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COACHING THRESHOLD – ARCHITECTURAL ALTERED TEACHING METHOD PARADIGM APPLIED EXPERIMENTAL SHOWCASE IN IRAQ

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Abstract:-

Due to the huge changes around the world, along with the changes occurred in core of thoughts, technologies and environment, in which has its reflection significantly on the societies and business in Governmental and private institutions , and due to the different visions occurred in the work professional market, along with the accelerated occurred changes, such changes, has its impacts on the Students mentalities, attitudes, circumstances, and their environment, in addition to the impact on the engineering practice and architectural practice, and in order to occur educational change in parallel, that is synchronized with the accelerated changes in the world, it became crucial to re-orient the educational programs towards the new generations and mechanisms of educational programs that suits with the newly different attitudes, nature, and mentality. The objective considered two components for such new paradigm: - Considering the core of thought of the second generation of architectural education
- Search for the mechanisms required for such core of thought in which the self-learning mechanism is considered as one of its pillars.
It is based on three premises:

1. *To go in line, with the newly development occurred in Architectural educational programs worldwide, especially in interacting with the core of thought related to the second generation of architectural educational programs.*
2. *Considering the concept philosophy of "self-learning" along with its mechanisms in stimulating student potentials through effective interaction.*
3. *Designing the program paradigm based on the two points above, to be synchronized and tailored to the newly different student characteristics in terms of his/her circumstances, thoughts, mentality, and environment.*

INTRODUCTION

To occur educational change that is synchronized with the accelerated changes in the world, it became crucial to shift from the traditional educational programs to re-orient the educational programs towards the new generations of educational programs that suits with the student and society in its circumstances, attitudes, nature, and mentality. The step of beginning the change is to develop architectural *educational program paradigm* in that context, which in our Iraqi case, took time for thinking, checking and comparing, that considered two components for such a new paradigm: - Core of thought for the second generation of architectural education; - Mechanisms required for such core of thought.

Literature Review

The literature is based on reviewing *five core questions* which sets the required foundation of new methodology that leads towards a new paradigm:

Q1 / what is the altered paradigm?

The altered program paradigm is synchronized to answer educational requirements and visions with the worldwide occurred developments and changes, and this is defined as the *"Threshold"* program paradigm (Al Hamawandi, 2015), in which its core is based on:

- The concept philosophy of *"Self-Learning".*
- The paradigm should stimulate student's potentials to the maximum.
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The *concept of Threshold* (Al Hamawandi, 2015) is one of the new modern concepts in the higher education fields of engineering and medicine, and this concept is considered as the newest used in the latest researches, this concept is totally linked with the professional practice, in which the curriculum should be developed accordingly. The first who worked on that was Mayer and Land in 2003, developed in 2005 by what is known "The Application of Threshold Concept Framework to curriculum Design", others followed that in developing it by 2007 like Davis, Cooper, Holmz, as they came up with set of ways and methods used, demonstrated in researches named "Demystifying Threshold Concepts" that were published in the "Journal of Philosophy of Education".

Q2 /Collective and Individual critic processes are considered as method in teaching Architecture, self-learning mentioned is considered as altered different method, to what Educational generations each is belonged to?

The critic process starts when the student presented his project, which means after the student designs his project, the questions now arise, in what way the students learn how to design?

The main dialogue issue in philosophy is based on the relationship between the subjectivity and objectivity (Al Hamawandi, 2015), subjectivity is related to the *core of thought*, and objectivity is presented by *picturesque* (Al Mudafar, 1977) of product, the core of thought always produces the picturesque of a (product) through certain mechanisms, and picturesque by the end, reflects the origin of its core of thought, and from here, all previous questions raised about collective and individual critic belongs to traditional educational methods that is based on the *criticism of the picturesque of product*, and because of changes occurred by time, the methodologists came after, presenting the (first generation of architectural educational theories) that focus on the *criticism of the process in producing picturesque from its core of thought rather than focusing on the criticism of the product itself*, (Al Hamawandi, 2015) afterwards great accelerated changes occurred, the (second generation of architectural educational theories) arise, to focus on the core of thought itself presented by the personal values, this is considered as the main back bone for changing methods of the educational process, in that respect, the critic process still stands but completely differs in terms of timing, nature, and quality, as it became subject to the self-learning method, which known as the second generation of architectural educational theory.

Q3 / what is the concept of "self-learning"?

Self-learning concept (Al Hamawandi, 2015) depends mainly on the *"Coach"* in preparing well-designed set of values and attitudes, that help to improve the learning process by oriented educational programs to stimulate and create crucial values and skills, equally for the trainers and students; the student can experience the learning involvements by him/herself to gain the information and required skills based on potentials and abilities to achieve good levels of mental development, in order to fulfill the goals of targeted good learning process without direct help, interference, and assistance from the coach; and according to that, the context procedures is getting developed so that *the student can learn how to learn about architecture*, this goal is crucially seen by the preliminary stages of architectural education. In addition to self-learning definition, it is worth to mention about the set of relative components and operational steps required:

- Learning would be oriented in an intended organized way for each individual according to potentials, personal abilities, and attitudes;
- This to be achieved, depending on the huge self-effort of the coach that should be synchronized with being able as a coach using supportive executive tools (Advanced technology), to achieve better levels of development.
- By that, the student may *change internally* to the better; this change is ruled by shaping and/or composing the mental activity and potentials of the individual learner. The self-change occurred for the learner from inside is a reflection of the changes and exceptions from outside made by the coach program. It became obvious the crucial role of the coach in making the self-learning stimulation to make the student learn by him/herself for developing character, in which by the end, self-learning is considered as a well try for orienting towards certain organized behavior to achieve best in scientific and morality aspects through the coach direct interactive supervision.

