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(A)symmetric Developments in Professional Education: A Cross-Cultural Investigation with Students of Architecture

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ABSTRACT

Architects' judgments on physical environments were found to be distinguishable from the judgments of non-architects. Dissimilarities between value sets were attributed to the professional education of architects. Level and school differences were also found to have significant effect on judgments. This article focuses on the judgment differences between students of a Polish school of architecture and a Turkish one in order to exemplify the dimensions of culture and level (dis)similarities. 2nd and 4th year students (N=160) of schools were asked to judge 45 building images in terms of practical and theoretical concerns. A control group of eminent design teachers (n=13) scored each image for concrete and abstract attributes (N=25). Results were checked through 2 successive Lens Models which correlated 2nd & 2nd and 4th & 4th year responses with the scores of the control group. The constancy of the correlations for the theoretical concern variable was a noteworthy finding supporting previous studies that claimed the presence of an underlying judgment structure gained through architectural education. On the other hand, the findings indicated an asymmetric development of culture groups, i.e. earlier development of Polish students in terms of internalizing the typical value sets compared to their Turkish peers. Value sets were found to get more congruent as students progressed in education. Results underline the homogenizing effect of the professional education. The study also proposes an adaptation of the Lens Model to the field of architectural research by which further comparative studies become available with the architects who adopt different tenets.

1. INTRODUCTION

Schools vary in teaching styles and scopes. Each school has a distinctive curriculum focusing on specific subjects at certain stages of education. Mismatching stages and the consequent perception differences of students can cause problems in international milieus like mobility/exchange programs, winter/summer schools and on-line learning environments. Researches about curricular differences and student perceptions representing different levels of education have critical role in illuminating and overcoming these obstacles. This empirical research is an approach to the problem from the environmental assessment field in which students' value sets for judging building images are put in the foci.

Architecture is mostly considered as an art and related mainly with aesthetic values. As Vitrivius put centuries ago, commodity, firmness and delight are the three integral components constituting architectural works. So, architecture is a field which is based on a set of concerns involving building types, typology, design decisions, concepts, structure, construction, occupancy and maintenance. Such components are given place in curriculums too. Furthermore, each architectural work is based on a theoretical ground. It is that ground which makes a certain work of architecture a work of a certain era and a work of a certain design consideration. It is

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the verbal/conceptual/philosophical base which gives form to the work. As Nesbitt puts it *"…theory is a discourse that describes the practice and production of architecture and identifies challenges to it"*. (Nesbitt, 1996, p.16) Thus, components usually take their shape or can be explained according to a theoretical ground. Societies of architecture create and judge architectural works in relation to this duality. Therefore, researches on professional attitudes should take the related components and discourses into account as well. Through the composition of the proposed Lens Model in this study, dimensions of architectural assessment were tried to be carried beyond the aesthetic concerns.

1.1. Empirical Research / Literature Review on Judgment Differences

Several studies have addressed the aesthetic judgment differences between designer and non-designer groups (Hershberger, 1969; Hershberger, 1988; Brown & Gifford, 2001; Fawcett et al., 2008). Among them, the physical attributes-emotional response studies take special place since they do not only indicate emotional response differences but also diagnose the physical elements that arouse these responses too. For instance, in a Lens Model study that used a set of large modern office buildings for aesthetic judgment, *fanciness* was found to be the only physical attribute which was responded similarly by practicing architects and laypeople. Architect and non-architect judgments were disagreeing for the other 11 physical attributes (Gifford et al., 2000). A similar research was conducted for a bigger set of emotional responses, with a set of large contemporary buildings and with similar participants. This time, findings indicated that architects were more driven by building materials whereas laypeople were more driven by building form (Gifford et al. 2002). Such results reinforced the common belief about architectural education; it was socializing individuals, thus conditioning the judgments, in a certain way which was apparently different from the socialization processes of other professions.

An early study by Whitfield and Wiltshire (1982) diagnosed the judgment disagreements between design and computer science students plus teachers and found again design education to be an active ingredient in forming peoples' aesthetic judgments. Few empirical researches then have focused on the changes in student perception, the subjective evaluative judgment of individuals, during architectural education. In Wilson's research (1996), for instance, *length of time spent in education* was found to be directly affecting aesthetic judgments of students. In the same research, school differences were also found to be apparent between the intermediate level students of two schools from North and South England whereas beginners and those near to complete their trainings, the 5th and 6th grades, differed meaningfully. It became apparent that architectural education was instilling students with a particular set of values and tastes and this installation had a distinguishable character developing parallel with the time spent in education. Architectural styles were diagnosed to be the core issues constituting values and tastes (Wilson and Canter, 1990; Wilson, 1996). Findings indicated that the end of the 2nd year was a turning point at which students started to judge buildings beyond Modern-PostModern classifications thus use more complex and abstract conceptualizations (Wilson and Canter, 1990). This diagnosis was obtained through the judgments of students representing six years in sequence, all levels of architectural education, in a single school. All these openly imply that students of architecture gain a more abstract language specific to the profession as they progress in their education.

