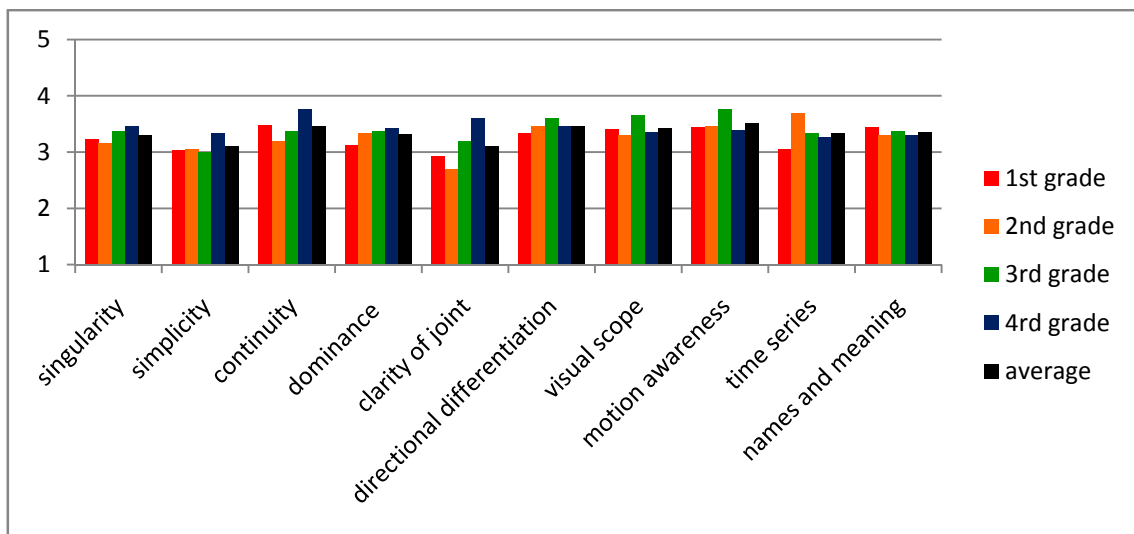

Figure 5. Prominent qualities in Dwelling District for different grades of students

In campus-coasted road edge; qualities other than clarity of joint, directional differentiation and motion awareness are found effective for 1st grades of students, respectively dominance (3,44), simplicity, continuity (3,41), visual scope (3,31), singularity (3,24), time series, names and meaning (3,17) qualities become prominent.

Qualities other than clarity of joint and visual scope are found effective for 2nd grades of students, respectively continuity (3,76), motion awareness (3,63), dominance (3,53), simplicity (3,43), time series (3,23), names and meaning (3,03) and directional differentiation (3,0) qualities become prominent.

All of the qualities are found effective for 3rd grades of students, but continuity (4,14) is found highly effective for them.All of qualities are found effective for 4rd grades of students, respectively continuity (3,76), visual scope (3,56), singularity (3,53), simplicity (3,4), motion awareness (3,33), dominance (3,2), clarity of joint (3,16), time series (3,13), directional differentiation (3,1), names and meaning (3,00)qualities become prominent.