Q4 / what is the practice role in the Academic educational methods?
In reviewing the goals and methods of the educational programs for the best ranked universities considered the most developed ones in Architectural education, it is noted that profession practice starts with their students from early stages and so on towards the advanced, and the description used for their goals in that respect is known as *"Practice Partnership"* (Al Hamawandi, 2015) that depends on the importance of building a partnership between the academic and market practice, as the aim of learning is getting graduated architects that can serve the society as appropriate, and that is why the universities goals focus on the partnership between the practice and academia to achieve effective contribution, based on that logic, *the educational programs should be developed in a way that fits and tailored with practice* in early stages of learning.

Q5 / what is the reason behind using software's (Revit or other similar tool) which are specially programmed for Architects?
In institutes that intend to teach their trainers about flying, airplanes, etc.., a new technique is been considered, it is based on using the electronic software games that deals with such subject, for instance, when you play a game about flying, several information and approaches will be used to learn during the game, about navigation, take off, landing, buttons related to the plane, etc.., all such matters you will need to learn about so that you can play the game appropriately and scores properly, therefore, and based on that concept, specialized institutes started to get their trainers get use of such software's, simply because those software's are designed by the help of a pilot who puts all his knowledge and experience into such a software, in which the enduser will learn in advance by default about flying through using that software.
This concept is also fits on architectural software's, such software's are designed by the help of professional architects who tried to reflect all the information and matters related to architectural issues, in which, the end-user of such software will certainly learn about architecture relative matters, doors, windows, walls, foundations, environmental aspects, etc... .
Accordingly, the answer of why is Revit (or any other tool designed for architects) is crucially used in the new paradigm that cannot perform effectively without such a technology, in addition, to the super speed and accuracy of drawings for conducting graphic works, and also will be given a very well opportunity to learn comprehensively about architecture in that sense (Al Hamawandi, 2015).

Problem / New Paradigm is crucially required
Since 1959, in the Architectural Departments the educational design teaching methods for the first stages students kept looping till date around long-term habitual approaches, utilizing always same critical methods, same evaluation habits, and almost same design teaching procedures, while; in 21st century world is ever changing in every direction, mentalities became different, new attitudes arise, market needs entirely fluctuated, new technologies prevailed, design methods developed, and the traditional architectural education kept looping around, misplacing the world evolutions in educational design methods and techniques, which is totally irrational. The new paradigm is crucially became a need, its objective is categorized into two levels: the first level concentrates on exploring the potentialities (in terms of *imagination, power of mind-blowing, common sense and rationality*) by endorsing concepts that expose the students to competence and self-realization of abilities, while the second level, is *to utilize the arisen potentialities* which rests into getting students able to better understand how to deal with projects by achieving Rationale Architectural Approach that consider, the "One Package Approach".

Methodology
To achieve new paradigm vision, methodology composed of three main learning phases is endorsed taking into consideration that all are achieved by self-learning:
Phase one: deals with achieving the approach of developing *Fast Track project*, which will pave the way to learning about the 2nd phase, it is composed of three stages of learning using *sketch up software*:
- Stage one: Design inquiry/research Analysis of Building Compositions, by Utilizing Ordering Principles in Design UNITY analysis (Ching, 2005).
- Stage two: creating 3D form compositions, by utilizing the Design Grid Formulation (DGF) technique (Al Saeed, 1988),
- Stage three: Fast Track Project by achieving the One Package Approach, utilizing the Design Grid Formulation (DGF) technique, to formulate rationale architectural approach that consider, site, function, 3D mass, zone planning, and 2D elevation, all at one time Package based-result approach.

Before getting into phase two, a bridging Phase is required, in which it focuses on a drawing tool as an instrument, this bridging phase is totally a separate complementary training on REVIT as the most architectural prevailed software, by utilizing REVIT in speedy accurate plans drawing, controlling proportion, utilizing library for furnishing, along with required different functional aspects used for plans, sections and elevations.

Phase Two: deals with achieving a "project threshold" approach; it is composed of the following:
- Stage one: based on learning how to understand plans and how to achieve transferring Fast Track Design to a detailed project of plans, sections, and elevations, by Utilizing REVIT.
- Stage two: Focus on learning to apply the *"Balancing"* concept in a project as a comprehensive overlook of three-dimensional project synchronized with its two-dimensional components. - Stage three: Focus on learning *how to sense a place* by utilizing interior and exterior threedimensional views.

- Stage Four: *Tryouts of building a "project Threshold",* by achieving the One Package Approach.
- Stage Five: Adopting the *"ESTAGIER"* concept among students in order to increase interaction, team cooperation, informational exchange, and exposing significant each other potentials.
- Stage Six: it is important to mention that such threshold is composed of two interrelated components, first one is the *threshold that is based on the design ability*, and the second component is the capability for each student to do a complete set of Architectural working drawings that shows effectively the design implementation of the design threshold component. Before getting into phase 3, a bridging phase is required, as it is well-known that buildings types are so many, there are administrative, health, education, industry, recreational buildings, residential, commercial, etc., and it is impossible to give students all types of buildings in the learning stages, therefore, it became crucial to teach and train them on the way of how to *"develop a space program",* only in this way, the basic principles on how to develop any type of building will be well experienced, which will lead the way properly to move ahead towards advanced design theory.