Apart from professional variances and departing socialization processes, cultural differences were also studied in relation to aesthetic judgments. Layperson judgments from Ohio and Los Angeles for six home styles, for instance, showed similarity (Nasar, 1989). Likewise, layperson judgments representing five different *taste cultures* in Ohio did not show meaningful variety as expected in the evaluation of house facades due to the decreasing effect of educational and occupational characteristics of participants on this similarity (Nasar & Kang, 1999). In another research, knowledge structures, physical attributes and connotative meanings were found to have significant effect on house style judgments whereas location differences of participants did not cause any difference (Nasar & Devlin, 2000). Continental differences (American and Australian) of participants also did not cause variation in house style judgments (Purcell and Nasar, 1992; Purcell, 1995). As can be noticed, cultural differences were studied in relation to housing style judgments and did not give any significant result in favor of differences. Mixed set of images representing different building types also gave limited evidence supporting the effect of cultural differences between European and Turkish students of architecture (Dinç and Yüksel, 2010).

1.2. Research Outline and Hypotheses

Cultural differences were diagnosed to have limited effect on judgments, and architectural education was found to be creating significant changes in individuals' value sets. Consequently, the students of architecture from different schools, which also represent different geographies, might be expected to judge buildings differently. Possible judgment differences could be interpreted as the effects of curricular or individual differences. Focusing on this assumption, with a question mark in mind, the present study puts a research design similar to the aforementioned studies that focused on the differences between designer and non-designer groups. The study tries to solve the problem through diagnosing the concrete and abstract attributes that arouse different practical and theoretical concerns of two student groups representing two countries, i.e. Turkey and Poland. Parallel judgment changes were expected. Concrete and abstract attributes of buildings and the practical and theoretical concern responses of the two culture groups constitute the main variables of the research.

Here, *concrete attributes* are the directly observable physical properties like colors, materials, scale,

structure and other building form characteristics. *Abstract attributes* denote to the features that require mental processes, i.e. conceptualizations, of observers such as judging the design and concept quality of a work. It is these abstract attributes that the students are thought to be instilled with at the early stages of their architectural education. They also shape the judgment characteristics of the professional group.

Practical and theoretical concerns stand for the duality that is present in the nature of the profession. As mentioned before, architectural works stem from a theoretical background that reflects itself in realization processes (such as design and construction phases) and in the realized building. Thus, a research on the judgments of architectural students on architectural works should include both sides of the same coin (the practical and the theoretical), otherwise left incomplete.

2. METHODOLOGY

Through the two successive Lens Models of this research, practical and theoretical concern judgments of the 2nd year Turkish and Polish and the 4th year Turkish and Polish students of architecture were correlated with the concrete and abstract attribute judgments of the control group, and the attributes affecting the judgments of same level groups were compared. Possible agreements were considered as a consequence of homogenizing effect of architectural education whereas disagreements were interpreted as the signs of curricular and cultural differences. Due to the poor evidence supporting the effects of cultural differences, the disagreements in the Lens Models were considered to be more attributable to the educational approaches of schools rather than the varying geographical backgrounds of the groups.

Disagreements between groups can be studied through regression models as well. Lens Model differs from this approach by employing a control group (a group of experts in this study) who judges the attributes independently. In other words, attributes and responses are not judged by the same individuals in Lens Models. The main groups, the ones whose responses are compared, score their responses without considering any attribute as they all decide independently too. That is how culture groups are diagnosed, through attribute-response correlations. As explained in previous studies, Lens Models do not claim an explanation for these attribute-response relations (Gifford, et al., 2002); rather it illustrates the general picture of judgment differences of the groups. Explanation is limited with simple correlations, the *natural* relations between the attributes and responses, and beta weights, the role played by each attribute in this relation (Gifford, et al., 2002).

2.1. Participants

The schools. The Architecture Department of Konya Selçuk University (Turkey) and the Civil Engineering and Architecture Department of Szczecin University of Technology (Poland), are among the institutions that represent the majority of the educational approaches within their countries. Table 1 lists the characteristics of the two schools in comparison. As can be noticed, the Polish school is an older institution, which offers a broader scope of subjects such as history, urban design and artistic expression fields whereas the Turkish school's educational approach is more centered on the architectural design issues. Besides locations, chosen schools display apparent dissimilarity.

