



ADAPTABLE TABLE FOR ACTIVE LEARNING: ASSESSING FUNCTIONALITY AND ACCEPTABILITY IN CLASSROOM SETTINGS

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Abstract

This table has different functions. This can be used for drawing, printing and if the user intends to do painting job, it can be restructured into elevated position as desired by the user. It has a removable art tray for brushes, pencils, pens and other drawing tools at the edge of the table to give the user a hassle-free work and avoid mess on the desk. Aside from these, this table can be used for writing or sketching on a large sheet of paper, or for reading technical plans and other documents. It can be used also for photographic or silkscreen printing for it has led lights inside the table. It is covered by glass placed on the top of the table and a square tube steel used for stability. Once the lights are switch on, it can melt the chemicals being placed in the silkscreen and have the design transferred into the frame ready for silkscreen printing.

Keywords: Adaptable, Active Learning, Functionality, Acceptability

Introduction

Industrial technology today has expanded to a higher level and continuously evolving to cater the needs and comfort for the greater public. Thus, machine, tools and equipment are constantly gearing for the most efficient and effective thing that the whole world can capitalize. Likewise, the industries require highly skilled and competent workers to carry their industrial plans and facilities which serve as an instrument to help bring and accomplish the plan.

In an educational institution, a student is being trained by competent instructor not only in theoretical aspect, but also in practical application of basic principles in producing an output called project. Students are trained in different technologies for them to be equipped in their future life and become technically skilled individuals. But even how good the program, curriculum, and training, they still depend on the adequacy of tools, equipment and facilities.

In a drawing class in particular, working table set is important to create high performance learning environment for students. However, one of the issues that the students are facing especially in Bachelor of Science in Fine Arts and Bachelor of Science in Architecture in the University of Bohol and Bohol Island State University Main Campus is that, they are expecting that they will be provided with comfortable and convenient working table to meet standard and

quality of outputs. Despite the prevalence of computer aided drafting, these students have still subjects like Design Fundamentals, Art of Display, Illustration and Advertising Design which require them to use drawing table on paper with ink or pencil and also photographic silkscreen printing.

At present, they are provided with conventional facilities in the classroom, a drawing table and additional working tables for silkscreen printing and for their drawing tools. Thus, these tables or desks consume a lot of space in the classroom and most of the time it resulted to unorganized drawing materials and tools of students and even unorganized classroom making the students uneasy and uncomfortable to learn. Likewise, they also need enough light facing directly to the table to give them comfort in doing the tasks.

Prompted by the given situation, the researcher decided to design a multi-functional table that can give comfort and convenience to users. This Adaptable Table has different functions. This can be used for drawing, printing and if the user intends to do painting job, it can be restructured into elevated position as desired by the user. It has a removable art tray for brushes, pencils, pens and other drawing tools at the edge of the table to give the user a hassle-free work and avoid mess on the desk.

Aside from these, this table can be used for writing or sketching on a large sheet of paper, or for reading technical plans and other documents. It can be used also for photographic or silkscreen printing for it has led lights inside the table. It is covered by glass placed on the top of the table and a square tube steel used for stability. Once the lights are switch on, it can melt the chemicals being placed in the silkscreen and have the design transferred into the frame ready for silkscreen printing.

With this study, it is hoped that the research output will not only be used for the students from architecture, fine arts, industrial design and other similar curricular programs but also for those people who may need such table.

Literature Background

Experience is one way to test all options available in the world. It has an important role in crafting a product design. In creating a design based on experience, people can study and investigate how important the concept of design in the product that is to accomplish through more effective ideas and processes that capable of something that can be used in different functions.

In the academe, creating a design can be best applied in project making. It has been for almost decade that the purely academic educators had never seen these situations in the university and school compounds which they have discovered just in the recent time about its value. Project making in shop or laboratory room is essential. Through actual application of knowledge learned, this will leave positive learning outcomes to the students since they best learn through actual hands-on experience with their own hands rather than simply hearing from the lectures during classes (Dalavar, 2015).