Phase Three: In this phase, advanced *"design theory application"* will be considered in order to explain and practice the five types of concepts (Cataneese, 1988) with five types of picturesque (Al Mudafar, 1977), which each student should understand as a stage beyond threshold level as post threshold, this advanced design criteria is crucial to well understand the main cores of Architectural picturesque. *This phase along with the previous bridging phase has no application in this paper as it is a theory applied after the success achieved of phase one and two paradigm theory* that was implemented.

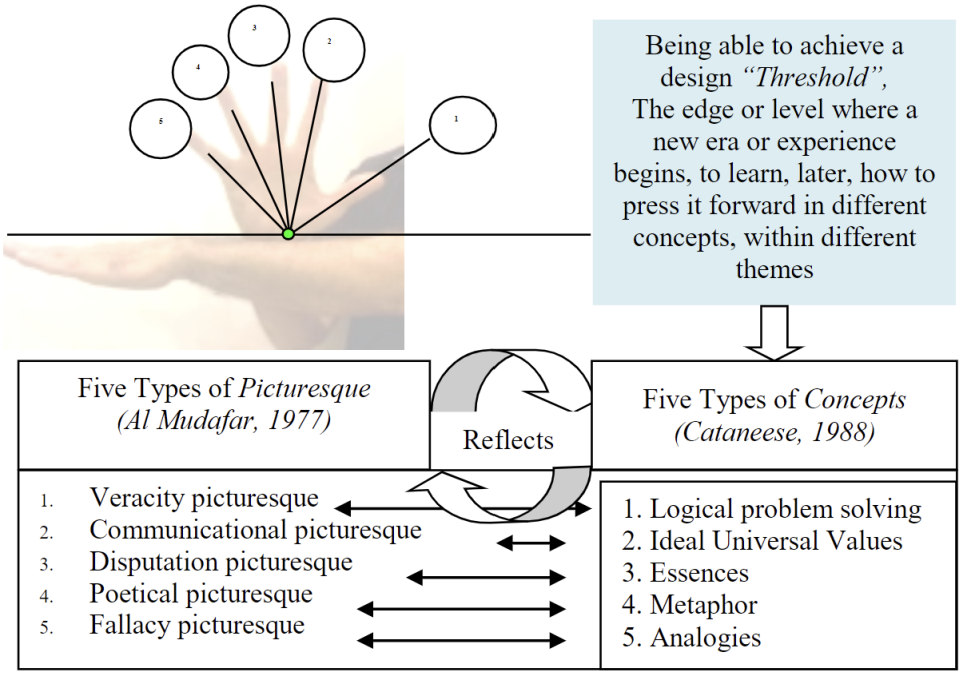

Figure1. Threshold concept in relation with Design Theory basis in relation with Design Theory basis

The Investigation (Experiment) Implementation of Phase One:

1. Design inquiry/research Analysis of Building Compositions by Utilizing Ordering Principles in Design UNITY analysis;

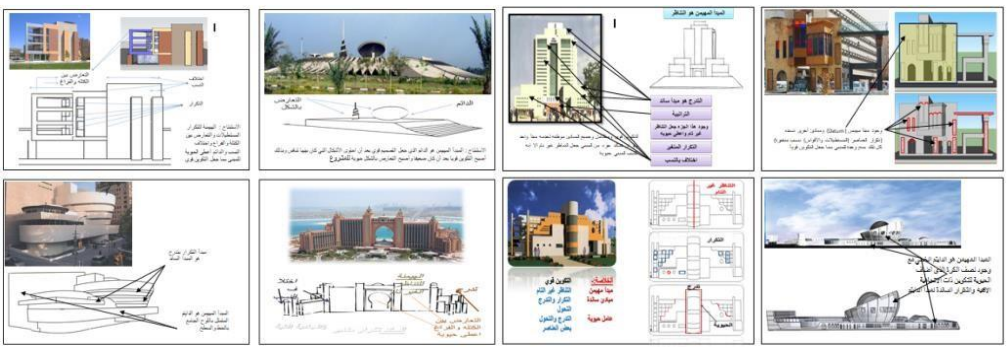

Figure2. Example of 1st stage Students' exercises on Unity

2. Innovative design approach, creating 3D form compositions By Utilizing the *Design Grid Formulation (DGF) technique*

A new technique on how to construct 3D compositional forms is highly considered in that theme, this technique is unique, and entirely different from the traditional grid, it is a technique that deals only with the square as an

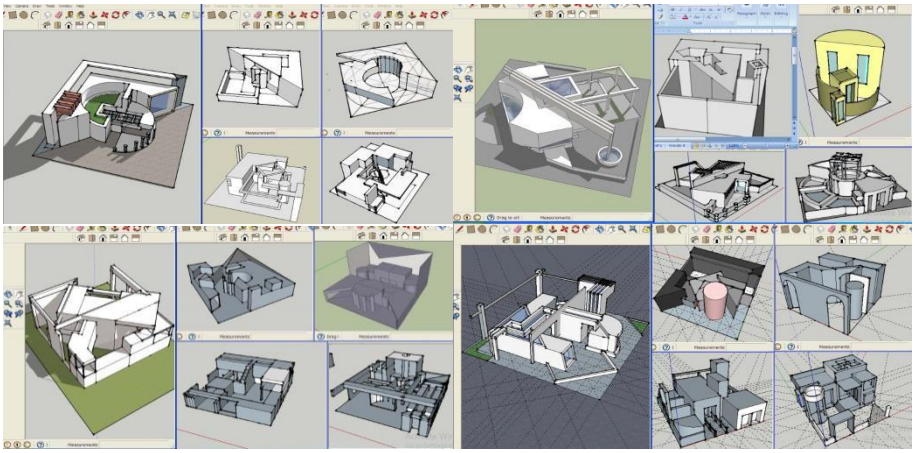

Figure3. Examples of 1st stage Students exercises on 3D Design Grid Formulation

original shape, from which any kind of shapes can be produced through a process named DGF. This unique process is not only help the students in accelerated innovative way of imagination, it assists the students to handle with control the production of proportioned, inter-related, and imaginary 3D forms within a short time, and that is considered a dramatic outcome.