The participants. Participant groups were equivalent thus 2nd year students (n=40) and 4th year students (n=39) from Konya and 2nd year students (n=42) and 4th year students (n=33) from Szczecin judged the images. Totally, there were four student groups whose practical and theoretical concern judgments were collected and compared.

Fifth was the control group (n= 13) who evaluated each image in relation to 25 attributes. They were a group of experienced design teachers including Turkish, Polish, German and South African members. 4 members judged 45 images through the 25 attributes thus each performed 45 x 25 = 1125 judgments. Rest of the group (n=9) judged the 1/3 divisions of the main image set, thus this time each performed 15 x 25 = 375 judgments. School and cultural differences of these judges were considered to have minor effect due to their long time (min. 20 years) servings as master teachers of architecture and their intensive international experiences. Both circumstances were considered to have liberalizing effect on judgments about profession and geographies. The conformity among their judgments supports the assumption.

2.2. Images

A set of 45 images, examples of contemporary European, Turkish and American architecture, was prepared. Functional and size variety was taken into consideration therefore single and attached houses, twin and single office towers, museums, malls, hotels, schools, cultural centers, administration buildings and public libraries were among the building types that the set contained. They were a collection of images that all architecture students could be exposed to when browsing architecture periodicals and the internet. Color images were numbered and prepared for computer presentation, also were printed in the questionnaire forms in stamp sizes to avoid mismatches in the practice. All images are listed in Appendix A.

2.3. Questions and measures

Student participants were asked 2 questions for each image: (i) "Would you like to be in the design team of this building?" and (ii) "Would you have a lot to say about this building if you were preparing a presentation for the 1st year students of your own institute?" *The practical concern*, the first question, aims to measure the interest for the work in terms of a production process whereas *the theoretical concern*, the second question, concentrates on the underlying discourses that can explain the work verbally. As known, architecture profession is mostly teamwork and communication. Such a consideration is adopted by students early in education; students are encouraged for taking and

giving peer help / review / criticism while they are learning the specific language of design. Perception and judgment sensitivity for the physical and intellectual issues develop through these communication processes. The questions that focus on the practical and theoretical concerns were prepared in accordance with this generic nature of architectural education. The practices and the high reliability values in the present and previous researches (Dinç and Yüksel, 2010) revealed that student groups find these questions challenging.

The dissimilarities in judging the practical concerns within and between Turkish and Polish groups were expected to be more in 2nd year groups and diminish under the effect of progresses in education. On the contrary, 2nd and 4th year Turkish and Polish students were expected to be in agreement up to a degree for the theoretical concern judgments due to the homogenizing effect of architectural education.

The control group was given 25 attributes for judging the 45 images. Being observable and measurable, majority of these attributes (n=20) were similar with the *physical properties* of previous researches (Gifford et al. and 2000 and Gifford et al., 2002). Others were the *conceptual attributes*, the impalpable/unobservable features requiring mental processes for developing an opinion. Such attributes were not given place in previous researches of the field since they are not objective elements of buildings. Composition and experience of the control group in this study were considered to have minimizing effect on the possible subjectivity.

Students learn conceptualization in the early stages of architectural education, so their practical and theoretical concern responses were expected to have significant correlations with the judgments of the control group on the conceptual attributes. On the contrary, correlations with the physical attributes were expected to show variety. The unity of physical and conceptual properties was tested in a previous research and gave limited but meaningful results illuminating the role of cultural differences in architectural education (Dinç and Yüksel, 2010).

Students' responses for the practical and theoretical concern questions were collected via 5 point Likert scales with the answers arranged from "1=yes, certainly I would" to "5=no, definitely I wouldn't". Control group's responses for the 25 features were collected via bipolar 5 point scales on which lower scores signified the physical and conceptual attributes listed in Table 1.

Table 1. A qualitative comparison of the two schools of architecture, Selçuk (Konya / Turkey) and Szczecin (Szczecin / Poland)

