

## **Effectiveness of Arabic Language as a Medium of Instruction in Enhancing the Performance of Students in Architecture Studio Courses**

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### **INTRODUCTION**

The function of language as a medium of instruction plays an important role in promoting an effective teaching and learning. It is an issue that has been debate by many scholars all over the world for many years.

The Arabs reject French because of specific relationship between French domination and colonization. A third alternative has presented itself with arrival of English in Maghrib. It has the advantage of not being the language of the colonizer and being the premier language of instruction in architecture, engineering, medicine, technology and international trade. Because of its advantage, English has been spreading rapidly in Arab countries like Oman, Qatar, United Arab Emirates and Kingdom of Saudi Arabia [1,6].

The role of language as a medium of instruction has been a concern mostly in countries where immigrant students are in the minority such as the United Kingdom and United States.

Many studies have been revealed that teaching using the mother tongue in the early grades enhances children's to learn better compared to the use of a second or foreign language. It has also been reported that if children are taught in language s which are different from their home language or mother tongue, they drop out from school, have low academic performance, and repeat classes due to a high failure rate. This state of affairs is still persistent in Qassim University and Hail University [2,4]. Research also shows that when a child masters the first language then learning another language becomes less problematic in the habits of speech, listening, reading and writing.

The use of vernacular in education which brought about the education principle that the best language of instruction is the mother tongue of the learner, several attempts have been made to implement various language policies in multilingual countries in Middle East and Africa [3.4].

In Ethiopia, the mother tongue has been in place for the last 15 years or more at least in the majority language group. However, in spite of the effort exerted to maintain quality mother tongue education by all regions involved, there is still a critical problem regarding children's ability to read and write in their own language [5]. Moreover, the children of many of the majority language groups have not yet had the opportunity to learn in their mother tongue so far.

This study explores the effectiveness of Arabic Language as a medium of instruction in enhancing the performance of architecture students in studio courses of Qassim University.

## **1 QASSIM UNIVERSITY**

### **1.1 History**

Qassim University was established in 2004 by merging two Qassim branches of Imam Mohammad Ibn Saud Islamic University and King Saud University. Since the establishment of the university, it has experienced a remarkable growth in enrollment and a significant expansion of faculty and its administrative staff [6]. The medium of instruction in Qassim University (QU) is English.

Qassim University (QU) appeared in the QS Work Ranking for the first time in 2011. According to the QS report, it has shown excellent potential for strengthening its position by harnessing its core strengths in teaching and Research.

QU has published Research papers with institutions ranked in top 100 of the 2011 rankings. QU has also shown initiative in arranging International Seminars in order to develop relations with global academic peers. The number of male and female students registered at university during 2010-11 approached 50,000 and number of faculty members and staff reached well over 4,000 [5]. At present the university encompasses 28 colleges both for male and female students.

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### **1.2 College of Architecture**

The College of Architecture in Qassim University (QA) is committed to prepare professionals in the design and architectural sectors through professional undergraduate program in the academic areas of industrial design, project management, structural engineering, urban planning and visual communication.

Collaboration, community engagement, innovation, global connection and critical practice are core values intertwined in all of the programs at the College of Architecture.

Architecture students learn in unique and flexible settings from innovative faculty and through progressive pedagogical models.

The College of Architecture maintains the right to limit enrolment in all courses and may retain student work for exhibition or for records and accreditation purposes.

The College of Architecture in Qassim University is among the modern colleges in Saudi Arabia. The Royal Decree to establish the college was issued on December 22, 2010. The college received its first batch of students in the academic year 2010-2011.

Enrolled student must pass the preparatory year and are assigned by the Deanship of Admissions and Registration in the University. They are further required to pass qualifying skill tests of the College as well as the personal interview. The study plan follows the rules of the semester figures as the college education system is based on

studio-based learning. Study duration is five years after the preparatory year, including the professional year at the end of program

### **1.3 Architecture Studio Courses**

The following are the architecture studio courses under the Bachelor of Architecture program in Qassim University.

#### **1.3.1 DES 101-Design Studio 1**

Introduce the principles, conceptual and critical skills, and the techniques of design. Students learn to observe the world critically and meticulously and to analyse both the broad structures and the small details of visual phenomena. Students master skills needed to conceptualize and communicate their observations through traditional means (drawing, painting and drafting), as well as through digital and other media. They learn craft and acquire making skills with a variety of materials and methods. Class assignments, critiques and presentations will enable students to begin developing an aesthetic awareness coupled with critical thinking skills

#### **1.3.2 DES 102-Design Studio 2**

This continues the principles of DES 101 with an emphasis on testing aesthetic and perceptual assumptions. Students develop problem-solving techniques through individual design solutions. While DES 101 focuses on skills and the discovery and critical understanding of the phenomenal world, DES 102 is primarily concerned with manipulation and synthesis, and the design and creation of unique two- and three-dimensional design concepts.