3. Achieving One Package Approach through Design of several *"Fast Track" projects,* this approach focuses only on keeping design limited to a certain stage which is just a (pre) to the first prelim stage. This pre-stage requires only the outline theme of the design that includes the outline of the 3D, site design, elevation and only a zone plan for the project; those requirements are considered as the core stage for a healthy progressed development of the complete design process for any project.

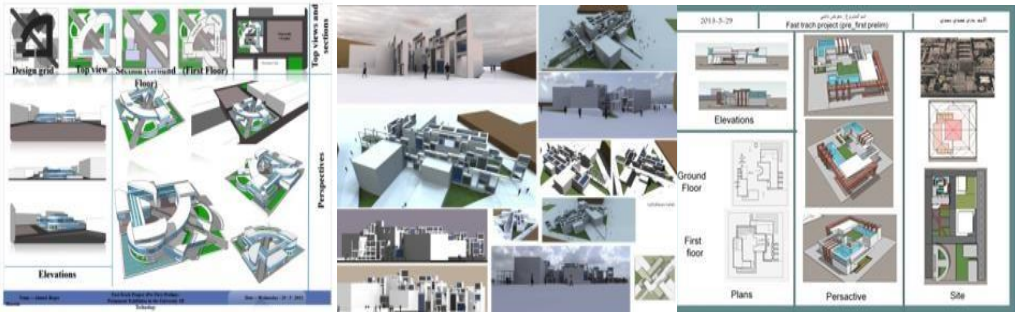

Figure4. Examples of 1st stage Students Fast Track Projects

The concept of Fast-Track project is implemented through the following supported tools:

- Team work accumulated results based approach.
- Using the *sketch up software* to be harmonized with above.

Those core themes lead to additional supportive core themes to implement:

- Self-taught critic approach, (Instead of individual critic approach).
- Independent evaluation criteria, (Institutional evaluation - critic approach instead of class staff evaluation - critic approach).
-

Implementation of Phase Two:

In order to achieve the objective of *coaching threshold*, "Market Driven" learning development approach is considered, certain criteria is to be recognized through focusing on the potentiality part and encourage the self-Interpretive and self-leaning part in that process, and that was achieved by, *discussions rather than Criticism, tryouts rather than submissions, and abandoning the traditional ways of evaluation and marks*, to endorse a new system of evaluation by learning, to achieve better coaching "Threshold", six stages of learning promotion were implemented:

Stage one: How to develop plans

This stage focused on how to better understand the "plan" issue in order to better exercise tryouts development of plans in specific, taking into consideration its relation to the remaining project components.

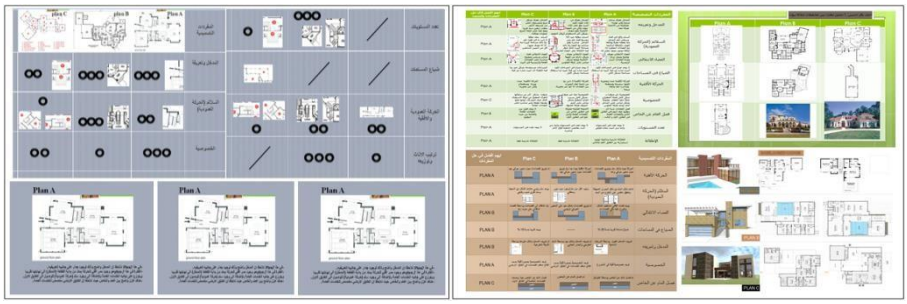

Figure5. Examples of 1st stage Students Plan analysis exercise

Stage two: How to manage balancing

This stage focused on learning to apply the *"Balancing"* concept in a project, as a comprehensive overlook of three dimensional to be synchronized with its two-dimensional components, this learning is achieved using "Surgery Strategy" technique of learning. In the light of this concept, a simulation is endorsed derived from the medical field of surgery, and specifically from the surgery point of view on how to get the students better understand in learning the package work of an operational surgery, it is well known that any surgery cannot be taught to the students theoretically to manage an operational surgery inside an operational hall, simply because it cannot be explained theoretically, *it should be seen on live*, Accordingly, this simulation between surgery and design was endorsed, and *lab design of building was exercised to the students lively*.

Figure 6. Live Lab Design strategy for 2nd stage Students

Stage three: How to sense a place

After students, experienced the "cognition of how to develop plans", and Experienced how to Manage the way of "Balancing", It became crucial for a student learner to realize that Architecture is entirely a way for a *"Place Making"*, as all techniques demonstrated in two dimensional drawings like plans, elevations, and sections are only means of implementation, to come up with a "Place", place is the reality that its design should be evaluated and experienced by people who will (live in) and (interact with).

Figure7. Examples of 2nd stage Students tryout works on place making

Stage Four: Towards Tryouts inside Team Self Interpretive discussions

What is done in the three previous stages should be done "collectively", each student should try intensively during each week to show his tryouts on project, collectively to achieve the selflearned materials.