Issues	Architecture Department of Konya Selçuk University (Turkey)	Civil Engineering and Architecture Department of Szczecin University of Technology (Poland)
Establishment year	1970	1946
The title of the school	Faculty of Engineering and Architecture	Faculty of Civil Engineering and Architecture
Location	Konya, a historic (ancient, Seljuc and Ottoman) city, intensive tourism related with Rumi's tomb and places of Mevlevi culture, plain topography, continental climate	Szczecin, historic, post industrial, waterfront/harbor and shipyard city with hilly topography, mild climate and a lot of green areas
Number of teaching staff	35 (architecture)	47 (architecture and urban planning)
Number of students	330	600
Sections	• Architectural design (AD) • Building construction • Restoration • History of architecture	• Architectural design (AD) • Theory and history of architecture • Monumental conservation • Urban design and regional planning • Drawing, painting and sculpture • Building construction
Levels	4 years of undergraduate + 2 years graduate + 3 years doctoral	4 years engineering degree studies + 1,5 year master degree studies
Services	Design projects, CAD+3D modeling, restoration and conservation projects for public and private institutions	Architectural design, urban design, regional planning, restoration and conservation, drawing, painting, CAD+3D modeling, sculpture, modeling, building law,

		exercises in structure design
Undergraduate curriculum	• Design programs get bigger and more complex as students progress in semesters • Structure, building elements and materials are thought in separate/specific design studios , as additional training for the AD projects • Histories of art and architecture courses take place in the 2nd and 3rd years as the city planning, restoration and conservation courses are given in the 4th year • Each academic has his/her specific elective course(s) mostly about building typologies • For technical subject lessons department collaborates with the engineering departments (n=11) within the faculty	• Design programs are usually complex and they get bigger and more complex as students progress in semesters • Structure, building elements and materials are thought in separate/specific design studios and as additional training for the AD projects • Histories of art and architecture courses start in the 1st year of the study and continue until the end of the engineer curriculum. Lectures in restoration and conservation design are taught in the 4th and 5th years • Each academic has his/her specific elective course(s) • For technical subject lessons, department collaborates with the civil engineering department within the faculty
Use of computer technologies	Computer aided design is limited for the first two years of education, while it is intensively used in the rest of the process	Computer aided design is limited for the first two years of education, while it is intensively used in the rest of the process. In the last years all projects are designed on computers
International web	Member of European exchange program (ERASMUS)	Member of European exchange program (ERASMUS), Culture 2000, bilateral co-operation with many European schools of architecture

2.4. Procedure

Student questionnaires were designed in 10 pages, each in A4 format. The first page was devoted to explanations about how to answer the two questions that were repeating for each 45 pictures. Students were told to answer the two questions as they see each image reflected from a data show on to the curtain. In addition, students were asked to control whether each big size image on the curtain was matching with the stamp size image on the printed forms. That is how mismatches were avoided for the crowded image set. Each image was reflected to the curtain approximately for 20 seconds and students were asked to answer the same two questions accordingly. Each session took approximately 20 minutes. All 2nd and 4th year students answered the questionnaires at once in both institutions. Participants were told there was no right or wrong answer for the questions so they were expected to decide liberally. The data on the collected forms were processed via computer.

Control group's process was more complex. Questionnaires were printed in A4 format, each page containing a list of the 25 attributes and the 5-point scales for judging one single image. Thus, the members who judged 45 images had to fulfill 45 pages as the ones who judged 15 image sub-sets had 15 pages to accomplish. Teachers who judged the whole set were given one week and the others who judged the sub-sets were given 3 days to complete the task and all were asked to do it with minimum interruption. Judges were asked to have a look at the entire set first, without judging, and then do their judgments one by one. Images were given in a CD format attached to the printed questionnaires so judges were free to look at them in their PCs or reflect them on a wall. Instead of stamp size images, each image was represented with a number in the questionnaires and the CD. That is how shortcuts, answering through the small printed images, were avoided. Collected data was processed via computer.

3. RESULTS

3.1. Reliability Analyses

Table 2 shows means, standard deviations, reliability values, the list of attributes and their meanings. Interjudge agreement ratings were computed as *intraclass correlations* (formula ICC 3, k). The intraclass correlations for the seven student ratings were above the recommended level (.70) whereas the same value for one student group (the 4th year Polish students) was slightly above the level of acceptability (.60).

Table 2 also lists significant (> .70) intraclass correlations of the control group ratings for the 16 physical and 5 conceptual attributes. ICC values were inadequate for 4 physical attributes, i.e. massiveness, balance, order and the proportions between parts. Being architecture teachers, judges were familiar with properties and their meanings. This is considered to have important role in the attained high level conformity which outnumbers the values in previous

researches (Gifford et al., 2000; Gifford et al., 2002). Besides, building type variety in the image set had limited negative effect on the conformity of the control group ratings.