#### **1.3.3 ARC 201-Architecture Design Studio 1**

This course deals with studio-based investigation on the fundamentals of making architectural form and space with emphasis in design inquiry, exploration and process. It concentrates on classic instances of form sources in architectural and interior design: function, experience, structure, construction and context. Digital media are integral to the studio, and students receive instruction in software appropriate for design purposes

#### **1.3.4 ARC 202-Architecture Design Studio 2**

This continues the principles of ARC 201 with increased emphasis on design development and physical and technical resolution. Digital media are integral to the studio, and students receive continued instruction and practice in software appropriate for design.

#### **1.3.5 ARC 301-Architecture Design Studio 3**

The course emphasis on the advances in the making of architectural form based on concepts derived from space, structure and building construction. Studio-based projects emphasize design buildings with conventional, short-span structural systems.

#### **1.3.6 ARC 302-Architecture Design Studio 4**

This course includes studio-based projects with emphasis on the tectonics of building structure and envelope. Building case studies and design projects explore a range of material and construction system types including steel, wood, masonry and reinforced concrete.

### **1.3.7 ARC 401-Architecture Design Studio 5**

The course deals with design of open site projects of moderate scale with emphasis on building form derived from the analysis of site context and site planning strategies

### **1.3.8 ARC 402-Architecture Design Studio 6**

This course deals with comprehensive building design project integrating building technologies with other non-technical design issues. Introduces programming and includes a detailed, design development of an aspect of building technology.

### **1.3.9 ARC 501-Architecture Design Studio 7**

This course is a research directed investigation involving architecture and urban design.

### **1.3.10 ARC 502-Architecture Design Studio 8**

This course deals with research-directed design studio based on a topic related to some aspect of architectural design (history/theory, technology, representation, urban or heritage resource management etc.). Students pursue directed research in support of a design investigation

## **2 RELATED WORKS**

Many social psychologists argue that an attitude is an internal state that affects the overt behaviour [1]. Specifically, language attitude can have a great influence in areas such as education [2]. Furthermore, [3] pointed out that "there is some evidence that language attitudes may influence how teachers deal with pupils; . . . and other evidence suggests that attitudes about language affect second language learning" [3].

Attitude towards a certain language can serve as a means to an end and as an end by itself as well. That is, attitude can serve as a promoter of a certain behavior. For example, if a person has a positive attitude towards that language, he would have interest to learn that language. On the other hand, if a person is exposed to a T.V program of that language and/or given school lesson, as a result the individual develops positive attitude and also enculturation takes place [4].

A study by [5] reported that the language policy of Arabic language in the Republic of Sudan has led to a great deal of controversy. [5] Analysed the process in Khartoum University, in which English was the language of instruction until 1969. Although officially Arabic faculties still teach in English. A study of attitudes toward English and Arabic was administered by Taha at Khartoum University, sampling 250 students and 31 faculty members. 56% of students preferred to use Arabic as the language of instruction, while 40% preferred English as the language of instruction. Thus attitude was stated much more frequently than faculty members, of whom 71% preferred English compared with 29% who preferred Arabic. 81% of the faculty members and 89% of the students preferred to read in Arabic in their free time. Both faculty members and students were critical of the implementation of Arabic language at the university. The participants thought that there was a lack of planning and resources, especially about the availability of references and materials in Arabic. Faculty members were more positively disposed to Arabic language than the students, although both groups were generally positive in their attitudes. However, English was valued for its instrumental use. English was perceived as important for obtaining a good job after graduation and as a means of access to international communication. Implementation of Arabic language has been slowed by lack of resources, problems

in standardising scientific terminology, and the lack of staff to engage in Arabic language and translation activities.

In the study of [7], he investigated college students' attitudes towards the teaching and learning of English and Arabic, towards using English and Arabic as a medium of instruction at university level. The participants were two groups, 272 students, male and female from science and engineering faculties at Jordan University, Jordan, and 470 female students from faculty of languages and translation at King Saud University, Saudi Arabia. All were randomly chosen. The question was which language is more suitable for teaching medicine, engineering, science pharmacy and other science fields, Arabic or English? The researchers used two methods for the study: interviews with the Jordan university students and an open questionnaire with the King Saud university students. The data collected in the study was quantitative, as the researcher conducted the main reasons for favouring or not favouring English as a language of instruction. 96% of students from Jordan University and 82% from King Saud University think that the Arabic language is suitable for teaching Arabic literature, religion studies, history and education, but the English language is suitable for teaching science and engineering. Both groups gave reasons for their responses. For favouring English, students agreed (i) that the English language is very important for technology and the development of the country, (ii) and the English language is a global language and the language of scientific research and publications, (iii) and shortage of Arabic translation for science and technology studies, the lack of publication in Arabic language in science and engineering studies, (iv) labour markets prefer people who have studied in English in fields of science and engineering, and English is a prestige language.