All of the qualities are found effective for all grades of students respectively continuity (3,76), dominance (3,45), simplicity (3,42), time series (3,33), motion awareness (3,32), visual scope (3,23), singularity (3,19), names and meaning, clarity of joint (3,16) ve directional differentiation (3,04) qualities become prominent (Figure 6).
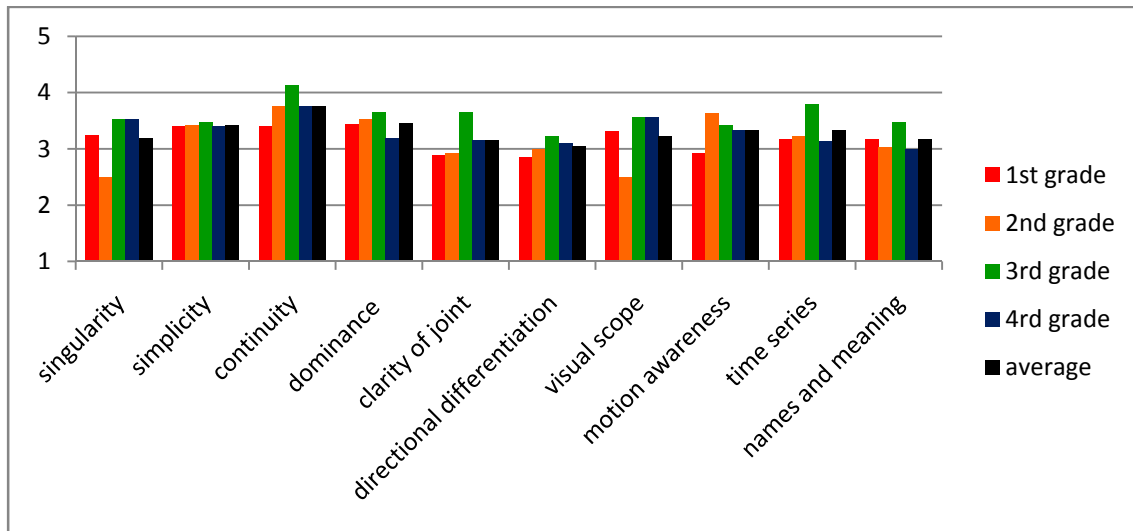
Figure 6. Prominent qualities in campus-coasted road edge for differentgrades of students

DISCUSSION

In this study data obtaining the assessment of each class separately on prominent elements and qualities. It is examined thoroughly how this data changes according to grades of students -in other words according to level of experience-, the causes of change, and lastly whether or not prominent qualities revealed by all classes coincide with the qualities Lynch specified as instructive qualities in urban design.

In the road between A Gate and Faculty of Architecture, qualities other than clarity of joint and times series are found effective or highly effective for all grades of students. While clarity of joint is found effective only by 3rd, and 4th grade of students, time series quality is found effective by 2nd, 3rd, and 4th grade of students. This situation is thought to be caused by the fact that 1st grade student can't fully understand the qualities.

Qualities highlighted as effective and highly effective differs according to grade of students but when a general evaluation is made,motion awareness comes across as the second most effective qualities following continuity quality. Although the effect of these qualities increases towards to 3rd grade, a decrease in the effectiveness is seen in the 4th grade and the 3rd grade is regarded as the most effective grade by students. the reason behind this is that because of their schedule 4th grade studentsdon't use the campus as much as 3rd grade students.

Lynch indicates that any path has three characteristics that enchance its prominence, they are identity, continuity and directional quality. For the road between A Gate and Department of Architecture to have an identity, qualities of singularity simplicity and dominance also continuity and directional differentiation qualities effective or very effective (Figure 2). Besides all these qualities, with the effective use of visual scope, motion awareness, names and meaning qualities, the identity and imageability of the road is strengthened. As Lynch stated the use of qualities in furtherance with each other strengthens the imageability.

Except simplicity, directional differentiation and time series other qualities is found effective by the all grades of students at the A Gate. While simplicity is found effective only by 1st and 2nd grade of students, directional differentiation quality by 4th grade students, time series by 2nd, 3rd, and 4th grade students. Again this situation can be explained by the fact that 1st grade students can't fully understand the qualities.

Qualities highlighted as effective and very effective differs according to grades of students but when a general evaluation is made dominance and visual scope is seen as the most effective qualities right after comes singularity and name and meaning quality. Compared to other grades 3rd grade students state the qualities more powerful (Figure 3.). This situation is thought to be caused by the fact that because 90 percent of the 3rd grade students see A Gate as landmark and 53 percent of them see it as node, it carries all qualities associated with both of the landmark and node elements (Table 1).

The Lynch indicates that the key characteristic of landmark is singularity, some aspect that is unique or memorable in the context. Landmarks become more easily identifiable, if they have e clear form; if they contrast with their background and if there is some prominence of spatial location. Spatial promenience can establish elements as landmarks in either two ways: by making the element visible from many locations or by setting up a local contrast with nearby elements. Single landmarks, unless they are dominant ones, are likely to be weak references by themselves. Also in this study singularity, the key quality of landmark Lynch indicates is a common quality in all grade of students too. Moreover, visual scope and dominance strength the efficence of singularity quality for all grade of students (Figure 3).It seems that because A Gate is the main entrance, locate in the main transport axes and have a clear bordering, besides the continuity quality, clarity of joint, motion awareness, names and meaning are effective qualities for all classes. This case showed that if the element has multiple image elements it has multiple qualities too.