Table 2. Means, Standard Deviations, Reliability Values and Definitions of Key Variables

	N	*Mean*	*Standard Deviation*	*Interrater Reliability (ICC)*
Practical Concern				
2nd year Polish students	42	2.85	0.38	.85
2nd year Turkish students	40	2.69	0.37	.81
4th year Polish students	33	3.09	0.37	.63
4th year Turkish students	38	2.85	0.39	.83
Theoretical Concern				
2nd year Polish students	42	2.89	0.46	.89
2nd year Turkish students	40	2.72	0.44	.87
4th year Polish students	33	3.13	0.44	.89
4th year Turkish students	38	3.01	0.41	.85
Architectural Attributes	13			
Concrete Attributes				
Ornamentation		2.26	0.46	.82
Edges		2.10	0.13	.96
Surfaces		2.13	0.31	.81
Complexity		3.61	0.43	.87
Transparency		2.93	0.22	.95
Angles		2.68	0.18	.96
Colors		3.99	0.44	.84
Materials		3.81	0.42	.78
Forms		3.60	0.38	.86
Form deformations		3.59	0.25	.90
Structure		3.31	0.63	.82
Scale		2.70	0.61	.89
Proportions		3.01	0.42	.78
Windows		2.84	0.23	.93
Interlocking forms		3.63	0.17	.84
Shadows		3.02	0.27	.86
Abstract attributes				
Gravity		4.05	0.41	.87
Program		2.85	0.80	.75
Concept design		2.47	0.29	.80
Skillfulness		2.82	0.39	.78
Masterpiece		3.08	0.29	.79

3.2. Lens Model Analyses - Differences and Similarities

For analyses, each of the 21 attributes was correlated with the practical and theoretical concern ratings of each student group. Related Lens models are given in Figure 1 and Figure 2. The attributes are listed in the middle of the model as the responses of the corresponding groups take place at sides. The lines connecting attributes to the two groups indicate significant (>.05) correlations and beta-weights representing the effectiveness of each attribute.

The first Lens model compares the 2nd year as the latter compares the 4th year Turkish and Polish students. Left-right differences in each model indicate dissimilar attribute-response relations of culture groups, stemming from school differences, as the distinctions between the models indicate the changes in respect of education levels.

Differences and similarities between 2nd year students. As Figure 1 shows Turkish 2nd year students judged *practical concern* in relation to the two types of attributes whereas Polish students did the same judgment only in relation to conceptual attributes. About 80% of the Turkish students' judgments (R=.89; R^2=.79) were related with 8 physical attributes, i.e. the edges, complexity, transparency, angles, scale, windows, interlocking forms and shadows, and the conceptual attributes which were matching with the Polish peer group. Polish students' judgments (R=.78; R^2=.60) did not show any correlations with any of the physical attributes. This indicates an earlier internalization of the learned values by Polish students compared to their Turkish peers. Based on the beta weigh values, Turkish students appear to place most

weight on transparency (a physical attribute) and masterpiece value (a conceptual attribute) almost equally as Polish students place most value on the concept (a conceptual attribute).

The agreement between Turkish and Polish students about the *theoretical concern* issue was stronger (r=.82) compared to the agreement on the practical concern (r=.67). Majority (83%) of the variation in Polish 2nd year students' theoretical concern judgments could be accounted for the 4 conceptual and 1 physical attribute (the shadows) whereas the variation in Turkish peer group judgments (%68) could be accounted for the same 4 conceptual and 2 physical attributes (shadows and angles). In assessing theoretical concern, groups displayed agreement on the conceptual attributes as they showed very limited agreement on the physical ones (only on the shadows, 1 property out of 16). Concept was the attribute on which both groups placed the most weight.