However, school facilities give impact in profound ways in the classroom both for teacher and learners. It is sad to note that in the Philippines, there are still some classrooms that lack the adequate and appropriate facilities. School Administrators often overlook the impact of the facilities that can play in improving outcomes in most shops or laboratory classes.

Furthermore, selection of facilities or equipment is an important aspect in a laboratory or shop classroom because students spend most of their time doing their work in the classroom. The facilities should be able to meet the students' need suited to their learning styles.

According to Buckley (2015), without adequate facilities and resources, it is extremely difficult to serve students with their needs. Overcrowded classrooms and due to inappropriate size of tables and chairs has consistently been linked to increased levels of aggression in students. Overcrowded classrooms are also associated with decreased levels of student engagement and, therefore, decreased levels of learning. Alternatively, classrooms with ample space are more conducive to providing appropriate learning environments for students and associated with increased student engagement and learning.

Students are more likely to pay attention and are more open to learning if they are comfortable during class. The teacher can positively influence the overall learning environment in the classroom by choosing chairs and tables that are the right size for the students.

Bury (2014) pointed out in her research that over the past decade there has been little research examining the relationship between physical laboratory facilities and student learning. The study suggests that laboratory facilities influence teaching and student learning in poorly understood ways.

Furthermore, as part of a comprehensive evaluation of Australia's science education curriculum, the government surveyed teachers about laboratory facilities and students' perceptions of their learning environments. The results suggested that active forms of learning were associated with better science facilities (Englehardt, 2015).

Another study of Lenon (2016) shows that methods employed by teachers to teach in the shop classes are to a very large extent influenced by the kind of resources and facilities available in the school. The teaching methods, in turn, influence the level and quality of participation and performance by students. In general, where resources and facilities - teachers, textbooks, laboratories, chemicals, tools and equipment, teaching aids, stores, offices etc. - are inadequate, the teaching approach tends to be teacher-centered.

This type of approach is heavily dominated by the teacher as he or she lectures on the subject, gives notes and demonstrates the practical aspects of the lesson. The students remain passive participants expected to listen and observe only. The teacher, therefore, is the sole source of knowledge for the pupils. This can be risky in the event that the teacher is inadequately informed on the subject or is not adequately trained in the art of transmitting knowledge through verbal. A teaching approach that centers on the teacher is bad for science teaching and learning and soon kills the interest of students in the subject.

But where facilities and resources are available, a qualified and motivated teacher will deploy methods that center on the learner. Such an approach emphasizes practical activities and has the students experimenting, solving problems, discussing with each other and involved in practical hands-on-activities. This approach stimulates curiosity, imagination and critical thinking. It keeps the lessons exciting and captivating to the young people.

Moreover, some legal bases support the conduct of this study as stated in Article XIV, Section 10 of the 1987 Philippine Constitution:

Science and Technology are essential for national development and progress. The state shall give priority to research development, invention, innovation and utilization; and to science and technology education, training and services. It shall support indigenous, appropriate and self-reliant, scientific and technological capabilities and their application to the country's productive system and natural life.

According to the Article, the State permits people to create new inventions. This Law helps to promote the ideas of people in order to widen the knowledge or creativity. The State supports the people in their research and development that can contribute for the progress of the country since our country's improvement will depend on how people help to find new ways to improve our daily lives.

This article reinforces that innovation is very important because it can lead to a country's progress. Having more upgraded materials makes a nation one of the "highly industrialized countries" in the world.

In addition to, Republic Act No. 7796 Technical Education and Skills Development Act of 1994, Section 3:

It is the goal and objectives of this act to promote and straighten the quality of technical education and skills development programs to attain international competitiveness, focus technical demands for quality middle-level manpower, encourage critical and creative thinking by disseminating the scientific and technical knowledge base of middle-level manpower and development program; recognize and encourage the complementary roles of public and private institutions in technical education and skills development and training system.