In festival area, all of the qualities highlighted as effective and very effective by all of the students but when a general evaluation is made dominance is seen as the most effective qualities right after comes visual scope, names and meanings qualities. Although, the most effective quality is changed for grades of students, compared to other grades 3rd grade students state the qualities more powerful (Figure 4.). This situation is thought to be caused by the fact that because 40 percent of the 1st grade students see festival area as node and 13 percent of them see it as landmark, 47 percent of the 2nd grade students see festival area as node and 23 percent of them see it as district and 16, 73 percent of the 3th grade students see festival area as node, 43 percent of them see as landmark and 40 percent of them see as district, they carry all qualities associated with both of the landmark and node elements (Table 1).

Lynch indicates that good recognizable node should has its identity through singularity and continuity of walls, topography, silhouette, function, clarity of shape and intensity of use. İn festival area singularity, simpicity, dominance and clarity of joint qualities are effective for all of the students. It uses intensively due to the graduation ceremony, concerts and entertainments.Therefore,these results support Lynch's idea.

Except clarity of joint, other qualities are found effective by the all grades of students in Dwelling district. But clarity of joint is found effective only by 3rd and 4th grade of students (Figure 5). Again this situation can be explained by the fact that 1st and 2nd grade students can't fully understand the qualities.

Lynch indicates that a district in its simplest sense is an area of homogeneous character, recognized by clues which are continuous. In the study, continuity, Lynch indicates it as a key characteristic of district, is common quality for all grades of students. So it supports Lynch's idea.

In campus- coastroad edge simplicity, continuity, dominance, time series, names and meaningqualities effective and very effective according to all grade of students but when a general evaluation is made, all qualities are effective. But continuity stands out from the effective qualities. Singularity and visual scope are found effective by1st 3rd and 4th grade of students, clarity of joint is found effective by3rd and 4th grade of students, directional differentiation and motion awareness are found effective by 2nd3rd and 4th

grade of students. Continuity is found highly effective only by 3rd grade of students (Figure 6). This situation can be explained by the fact that 1st grade students can't fully understand the qualities.

Lynch indicates that strong edge should be visually prominent, continuous in form and impenetrable to cross movement, as unpleasant edges seem to be mentally omitted. In the study, continuity, Lynch indicates it as a key characteristic of edge, is common quality for all grades of students too. So it supports Lynch's idea.

CONCLUSION
Cognitive maps of campus have Lynch's image elements as paths, landmarks, nodes, districts and edges, like as cognitive maps of cities that are obtained. In terms of image elements and qualities, students have commonality among themselves. So the road between A Gate and Deparment of Architecture as path, A Gate as landmark, Festival area as node, dwelling area as district and campus- coasted road limits as edges that are put forward for all of the students.

In terms of quality, not only a single quality found effective in only one image element but also many qualities support each other. This situation is explained Lynch's idea that all of the form qualities do not work in isolation. where one quality is present alone, or the qualities are in conflict, the total effect may be weak, or require effort to identify.

There are differences between grades of students about effective qualities of image element. First reason of this situation is knowledge of the students to be caused differences. Second reason of differences isone element has multiple image element duties for example it is both landmark and node element at the same time.

The quality that Lynch stands out in the design of image elements in term of imaginability, has been shown to coincide with the outstanding quality of all grades, regardless of experience. These are singularity, simplicity, dominance, continuty, directional differentiation in path, singularity in landmark, simplicity and dominance in district, continuity in edge. So when these qualities use in supported each other, they decrease the imaginability of element.

In summary legibility in the campus settings is important for users to find their ways on campus, to make them feel safe and to help them acclimate to the campus. As Lynch mentioned that individual creates his own image, but there is a consensus among members of the same group and designers, who desire an environment which is used by a large number of people, should interest in these comman image elements.In this study, "experience" changed with grade of students were discussed. Despite changing of experince, some common or prominent qualities are founded in strong image elements. So designers can be design legibility environment for everybody when they use these comman or prominent qualities of image elements as support each other.

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