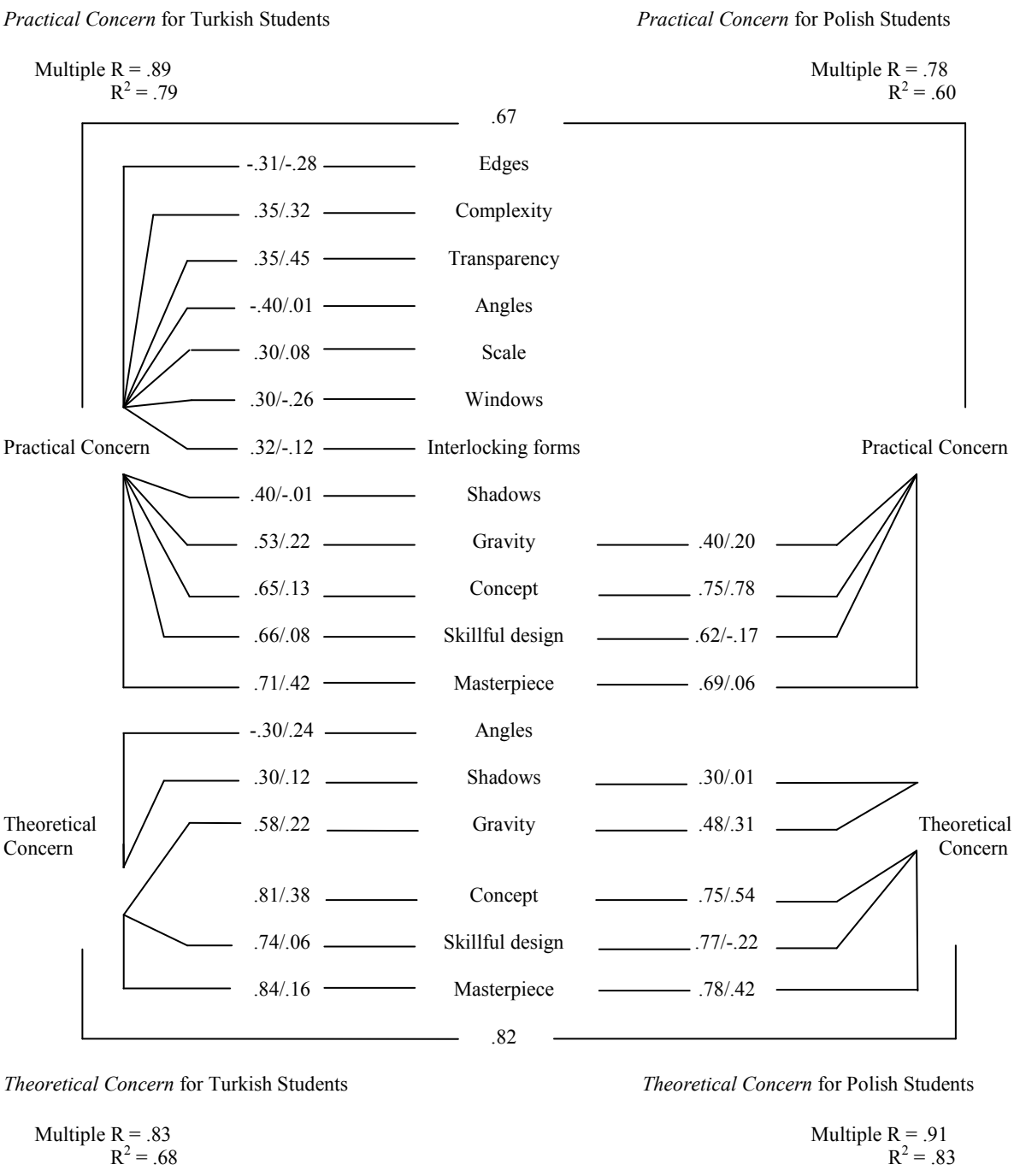

Figure 1. The Lens Model, Showing the Significant (p>.05) Links Between Concrete and Abstract Attributes and Practical – Theoretical Concern Items and the Related Beta-Weight Values for the 2nd Year Turkish and Polish Students of Architecture

Differences and similarities between 4th year students. As expected, culture group differences were decreased as students progressed in education.

In judging *practical concern*, 3 physical attributes (out of 16), i.e. angles, scale and windows, were judged differently by the 4th year Turkish and Polish students. The *shadows* was the only physical attribute affected groups equally. Responses for the 3 conceptual attributes were identical as the agreement between groups was high (r=.82). Briefly, Turkish 4th year students' practical concern judgments were affected by physical and conceptual attributes evenly and gave higher causality value (R=.89; R^2=.80) whereas Polish 4th year students' practical concern judgments were related mainly with the conceptual attributes (R=.80; R^2=.64) except the shadows. Based on beta weighs, masterpiece value was the strongest attribute affecting Turkish students' judgments whereas concept was the most effective attribute for the Polish peer group. The decrease in the number of the physical attributes affecting the practical concern of 2nd and 4th year groups from 8 to 3 (out of 16) is salient.

For *theoretical concern*, judgments were almost identical, agreement was high (r=.87) and the 4 shared attributes were conceptual as the 1 (the shadows) was physical. As proposed in the hypothesis, and showing minor difference from the 2nd year student judgments, groups got almost unison in theoretical concerns. Beta analyses indicated concept value as being the attribute on which both groups placed the most weight. These findings support previous studies which illuminated the development of aesthetic judgments in architectural education to be inclining towards *conceptualization* as the training got closer to completion (Wilson and Canter, 1990). Causality of the 5 attributes were higher for Turkish students' judgments (R=.91; R^2=.83) than that of their Polish peers (R=.85; R^2=.72). Turkish students showed more change in terms of conceptualization as they get advanced in education whereas Polish students consolidated their early gained position. In the end, groups became unison.