This section supports that the State should promote and strengthen the quality of technical education and skills development programs to attain international competitiveness. Encourage critical and creative thinking by disseminating the scientific and technical knowledge. The State declared the policy to provide relevant, accessible, high quality and efficient technical education and skills development in support of the development of the high quality Filipino middle-level of manpower and to accordance with Philippine development goals and priorities.

On the other hand, there are theories that support the conduct of this study.

Constructivist Learning Theory or Constructivism states that learning is an active process of creating meaning from different experiences. In other words, students will learn best by trying to

make sense of something on their own with the teacher as a guide to help them along the way. Since all sensory input is organized by the person receiving the stimuli, it cannot be directly transferred from the teacher to the student's brain and expect them to process it and apply it correctly (Brooks, et.al. 2015).

In addition, Theory of Learning inspires the researchers to make an instrument or classroom facility for learning purposes which may aid them to attain desirable output. It is important to have adequate and appropriate facilities during discussion to have effective learning results in the class.

The Learning Theory emphasized that actual application of learners with right facilities retain information. This just proves that when a student engages in hands on exams or skill tests, they have a higher percentage of catching the lesson faster than simply listening to lectures.

In response to this situation, the proponent conceptualized a multifunctional drafting table that can produce a healthy environment to do job in the context of sitting posture, comfort, freshness, function output, sophistication, economical matter and beauty inside the classroom. With the contribution of this tool, ease of handling flexibility and maximization, the functions of drafting tables will be utilized. This could be used in project making for the students providing the basic skills in trade drawing.

Objectives

The aim of this study was to innovate the conventional drawing table into Adaptable and Multi-Functional Drafting Table. It was conducted in University of Bohol in the College of Architecture and Fine Arts (CAFA) and Bachelor of Science in Industrial Design of Bohol Island State University Main Campus.

Specifically, the study aimed to answer the following questions:

1. What is the description of the Adaptable Table with photographic silkscreen processing in terms of:

- 1.1. preparation;
- 1.2. design;
- 1.3. materials and cost;
- 1.4. procedure; and
- 1.5. parts and functions?

2. What is the functionality of the Adaptable Table in terms of weight capacity?

3. What is the performance of the Adaptable Table Table with photographic silkscreen processing in terms of:

- 3.1 load capacity and
- 3.2 functionality as;

- 3.2.1 drawing table,
- 3.2.2 photographic table and
- 3.2.3 painting/Easel table?

4. What is the acceptability level of the Adaptable Table with photographic silkscreen processing in terms of:

- 4.1. design;
- 4.2. aesthetics;
- 4.3. materials used;
- 4.4. ergonomics;
- 4.5. safety and
- 4.6. cost?

RESEARCH METHODOLOGY

Design

The experimental research design was used by the researcher. Questionnaires were formulated based on the descriptions and items assessed. These questionnaires were given to the selected respondents to evaluate its acceptability level. Observation guide was also used in collecting the quantitative data during the testing phase.

Environment and Participants

The investigation was conducted at the Bohol Island State University Main Campus and University of Bohol to test the functionality and performance of the design. The design project was conducted at Tagbilaran City, Bohol. The researcher chose the two universities since they are offering courses like BS Fine Arts, BS Architecture and BS Industrial Arts which have drawing classes.

The researcher chose thirty (30) BS Industrial Design 4th year students, thirty-one (31) BS Fine Arts students and thirty-two (32) BS Architecture students and six (6) instructors, a total of ninety-nine (99) respondents. The researcher used purposive sampling to determine the number of respondents.

Instruments

The researcher used an observation guide as one of the instruments in gathering data during the test of the functionality level of the Multi-Functional Drafting Table. The researcher also used the questionnaire as the research instrument. In making the questionnaire, the researcher made sure that the questions are simple and clear so that these would be understood by the respondents. The questionnaire contains questions about the views and opinions of the respondents on the Multi-Functional Drafting Table.

Procedure

1. Asking Permission

The researcher prepared and secured a letter of approval from the Dean of the College of Architecture and Fine Arts(CAFA) together with the letter is the researcher - made questionnaire.