### **3 METHODOLOGY**

This study was conducted to determine the effectiveness of Arabic language as a medium of instruction in enhancing the performance in ten (10) studio courses of 120 architecture students in Qassim University for school year 2014-2015. The studio courses teacher-researcher taught the two groups, teaching the experimental class in Arabic language and the control class in English.

The study attempted to find out if there was a significant difference in the mean achievement scores and mean gain scores in studio courses of architecture students taught in Arabic language and those taught in English. Furthermore, the study investigated the relation of these variables to achievement in studio courses: (1) extent of spoken Arabic at home and in community; (2) parents' educational attainment; (3) family income; and (4) students' ability in Arabic language and English.

The results of this study would be useful for writers of materials, either in Arabic or in English. Policymakers can gain insight toward formulating a language policy in studio courses of architecture students in Qassim University.

#### **3.1 Data Gathering Tools**

The achievement test which served as the data gathering instrument is composed of fifty items of the multiple choice type. This test translated in Arabic was administered to the experimental group while in English version was given to the control group. It measured knowledge in architectural studio courses. Personal data sheets were accomplished by the students to find out the relationship of the other variables on the students' performance in Studio courses.

### 3.2 Method

The research procedure proceeded in phases.

The preparatory phase included selection of the subject matter for the construction of the achievement test, the translation of the subject matter and the test questions to Arabic by the researcher, the evaluation of the translated instructional materials and test questions by Arabic lecturers/professors, and the reproduction of the instructional and testing material printed in Arabic.

A panel of experts composed of three studio lecturers and language experts assessed the content validity of the test.

Two months before the study proper, a gradual transition from English to the Arabic medium of instruction in the experimental class was done. The researcher used "اسد توديه وهلت المعمارية", an Arabic version of Architectural Studios, and the translated topics were identified and reproduced for the experimental group to use as references.

The equivalence of the two study groups was established first by matching the students based on their DES 101 grades. The English and Arabic pretests were administered to the two groups: the English test to the control group and the Arabic test to the experimental group. The latter test aimed to establish the groups' comparability in terms of their knowledge of Architectural studio concepts before the treatment.

The First Day Material and exercises were prepared: the studio project and the periodic test were done by the teacher-researcher. A week after the last topic of the course was finished, the English and Arabic posttest were administered to the two groups, respectively.

To gather data on home factors as possible variables influencing the performance of the students, each student was required to fill-up an Information data sheet prepared by the researcher.

Students' interaction and participation in classroom discussion were observed by the teacher-researcher. Student interviews on which medium of integration they would prefer for teaching Studio courses were conducted by the researcher.

### 3.3 Analysis

All the statistical tests used the 0.05 level of significance. The difference in mean scores was statistically tested using the t-test. The correlation coefficient was likewise tested for significance using the t-test for correlation

### 3.4 Results and Discussion

The two groups were found equivalent in their DES 101 grades before the start of the study proper. The Arabic group has a mean grade 83.67 while the English group had 83.65 as shown in table 1

Table 2 shows that the pretest mean score of the control group is a little higher than that of the experimental group. However, the difference between the means is small and not significant. Hence, the two groups can be considered equivalent.

Table 1. Equivalence of the two classes based on DES 101 Grades

| Medium of Instruction | N  | Mean Grade | Difference of means | SD of the difference | t-ratio    |
|-----------------------|----|------------|---------------------|----------------------|------------|
| Arabic                | 60 | 83.67      | 0.02                | 0.230                | 0.237 (ns) |
| English               | 60 | 83.65      |                     |                      |            |

ns-not significant

Table 2. Equivalence of the two classes based on Pre-test mean scores

| Medium of Instruction | N  | Pretest means | Difference of means | SD of the difference | t-ratio    |
|-----------------------|----|---------------|---------------------|----------------------|------------|
| Arabic                | 60 | 12.864        | 0.795               | 4.407                | 1.196 (ns) |
| English               | 60 | 13.659        |                     |                      |            |

Table 3 shows that the Arabic class had a significantly higher post-test mean score than the English class after the treatment. This suggests that the architectural studio concepts were better understood with the use of Arabic.

Table 3. Test of difference of the post-test scores of the two classes

| Medium of Instruction | N  | Posttest means | Difference of means | SD of the difference | Paired t<br>Df=43, p≤.05 |       |
|-----------------------|----|----------------|---------------------|----------------------|--------------------------|-------|
|                       |    |                |                     |                      |                          |       |
| Arabic                | 60 | 24.273         | 2.682               | 7.096                | 2.507                    | 1.682 |
| English               | 60 | 21.591         |                     |                      |                          |       |

This is further supported by the positive comments of the students interviewed.