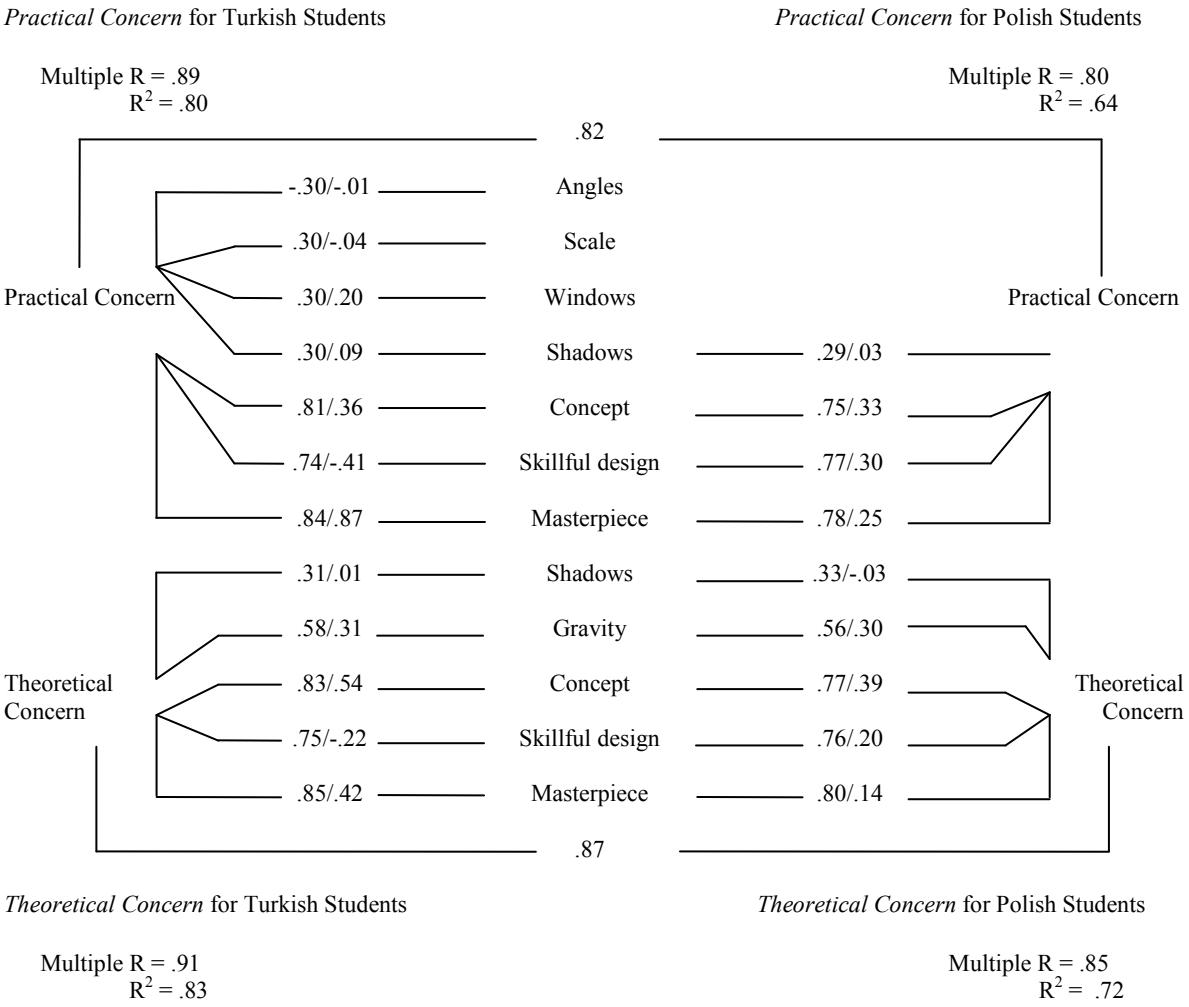

Figure 2. The Lens Model, Showing the Significant (p>.05) Links Between Concrete and Abstract Attributes and Practical – Theoretical Concern Items and the Related Beta-Weight Values for the 4th Year Turkish and Polish Students of Architecture

4. DISCUSSION

Researches which focused on the development of the value set of architectural students (e.g., Wilson and Canter, 1990; Wilson, 1996) and architect-layperson assessments (e.g., Hershberger, 1969; Hershberger, 1988; Brown & Gifford, 2001; Gifford et al., 2000; Fawcett et al., 2008) were mostly based on aesthetic concerns and physical attributes. In fact, the theory, which shapes the profession and the practice, can also be given place in judgments on architecture. Buildings may display positive performances in terms of formal novelty whereas they may display limited contribution to the theory of architecture.