2. Conducting the Study

Upon approval, the researcher distributed the questionnaires personally to the students and instructors. Before the presentation of the device, the functionality of the Adaptable Table was discussed by the researcher. After the questionnaire was answered by the respondents, it were immediately collected by the researcher.

3. Gathering Data and Materials Needed

The researcher personally gathered the information and materials in the locality. The availability of the materials motivated the researcher to pursue the study.

4. Assembly of the Product

The researcher provided the approved technical plan with the accurate measurements and details, and accepted some version from the maker (Machine Shop) in order to achieve the desire result of the product. The researcher secured the materials and the researcher assembled the product. The time span of making the product was also considered.

5. Formulating of Questions for Sample

Questionnaires were personally distributed to the respondents in BS Architecture, BS Fine Arts and BS Industrial Design students and Instructors from the College of Architecture and Fine Arts of University of Bohol and Bohol Island State University. Data were retrieved immediately after the respondents answered them.

6. Examination of the Product

After the product was manufactured, the Adaptable Table underwent an inspection and was tested to determine the functionality and performance of Multi-Functional Drafting Table.

7. Analyzing and Interpreting the Gathered Result

After retrieving the questionnaires, the researcher analyzed and interpreted the result with the help of the statistician, then, the researcher formulated the summary, conclusion and recommendations of the investigation.

Statistical Treatment

The data that were gathered from the survey questionnaire were tallied and were subjected to weighted mean computation.

Weighted Mean. This was used to determine the respondents' perception in the functionality, performance and acceptability level of the Multi-Functional Drafting Table.

Using the data from the selected participants, the researcher was able to determine the level of functionality and performance of the newly designed product. To find out the acceptability level of the design, the weighted mean formula was used.

$$AWM = \frac{\sum fx}{N}$$

Where:

AWM = average weighted mean

$\sum fx$ = summation of the product of the frequency and the corresponding rating

N= number of students

After getting the weighted mean, the researcher then interpreted the results using the following scale:

Scale	Range	Description	Interpretation
4	3.25-4.00	Very Much Accepted(VMA)	The respondents believe that the level of acceptability is highly accepted
3	2.50-3.24	Moderately Accepted(MA)	The respondents believe that the level of acceptability is moderately accepted
2	1.75-2.49	Fairly Accepted(FA)	The respondents believe that the level of acceptability is fairly accepted
1	1.00-1.74	Not Accepted (NA)	The respondents believe that the level of acceptability is poorly accepted

Results and Discussions

Table 1
Functionality of the Adaptable Table
in terms of Weight Capacity

Trial	Angle Inclination	Load in Kilogram	Result
a. Drawing Table			
1	60 ⁰	5	The position of the angle is Stable
2	45 ⁰	5	The position of the angle is Stable

3	30 ⁰	5	The position of the angle is Stable and shows no sign to go back to original position
4	15 ⁰	5	The position of the angle has the possibility to go back to original position
b. Painting/Easel Table			
Trial	Frame Canvass Sizes	Load in Kilogram	Result
1	12"x16"	5	The Table can still hold the canvass
2	18"x24"	10	The Table can still hold the canvass
3	30"x60"	25	The Table can still hold the canvass and shows no sign of falling
4	60" and above	30	The table cannot hold the canvass, the object falls
C. Flat and Printing Table			
Trial	Number of Clothe	Load in Kilogram	Result
1	20 pcs	15	The Table is Stable
2	25 pcs	20	The Table is Stable
3	30 pcs	25	The Table is Stable and shows no sign of deformation
4	30 and above	30	The table is not stable, the table bends

After the making of Adaptable Table, it was tested to determine whether the product can effectively use on its function. Table 1 shows the durability level in terms of weight capability and strength of the Table used as drawing table, painting/easel table and flat and printing Table.