It is important to mention that the concept of "Tryout" replaced the concept of "submission", it is the threshold to deal with, trial to test suitability, rather than it is recognized as an act of submission to be "judged", this different conceptual approach turned it upside down, simply because no "criticism" is needed in the tryouts, "discussions" instead are required, because "discussions" are based on talking between concerned stakeholders about a subject, and that is exactly what is required in line with the core themes that are relative to the three basic working principles mentioned in Phase one, while "criticism" based on pointing out defects to evaluate rather than getting potentialities rise to learn instead, Needless to say, that endorsing the concepts of "Tryouts and Discussions" will lead simply to abandon the traditional ways of evaluation and ranking marks, and let the students freely work. This means that during the semester, students work very hard to produce their tryouts regarding all what they experienced and learned collectively, which by the end of semester,

each will reach his project threshold, which can be evaluated in one time by external judges from Architects and Academics. This new system of evaluation proved its success completely in terms of transparency, fairness and more important abandon the desire for caring about marks.

Stage Five: Adopting the "ESTAGIER" concept among students

What is strongly related to the success of tryouts, is this stage, as in this stage, adopting the "ESTAGIER" concept among students (whom are the learners) is very crucial, in order to increase interaction, team cooperation, informational exchange, and exposing significant other potentials in order to rise up the overall level of student works in achieving the required "Project Threshold", this exchange of techniques among the learners is just like the salt that complete the taste of the learning process. ESTAGIER" who may lead number of students to apply the with Them the act of discussions on their tryouts, along with transferring his/her informational experiences and gain as well from them such experiences, all that to be done under the following techniques:

- "Rethink", through discussions, they will come to different conclusions about a certain subject after "thinking again" to lead to the second technique which is: "Initiating Dramatic change", this change will work on personal design thinking levels and/or certain design elements at a project level.

Figure8. 2nd stage Students working as ESTAGIERS

Stage Six: The second "Threshold" component

This stage is how to understand the architectural working drawing and the special architectural details, *imagine it cognitively in relation to the design itself*, and learn how to *start thinking* in a way to design such kind of architectural details for their own design idea in order to be well understood and expressed.

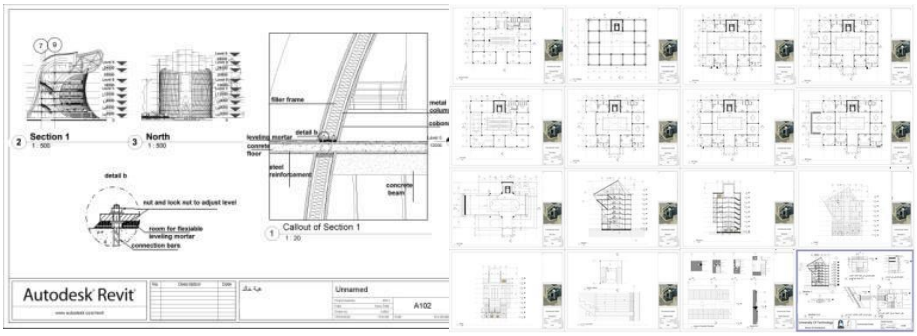

Figure 9. 2 stage Students Architectural Drawings and Details

Coaching Supportive initiatives

Additional to the stages mentioned, there are certain technique that should be endorsed within, to support, strengthen, and frame the refinements required for each stage, such technique relies on several topics to be discussed that need to be raised and argue in different occasions and/or circumstances depending *on the personal evaluation and view of the coach.* Such topics are:

Difference between concept and theme in Architectural design, Le Corbusier and Frank Lloyd Wright who never studied Architecture in Architectural Colleges, Respect others' opinion and views, just play your part, By Continuous Doing Creativity arise, It is in the doing the idea comes, Thought produces picturesque, applied in Architecture, Team work rather than Group work, Tryouts rather than submissions, Discussion rather than criticism, Traditional ways of education, let us stop spoon feeding, about professional Architectural Firms, Threshold Explanatory approach, Progress measured by least Tryouts, Mission values of the Altered Paradigm, 101 topic learned in Architectural college, Core values, core competencies, and Managerial competencies, World Architectural competitions winners, Self-learning generates self-initiatives, Morality Management and time management in Architecture, Professional ways in Getting into Architectural Market, Success stories, how to be achieved, Self-Assessment exercise for self-learning, Design experiment, sitting area in Architectural department, Design studio experiment for 2nd stage students, Equity does not mean Justice, applied in Architectural education, Evaluation best practices for educational students' projects.

Results and Analysis

A result of the utilization of the altered paradigm, is successfully demonstrated in *Self learningself critic* successfully founded, proved through the exhibition of students work in the university, quotes are of extreme acceptance to the threshold methodology used in terms of outcome results, and some quotes for instance are:

"*Surprising outcomes 2nd stage students, it calls for inspiration, thinking, and comparing, also calls in some of its hinges to learn from those who learned to learn how to learn by themselves*", Vian Baseer, Faculty staff, UoT.

"*I think Baghdad and other Iraqi cities will be in safe hand due design technique. As well as the graphic way and theme is more beautiful, more sense, well presentation*", NB Consultancy, Technical Director, Architect Safaa Hussein, former Dar Al Handasa consultancy.

Figure10. 2nd stage Students Architectural Works in Exhibition

Impact results of the working on the Paradigm

- Success Stories in getting early into Market

One of the impacts of the working paradigm is getting into market, as mentioned in previous discussions that objective of this paradigm is to prepare the students to be ready for early entering the market, as it is a market driven approach. That was reflected in several success stories, in which the champions are the students who experienced that new paradigm.