"....." (Fahad M.) "ةيبرعلا يف ناك اذا موهفم مهفأ نأ عي طتسأ ....."

In English "..... I can understand the concept if it is in Arabic text"

ف من ال سهل جدا أن ن فهم إذا هو مك توب ب ال لغة ال عرب ية لأذ ني لا أسد نط يع ال تع بير عن آراذ ية" (Sami H)

In English ".....It is very easy to understand if it is written in Arabic because I can express my opinion"

"....." (Abdulaziz H) ات عال ية إذا هو مك توب ب ال لغة ال عرب ية"ج رد يدل ....."

In English"..... I have a high grades if it is written in Arabic"

They attributed their high scores in Architectural studio test to the use of Arabic as the medium of instruction

Table 4 shows that the mean gain scores of the two classes revealed that (a) both languages resulted in an increase in the knowledge in studio courses, and (b) the mean gain score of the class taught in Arabic was higher than that of the class taught in English.

The data suggest that Arabic may be a better medium of instruction than English enhancing learning in studio courses.

*Table 4.* Test of difference of the gain scores of the two classes

| Medium of Instruction | N  | Main gain scores | Difference of means | SD of the difference | t-ratio |
|-----------------------|----|------------------|---------------------|----------------------|---------|
| Arabic                | 60 | 10.56            | 2.65                | 7.098                | p≤2.507 |
| English               | 60 | 7.91             |                     |                      |         |

Three variables were included to determine if they are significantly related to students' performance of studio courses. These are (a) performance in Communication Arts 2 (Arabic and English); parents' educational attainment; and (c) socio-economic status.

Using the Pearson-Product Moment Coefficient of Correlation, only performance in Communication Arts 2 (both Arabic and English) is significantly related to the students' performance in studio courses shown in tables 5 and 6.

*Table 5.* Matrix of correlation coefficient between post-test scores and selected student characteristics (for class taught in Arabic)

| Independent Variables                          | Posttest scores |       | Remarks |
|--|-----------------|-------|---------|
|  | r               | t     |         |
| a. Extent of the use of Arabic                 | 0.925           | 1.996 | ns      |
| b.1 Educational attainment of father           | 0.215           | 1.456 | ns      |
| b.2 Educational attainment of mother           | 0.278           | 1.866 | ns      |
| c. Income bracket of the family                | 0.256           | 1.737 | ns      |
| d. Performance in Communication Arts (Arabic)  | 0.345           | 2.366 | *       |
| e. Performance in Communication Arts (English) | 0.523           | 3.745 | **      |

\*significant at  $\beta = 0.01$ , two tailed

\*\*significant at  $\beta = 0.05$ , two tailed

Table 6. Matrix of correlation coefficient between post-test scores and selected student characteristics (for class taught in English)

| Independent Variables                          | Posttest scores |       | Remarks |
|--|-----------------|-------|---------|
|  | r               | t     |         |
| a. Extent of the use of Arabic                 | -0.051          | 0.332 | ns      |
| b.1 Educational attainment of father           | 0.133           | 0.857 | ns      |
| b.2 Educational attainment of mother           | 0.211           | 1.367 | ns      |
| c. Income bracket of the family                | 0.265           | 1.738 | ns      |
| d. Performance in Communication Arts (Arabic)  | 0.345           | 2.398 | *       |
| e. Performance in Communication Arts (English) | 0.568           | 4.789 | **      |

\*significant at  $\beta = 0.01$ , two tailed

\*\*significant at  $\beta = 0.05$ , two tailed

## 5. CONCLUSIONS AND RECOMMENDATIONS

Lack of skills in communication is a disadvantage because it handicaps the student to learn. The use of the native language in learning a concept makes the learners confident and happier. They likewise learn faster because there is an atmosphere of openness. They feel free to discuss, paving the way to understand the lessons being taught.

However, many are not encouraged to use Arabic as a medium of instruction due to lack of teaching materials. In this study, the Arabic-translated materials in Studio courses were used as textbooks. Very few translated materials in Arabic and other dialects can be found in the field.

To qualify for the National Organization for Assessment and Accreditation (NCAAA) requirements, all textbook should be written in English and the medium of instruction should be English especially in the professional and allied courses.

Moreover, architecture students find Arabic, the easiest medium of instruction and gain good marks but in the present globalization, no one can survive without knowing English. It is also impossible to take a jump from a standard Arabic to complete English, as it is better to move step by step then to jump and fall. Thus, it has been concluded that a higher levels of education, Arabic-English Bilingualism should be implemented initially and then English Medium Instruction (EMI) should be introduced.

The Ministry of Education should start EMI from primary level so that the new generations do not find English difficult when they reach college.

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