Buck, (2015) in his study entitled "Human Factor and Ergonomics for Engineers" he mentioned that tilting the drawing board's work surface is necessary to accommodate the user's visual perception and foreshortening. Hence, this Adaptable Table can be inclined to various angles. The maximum tilt angle of this table is 60 degrees and above. It is observed that the more the table is tilted, the more it will become stable considering the weight will be supported by strong steel legs. However, when it is tilted to 15 degrees, it is observed that the table top has the possibility to go back to its original position since the upper top portion of the table surface has no support. The researcher used five (5) kilos, the estimated kilos of drawing materials and possible weight of user's arm extended to the table.

On the other hand, when the working surface is extended at its full height, it is used as painting or easel table. It has a parallel bar at lower edge portion of the table surface which serves as lip which stops canvass from sliding when given an angle for a standing desk. It was observed that it can hold 30"x60" canvass up to 25 kilos. Nevertheless, when the size of the canvass is 60" and above with 30 kilos, the table cannot hold the canvass since it has the possibility that because the canvass is higher in height than the standing desk, it will outbalance and fall.

However, when used as flat and printing table, the table has the capacity to hold thirty (30) pieces of t-shirt or cloth and it will tend to bend when above 30 pieces is placed on the table. Moreover, it has a led lights used to melt the chemicals used during printing. If one led light is on, the chemicals will melt in 20 seconds but if two lights are on, the chemicals will melt in 15 seconds and when all 3 lights are on, the chemicals will melt in 10 seconds.

Table 2 shows the performance of the Adaptable Table in terms of Load Capacity and Functionality. As drawing table, item number 7 “It has straight left top

Table 2
Performance of the Adaptable Table with Photographic Silkscreen Processing in terms of Load
N=99

3.2.1 Drawing Table			
Items	Weighted Mean (WM)	Description	Rank
1It can hold a max...	3.16	High	
2It can be adjusted in...	3.52	Very High	
3It can be used for...	3.84	Very High	
4The user can elevate...	3.60	Very High	
5It has sheet clamping..	3.64	Very High	
6There is an enough...	3.79	Very High	
7It has straight left...	3.86	Very High	
AWM	3.63	Very High	2
3.2.2 Photographic Table			
1Through the led light..	3.69	Very High	
2The heat of the led...	3.55	Very High	
3The fluorescent...	3.73	Very High	
4The lights can be...	3.78	Very High	
5It can be used as...	3.55	Very High	
6It has silk screen...	3.67	Very High	
AWM	3.63	Very High	2
3.2.3 Painting/Easel Table			
1It can hold a 30"x 60"...	3.46	Very High	
2It can be adjusted in...	3.59	Very High	
3 It can be used as a...	3.77	Very High	
4The lip or edge stops...	3.68	Very High	
5Removable art	3.80	Very High	

trays...			
6Can handle or carry...	3.77	Very High	
7The table can be tilt...	3.78	Very High	
AWM	3.73	Very High	1

corner for the T-square that gives perfect and accurate straight line execution” was rated 3.86 which is described as “Very High”. This means that the respondents agree that the corner intended for T-square helps them arrived in their desired work especially in line execution which serves as basic in any form of drawing. However, item number 1 “It can hold to a maximum of 25 kilos” got a weighted mean of 3.16 which described as “high”. The respondents showed a high acceptance that the table can take large amount of materials and it is made for high load capacity.

However, when the table is used as photographic table, light is one of the important requirements in drawing as stated by Ulman (2014). He added that proper light is important when working to give comfort to the eyes of the users. In his study, he used glass desktop combined with a light and turn the table into light table great for tracing and comic creation.

Likewise, this table made use of lights to trace images. Item number 4 “The lights can be used to trace the drawing in a sheet of paper” was rated “very high” by the respondents. This manifests that the respondents believed that the drafting table can act as a tracing table as well which help users to work easier. To sum up, the average weighted mean for photographic table is 3.63 which described as “very high”. Thus, most of the respondents believed that the performance of the Multipurpose Drafting Table with Photographic silkscreen Processing used as photographic table is acceptable.