- Self-learning generated self-initiatives

Students began to do additional works and creative actions by their own related to the design subject as an external activities as lecturing to each other, and setting their own design studioenvironment, and Producing Design educational videos; as initiative, which is considered the first ever happened in Iraq, five of the students of this second stage, offered a free training course to Ministry of Construction and Housing, in order to train twelve of their Architects on the Advanced level on Revit software tool that they dealt with in their previous works and projects during the year, such training course is considered very costly as to be taken outside Ministry.

Figure12. 2nd stage Students Architectural Design projects and Working Drawings

Discussion

The Mission is based on achieving change, a change in the way on how to promote hold of the new skills, a change in how to innovate and create new ways for developing the potential intellectual capacities of students, a change on how to secure new methods for building characters, that had belief, hope, enthusiasm, capacity, confidence, and passion to move ahead towards imaginative and innovative oriented efforts, to produce significant product. To achieve that, the three learning core values should be considered to secure the rightful educational progress, which are listed according to importance: a- Mental development, towards raising intellectuality b- Building up Character c- Getting hold of skills The defect in each of above will not fulfill the right promoted educational process and progress. Accordingly, the methodology endorsed and the experiment implemented is totally concerned in building up such core values.

The Paradigm goal is how to achieve core values and to do so, the first initial step is to start clearing the inside of each individual, and this is conceptually based on the Holy Quran advice and guidance in this regard:

"هُوَ الَّذِي بعَثَ َ فِي ا ألْ مِ ُ بيِنَ رَسُو الً مِ أنهُ أم يتَألُوْ عَل أيَهِ أم آيَ َاتِهِ **وَيزُ َ كِّيهِمْ** وَيعَ َلِ مُهُمُ ا ألكِتَابَ وَا ألحِ أكمَةَ

"It is He who has sent among the unlettered a Messenger from themselves reciting to them His verses and ***purifying them*** *and teaching them the Book and wisdom"*

It is noted clearly that the learning process should not start with educational materials and methods, the first step should start basically with purifying the spirit وَيزُ َ كِيهِ أ م , recommending it towards the high values that it possess inside, this first step is the key for exploding the potentials from inside, and the idea is a clearance based-values approach to be considered, this approach is empowered by methods help to achieve that, such as self-learning, self-critic, as explained in the context of this paper for changing the system towards "Learning Value" rather than "Evaluation" as the goal is to learn *not to get successful marks, and through appropriate learning, successful marks will be acquired by default*", and that is quoted as a learning attitude from the Holy Quran:

" ي أوَمَ يفِ َرُّ ا ألمَ أرءُ مِ أن أخ َيهِ وَأ مِ ُهِ وَأبَيهِ وَصَاحِبتِ َهِ وَبَنِيهِ لِكُ لِ ا أمرِئ مِ أنهُ أم ي أوَمَئِذٍ شَأ ن يْ ُ أنِيهِ"

"On the Day a man will flee from his brother, and his mother and his father, and his wife and his children, for every man, that Day, will be a matter adequate for him"

That turned the students from focusing on getting marks in any way, to real desire to learn which led to change to build different characters, they became enthusiasm, confidence, eager to learn, never argue or ask about marks, have insistence to achieve, conquer the difficulties in work or among their teams, never say cannot, always help each other and learn from each other, simply, they were turned into readymade characters to absorb any kind of teaching materials. Once this turning point reached, staff started to apply innovative approaches like "Design Grid Formulation", "lab design lively interacted", "place making", "Team work in utilizing software's ", "Applying ESTAGIER approach", in which students

became completely creative and their inside channels are opened and ready to learn, based on that, results came extremely surprising in very short time.

Based on above, students became ready to understand how as learners should work to achieve Threshold phase, and when time calls to move towards achieving post Threshold phase, they learned how to *understand their products* which they did. This achieved through the following Diagram, named "Where Am I? Diagram" that illustrates clearly about where and what is Threshold, post threshold, and space program, that will give the status for each learner to know where is his/her position in the learning journey process?

The diagram components that students learned about the threshold and post threshold resident into three main components which are, idea, concept, and theme that are presenting basic of the three components of any general *logical issue*, it is, the "*judged on*", "*judged by*", and the "*linkage*" between them, respectively. Such components are the composition of an "issue" in philosophy, and needless to say that as a subject, *design is considered as an issue*, just like any other subjects, which its components are the three mentioned. Accordingly, design as an issue, its three components of idea (that presents the Judged on), concept (that presents the Judged by), and the theme (that presents the linkage), will be the rulers on how to deal with design development and theory towards achieving threshold and post threshold positions, the above and what will follows is totally understood by the students to figure out about the whole learning process required to reach threshold base and post threshold, in which to realize where and what is required to fill the gaps and/or to strengthen the learning process as a whole via selflearning.

The *"judged by" component that presents the concept in design*, is ruled in philosophy, by the five types of concepts and picturesque , as illustrated, while the "*judged on" component presents the idea in design*, ruled by the fully understanding of the project standards, criteria, potentials, in order to transfer such understanding into ideas that reflects the need and essence of a project, and finally, the *"linkage" component that presents the theme used in design*, ruled by the tools and principles in Architecture, in which those tools and principles would play the vital role in demonstrating ideas into certain type of concept.

The mechanism of this diagram is obvious that the idea presents philosophically the "judged on" component demonstrated by a conceptual picturesque through thematic tools, it became a hinge to step forward towards design theory related to the five picturesque of architecture through and/or by the tools and principles of architecture set up into certain themes that considers the above, and that explains about the reason of the importance of learning "*how to develop a space program"*, as a bridging to phase three, the phase that deals with design theory as post threshold step.