Considering this fact, the present study was designed around two types of variables; the practical & physical and the theoretical & conceptual. Each type of variable was judged by culture groups and the control group. Judgments were correlated and the general pictures of value sets of the two culture groups were displayed in relation to the two educational levels.

In previous researches, the attributes, or the cues as they were named, were consisting of observable physical characteristics such as arches, balconies, columns and glass. The emotional responses (like/dislike) of people were considered to have relations with these attributes. Responses were measured through cognitive issues, which were intermediary measurements such as clarity, complexity and originality. The present study modified this Lens Model pattern by placing dual concerns (the practical and the theoretical) in the place of single-type cognitive issues and by adding conceptual attributes to the attributes list. All participants were architecture students and teachers therefore a more responsive model was needed. The new model displayed dissimilarities satisfactorily by providing observable findings in favor of the differences between culture groups, for the practical & physical variables in specific. Dissimilarities were a characteristic of 2nd year groups and a diminution of distinctions between groups were observed for the 4th year students. By supporting the hypothesis on the theoretical & conceptual variables, the new model also displayed the judgment similarities between cultures as well.

The consistence of theoretical concern judgments were in line with the theories supporting the distinct socialization processes of architecture students whereas inconsistency in practical concern values, for the 2nd year students in specific, weakened this claim meaningfully. Physical attributes played important role in Turkish 2nd year students' professional judgments whereas they had no role in Polish peer group assessments. Groups displayed asymmetric attitudes. Though a bigger number (> 8 out of 16) of physical attributes affecting professional judgments would strengthen the asymmetry, one can claim that culture, .i.e. geographical and curricular differences, had recognizable effect on professional preferences of the 2nd year students. Besides, as Turkish students progressed in education, the effect of physical attributes on practical concern judgments lost its degree of effect. Such noteworthy changes were not observed neither in the judgments of Polish students nor in the judgments related with theoretical concern issue. In other words, geographical and curricular differences had minor effect on theoretical concern judgment whereas they had more remarkable effect on the practical concerns.

According to the previous research, schools have influence on students' judgments. In addition, the underlying structure of judgments of architectural works shows variety according to the students' levels in the process (Wilson, 1996). As it is displayed in Table 1, Polish school gives more places to urban design, history and art subjects whereas the Turkish school's curriculum is more centered on architectural design studios. In this study, the constant similarities of conceptual attributes between the Polish and Turkish students' theoretical concern judgments, regardless of levels, indicates the similarity of the early-gained value sets in both schools. Such constancy was not observed in relation to the physical attributes for the practical concern. Thus, the dual composition, which is the originality of the present study, revealed an unchanging dimension, i.e. the conceptual attributes, that came out despite the presence of observable differences between the schools. Briefly, the effects of certain conceptual attributes do not change despite curriculums change. Therefore, the differences in practical concern judgments seem to be more attributable to the geographical differences, or even to the personal experiences of students, rather than the curriculums.

5. CONCLUSION

The findings of the research revealed the differences between the 2nd year peer groups representing two different cultures in judging practical concern. It is certain that the level of the students, which can be labeled as beginners, played important role in assessing profession-specific values since less number of differences were observed between the judgments of the 4th year peer groups. On the contrary, findings on the theoretical concern variable indicated an early establishment of values for the judgments of intangibles of architecture and an evident constancy in terms of keeping these values regardless of the progress that people make in education. Further research, especially for the constancy of the intangible / theoretical / abstract / conceptual values, is needed to reinforce this proposal.

The profession of architecture has a wide scope. Thus, the dual models that represent practical and theoretical issues together in combination seem to facilitate better inquiries for measuring judgment differences. In such researches, the role of the control group, who were a group of experienced design teachers in this research, should not be neglected. Choosing a control group who agrees on the majority of the judgments advances the validity of the attributes that can consist of tangible and intangible elements. Both tangibles and intangibles have the potential to be designed in variety in further researches.

Architects' values are different from laypeople values, in general. But, it should be kept in mind that all architects do not defend same values. They may split into subgroups that adopt different mind-sets. Culture, school, age, gender, experience, interest, institutional membership and sector differences are among the dynamics which may cause judgment conflicts. Apart from the conventional differentiations that are based on Modern-PostModern styles, judgment differences of mind-set groups should be illuminated as well, such as the variations between ecologists, the deconstructivists, the feminists, the contextualists and the analogists. In a pluralist world, which is based on participation and mutual understanding of different stances, discovering the dynamics that shape the judgments and value sets of each group becomes important.

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Appendix

B1. Millenium Dome (R. Rogers)
http://www.hi-id.com/atcl/0506/Iconic_dome.jpg
B2. Queen Marry Graduate Facility (Surfacearchitects)
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