Another function of this table is used as painting/easel table. The drawing table is constructed with art trays and drawers to make the working area and drawing materials organize when not needed and accessible when needed. The item that pertain this function got the highest average mean of 3.80 described as “Very High”. This means that the respondents find it necessary to drawing tools put in storage trays attached to the table to achieve better working environment.

The overall functionality of this Adaptable Table makes it a very worth – it table which described as “Very High” which means acceptable when used as drawing, photographic and painting/easel table.

Table 3

Acceptability Level of Adaptable Table with Photographic Silkscreen Processing
N=99

Items	Weighted Mean (WM)	Description	Rank
AESTHETICS			
1. It has a touch of a modern look.	3.78	Very High	
2. Using neutral and appealing color that could be for eye preference.	3.68	Very High	
3.The surface has clear and beautiful appearance	3.77	Very High	
AWM	3.74	Very High	2
MATERIAL USED			
1.Multifunctional Drafting Table, B.1 square tube, Steel, glass, Wood, (for the overall design)	3.75	Very High	
2. Is made up of B.1 square tube frame for stability and durability	3.64	Very High	
3. It will not wobble when leaned on.	3.60	Very High	
AWM	3.70	Very High	3
ERGONOMICS			
1. The table can be tilt or adjusted to give better view and better position to make users comfortable in their work.	3.89	Very High	
2. The Table can be put aside when not in used	3.78	Very High	
3. The user can choose inclinations to work comfortably.	3.88	Very High	
AWM	3.77	Very High	1
COST			
1. The table is not expensive	3.32	Very High	5
SAFETY			
1. No Sharp edges	3.53	Very High	
2. Connections and joints are done properly	3.68	Very High	
3. Wiring connections are properly installed.	3.67	Very High	
AWM	3.55	Very High	4
GWM	3.61	Very High	

Table 3 presents the acceptability level of the Adaptable Table in terms of aesthetics, materials used, ergonomics, cost and safety.

In terms of Aesthetics, the respondents rated with an average weighted mean of 3.74 which is described as “Very High”. This revealed that the table is presentable in of the gadget. This result is substantiated by Taylor (2015) in his book that one of the criteria in choosing a drawing table is aesthetically pleasing desk that is quite attractive to the eyes. This is because a beautiful work space can reduce the tediousness of continuous work and also increase productivity.

It was further revealed in the table that in terms of Materials used of the product, the Adaptable table gained an average weighted mean of 3.70, ranked third. This means that the product has met the expectations of the users in the materials used because metals is more durable and can last longer than wood. It cannot be damaged easily and can last for a long period of time because the parts and components of the gadget are highly durable for its purpose. This holds true with what Wood had quoted from Dul (2015) that drafting table with modern flair with top surface made of glass and premium steel frame and legs brings aesthetic beauty.

As shown in the same table, in terms of ergonomics, it received an average weighted mean of 3.77 which is described as “Very High”. This shows that the respondents find comfortable using the table in writing, drawing, sketching and other related works which can help them in working longer and better. They agreed that the ergonomic work plan of the table is for the user’s to easily and efficiently work to helps reduce mental and physical fatigue and it improves concentration. Ergonomic work plan is often underestimated in drawing.

A wrong inclination of the support can not only lead to bad positions, but can also distort perspective and depth. That is why Miranda (2014) in his book stressed that it is important for the user of the drawing table to choose an inclination to work comfortably in any situations. People tend to lean forwards to be more comfortable while writing, drawing or sketching.

In acceptability in terms of cost, the Adaptable Table was rated with an average weighted mean of 3.32 which was ranked last but still received a description of “very high”. This means that the respondents were favorable as to the cost of the product as they agree that the table is not expensive.

Furthermore, being electrical safety is important of any job. It is also the aim of the researcher to produce a drafting table that is safe to use. In terms of safety, the Adaptable Table was rated Very High with an average mean of 3.55. This means that even though the device is using metal and glass, it is still safe to use because the components are secured properly.

In sum, the Adaptable Table gained a general weighted mean of 3.61 which is equivalent to the description of “Very High”. It reveals that the Table is being accepted as observed by the respondents in terms of aesthetics, materials used, ergonomics, cost and safety.