The Diagram illustrates the interrelations between the three phases and its complementariness in terms of founding the basis for setting an engineering architect and raising up to new scope of being a designer if potentialities permits. In other words, the first two phases with its bridging phase seeks to reach the level of "Threshold" as achieving such, means that the learner is ready for entering the market and starting to get more experiences with firms in terms of architectural engineering requirements, while, getting into bridging to phase three and to be fully involved with phase three, means to open the door widely for the learner to test and explore possibilities for entering the scope of advanced design philosophy through understanding the essence of design theory, based on the learner capacities, abilities, and potentiality, that phase may highlight on certain learners to turn from architectural engineers into architectural designers, a level that not any one can reach as it needs knowledge, understanding, talent, and special potentials in which this phase will facilitate it to the learners to deal with, again, if their potentials permit, and that is why it is named "Post Threshold". In our application shown in this paper, the stages of learning for the two phases along with their bridging phase were applied and demonstrated.

It's worth to say that the goal of teaching arch is to overcome the lack of knowledge and unawareness in the field of architecture to prepare and promote good architects that can serve the community and the country at all levels in terms of architectural engineering, and that can be achieved, by applying methods of education that defeat the disease of unawareness to fill the gap, exactly just like defeating a body disease, as medical methods will completely rely on antiBiotic methods of medicine, while some other medical approaches depends on the self-immune of the body, and rely on water for example (like Japanese method) to defeat the disease, as its concept of medicine is to strengthen the potential self-immune rather than feeding the body with external medicines to achieve the same goal, same as the new paradigm, it is based on exploring the potentials of the learners whom by default are different in their capacities, talents, and potentials, but they can, through self-learning explore such potentials to move, each according to his capability, such learning is already experienced through history where master architects like Frank Lloyd Wright and Le Corbusier never entered schools of Architecture, but they self-taught themselves and have their own potentials that led them to what we know about their master piece works.

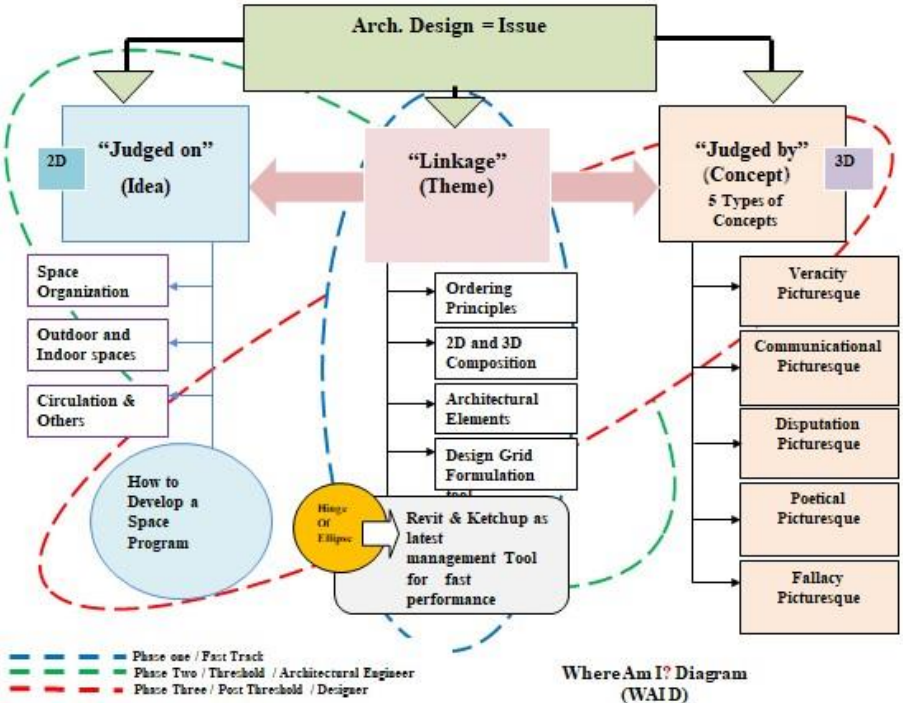

Figure13. Threshold and post Threshold Diagram

It is obvious that this paradigm is totally considering the second generation of architectural education through endorsing the concept of self-learning as a method and a way to achieve the goals of this educational generation, and that needs efforts and time to let the student learn properly how to reach the threshold, and that also requires accuracy and speed for presenting the product, as a supportive factor to achieve such mentioned goals, in which was certainly the utilizing of appropriate software's like sketch up and REVIT at the early stages as a pillar in implementing such educational philosophy.Important aspect worth to mention, that is the success of all above
Require a *staff member who should be the Maestro who believes in such paradigm*, to lead the whole promoted learning process of this paradigm from A to Z, just to secure the win results, stage by stage, in order to accomplish the Mission.

Conclusion

A new Educational *Altered Paradigm is founded*; the paradigm is considering the theory of the second generation of architectural education through endorsing the concept of self-learning as a method and way to achieve the goals of this educational generation.
It is a "*COACHING*" rather than a teaching, educational, or lecturing, simply because "coaching" is far away from teaching, it is a complete package of learning life, coaching is teaching, drilling through a sequence of tasks, exercises, or words repeated over and over until students can be performed faultlessly, it is schooling through carrying out in disciplined way, it is the process of learning a skill, behaving on how to art interaction, peace, and confidence within the learning process, educating the art of managing time and effort towards achieving best practice learning.

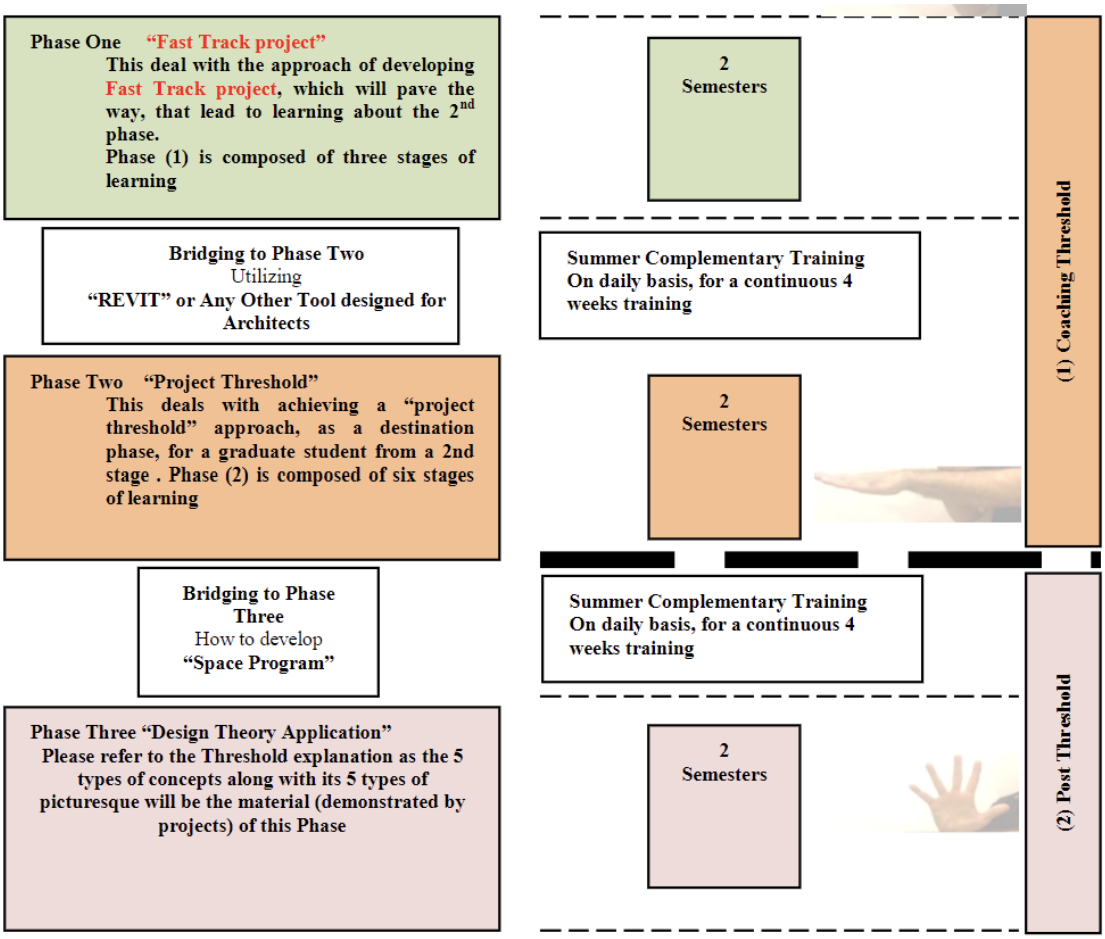

Figure14. Coaching Threshold and post Threshold Paradigm Founded

Acknowledgement
The core components of learning ship system demonstrated by three factors:
1- The Faculty staff (responsible of learning process).
2- The learner.
3- *The learning paradigm, by its mission and goal (learning model).*
Usually, if any of mentioned suffers from a defect or a shortage, the overall learning ship system will be ill, and will never fulfill its targeted goals, Accordingly, the measure of a healthy learning ship system is the balanced positive indicators and/or relationship among the three factors, and the measuring criteria starts by setting paradigm component in which the other two components react with, and such reaction whether it is positive or negative will be the indicator of how far the paradigm is successful.
In our showcase, the results of implementing the new paradigm tested the reaction of the two components represented by the faculty and the students as beneficiaries, in which the reactions of both faculty staff and students registered extreme success of the implemented paradigm, where the following show some of the reactions written officially in the exhibition made for the 2nd students works in that respect:

Faculty staff reaction quotes:
"*What brings the attention is variety of design solutions and styles in which it can be easily figured as each student presents his own way of design in different spirit, different rhythm that reflects vision individuality in a initiative way, wish you all the prosperity and best with greetings*" Dr. Shihab Ahmed
"*Truly I did not believe that they are 2nd class students … secret behind successful projects is using simple language, wishing you all the best and God bless your staff who taught you*" Architect Abdul Sattar Al-Rodhan
"*The work is very significant, and I am sure if this will continue then we are going to have very significant postgraduates of Iraqi Architects, God bless the efforts*" Dr. Emad Al Jabari

The learners' reaction quotes:
"*My character has been changed, I found freedom in my work, braveness, and being so careful, the skills that I gained is how to love beauty, and I am a very lucky student that I have the chance to learn through this experiment*" Student Mostafa Mahmood.

"*I learned really how to discuss, how to imagine, and how to design, and I have the ability to turn my design ideas into a real model of success, I believe that students work in so developed in comparison with previous years*" Student Sara Majid

"*I feel confident as I rely totally on myself, as my ambition along with my projects are qualified by the assistance of using the software's that helped me a lot in getting maximum use of the new experiment through time saving and high accuracy*" Student Aseel Qusay.

The quotes were presenting some of over seventy-five received officially from staff and students after the successful implementation of the paradigm.

References and Notes

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