Findings

The following are the findings derived from the results of the data obtained.

1. Based on the project profile of the acceptability level of Adaptable Table, the researchers made the project plan, schematic diagram, secured materials, and prepared tools for the assembly of the gadget. In assembling the Adaptable Table, the researchers surveyed and canvassed for the price of materials in which affordability and the quality were also considered, prepared lay-out, soldered the components, parts and wirings and installed into casing.
2. It shows that as a drawing table, it has the capacity to be adjusted in 30 degrees angle inclination with 5 kilos materials and has no sign returning to its original position. On the other hand, when it is used as painting or easel table, it can hold 30"x60" canvass up to 25 kilos and shows no sign of falling while when used as a flat or printing table, the table is stable and shows no sign of deformation.
3. The respondents have a very high response as to the functionality of the product that it can be used as drawing table, painting/easel table and photographic table.
4. In terms of design, aesthetics, ergonomics, safety and cost, it was rated Very High. It means that the device performs well and highly acceptable to be used as drafting table.

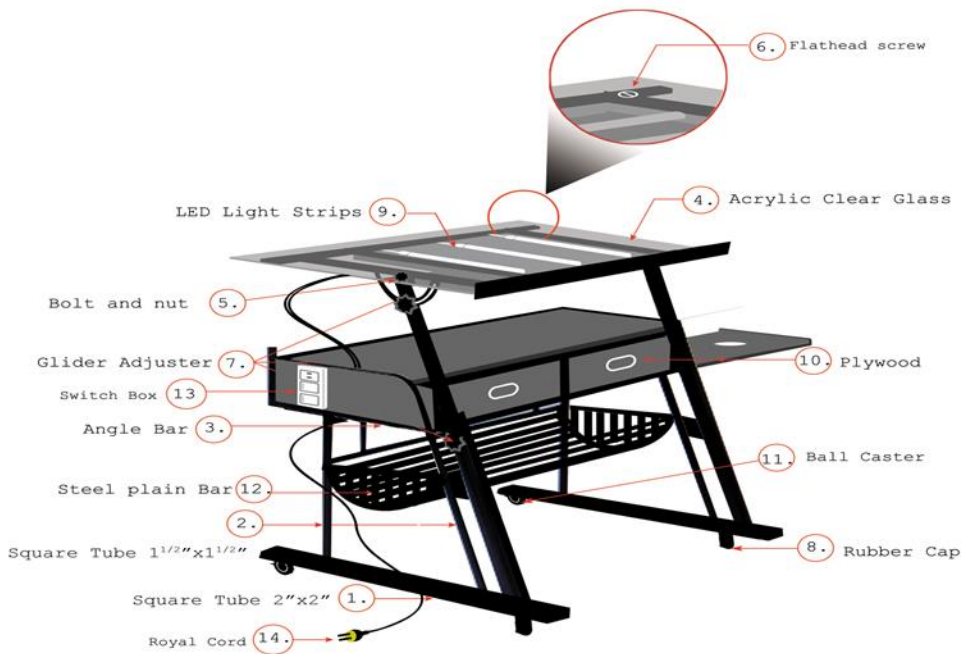
Conclusions

Based from the results of the study, the researcher concluded that the Adaptable Table is well accepted as a Drafting Table which may effectively be used in students who are taking drawing related subjects.

Recommendations

Based on the findings and the conclusion, the researcher offers the following recommendations.

1. The Adaptable Table may be introduced by the researcher in school and public users.
2. Future researchers may conduct related studies to improve its features.
3. The proposed action plan may be introduced by the researcher to the institutions for drawing classes to promote the use of AdaptableTable.
4. The AdaptableTable may be submitted by the researcher for patent or utility model and reproduced to promote the production for commercialization.
5. The administration may allocate budget for the newly designed Drafting Table.



Adaptable Table with Photographic Silkscreen Processing creates high performance learning environment for students in a comfortable and convenient way to meet standard and quality of outputs.

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