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Counseling on Making Building Construction Drawings for Smkn 3 Batu City as an Effort to Improve Competiticeness Skill in the Global Era. (Using the Autocad Software Application)

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ABSTRACT: The number of building drawings needed continues to increase along with human development. With population growth, there are dynamics in society both in terms of density, social and economic, so that the need for buildings along with detailed drawings. Can be seen at the beginning of the existing year, then we can project population growth from year to year to come. For projections of future population growth, it can be seen that starting in 2020 there will be 213,046 people, in 2022 there will be 240,000 people. with an average growth of 0.23%.High density will reduce the ease of access to residential needs. In addition to the condition factor and understanding and interest in learning to explore the plan drawings, one way to obtain data is to utilize formal schools. In an effort to resolve the need for knowledge, make a drawing of a building construction plan.It is this plan for drawing plans that channels knowledge towards understanding in the future. Vocational students are required to be able to fulfill making drawings that access the design, with the desired continuity and completeness of the building drawings to completion. With sufficient completeness of building drawings, counseling is needed.The purpose of counseling for making this image. So that students in Vocational High Schools can find out where they study, can guarantee a complete understanding of the location of learning or not. So that after this counseling, it is hoped that the residents will be more diligent in maintaining the existing buildings in their area and occasionally be able to see and operate the software owned by the Vocational High School to find out the certainty of the level of certainty of the location of the building along with the details of the buildings in the area.

KEYWORD: drawing, autocad, building

1. INTRODUCTION

SMK 3 Batu is a vocational school in Batu District, Batu City and is one of the PKM destination SMKs in Batu City. Geographically it is located between 7°44'- 8°26" South Latitude and 122°17'-122"57" East Longitude. While the administrative boundaries are as follows:

1. Northern boundary: Mojokerto Regency.
2. Eastern boundary: Pasuruan Regency.
3. Southern boundary: Malang Regency
4. West boundary: Malang Regency.

The area and geographical conditions of the Batu City area consist of medium to high land areas with a total area of 202.32 km2. Based on the topography of the city, it is located at an altitude of 680-1200 meters above sea level and for more details on the area. It consists of 3 sub-districts, each with the name Batu sub-district, Bumiaji sub-district, Junrejo sub-district.

The demand for building drawings will continue to increase along with human development, especially residential buildings, tourism, education, which are affected by the city of Batu, including cities. With the growth of the population of the city of Batu, dynamics occur in society both in terms of density, social and economic, so that the need for clean water will increase. Zones with high density will reduce the ease of access to building planning drawings. Apart from that, natural conditions also affect access to other cities. Certain areas because of the contours and soil conditions are good for tourism and education. One way to gain an understanding of drawing experts is to utilize SMK students. In an effort to gain access to building drawing experts is important.

It is this building construction that is drawing expertise to obtain a strong, sturdy building design for buildings in mountainous areas that have the potential for wind disturbances and ground motion (earthquakes). With regard to the increasing need for building drawings in the future, it is required to be able to meet the needs of these construction drawings, with the desired quality, quantity and continuity as well as the completeness of the drawing planning time. Without sufficient knowledge of drawings and construction, it is necessary to discuss community service at SMK schools. The purpose of counseling is to make building drawings. So that students in SMK can find out where their school can study so that they can maximize their comfortable and effective study time. Furthermore, after this counseling, it is hoped that students will be more diligent in maintaining their learning equipment in the form of computers and software in their laboratories and occasionally be able to see and operate

software owned by SMKs to find out the certainty of the existence of buildings in the zone for the development of technical innovation drawings if there is a program to increase the area of the building and students are also prepared to be proficient in drawing buildings with AutoCad software because in the stone area itself the power to draw buildings is still lacking.

2. SOLUTIONS AND OUTCOMES

Efforts to increase empowerment to manage proper building construction. The PKM Civil Engineering team, FT Unesa, is willing with all the knowledge and equipment we have to provide counseling on the importance of counseling on software compression at SMKN 3 Batu. Have a target to provide advice and how to operate building construction software as well as the exact steps for depicting the area around the school location can be drawn during counseling time.

externalwhat is wanted is after counseling,

1. Students can correctly identify the location of the building drawings in accordance with the city master plan provided by the Batu City Government.
2. The results of counseling, students can find examples and describe them, with various kinds of tools and computer facilities provided by the school.
3. Students after participating in coordination with the teacher and the PKM team can better understand the importance of knowing the required building construction drawings, before using the actual software.
4. Students get a draft in the form of ppt which is distributed before counseling, as a provision, if they are going to make developments for making building construction drawings.
5. In the form of a pkm journal, which is ready to be uploaded to the Unesa journal.
6. In the form of video reports of activities during the pkm and uploaded on the media (Youtube)

3. EXAMINATION METHOD

Introduction of extension materials for drawing up a drainage canal plan, covering the following aspects:

a. Beginning by conveying an understanding of building construction drawings, aspects related to theory.
b. Introducing various existing building construction drawings at SMKN 3 which will be adjusted so that the existing drawings can be used as examples.
c. The problems given must of course be directed according to the purpose of placing the map of the right building location.
d. Convey solutions in dealing with existing problems.
e. The introduction takes place actively, interactively and demonstratively so that the process of coordinating counseling for making plans will be interesting and fun, it is hoped that students and teachers will be more enthusiastic, and innovate in managing existing multimedia.
f. Show examples of pictures of buildings in schools.
g. Monitoring the development of student activities and technical problems encountered during the coordination process, taking maps with Google maps, drawing, regular consultations, so that students are more confident with Autocad software technology and how to use it.

Counseling on making building construction plans drawings involves a maximum of 15 student representatives. Focus on students who are interested in building construction drawing competencies.

4. ACTIVITY METHOD

Implementation of PKM activities held at SMKN 3 Batu. includes:

1. pe introductiondrawing of a building construction plan.
2. Demonstration and introductionhow to operate autocad software

5. RESULTS

In this stage, the Unesa Lecturer's PKM Team compiled the steps for counseling material for making a drawing of the building construction plan to be delivered. In this stage also prepare all documents and equipment that will be used in the introduction and coordination with the Principal and Vocational School Teachers.

LIST OF VALUE PRE TEST AND POST TEST COUNSELING PKM SMKN 3 STONE CITY:

No	Participant Name	Age (Years)	Pre Test Value	Post Test Value	Percentage of Increase (%)
1.	Farel Raya Danendra	16	80	100	20
2.	Lailah Attalah Syandana	16	80	90	11
3.	Arindra Aidha Tri Hapsari	17	70	90	22
4.	Diaz Raisya Ramadhani	17	80	100	20
5.	Yashandriano Taranggana Tristanto	17	80	100	20
6.	Muhammad Daffa Khaira	18	80	90	11
7.	Essa Putra Prasetya	18	80	90	11
8.	Kevin Adi Firmansyah	16	80	90	11

9.	Fiofi Nindi Fiantika	17	90	100	10
10.	Nouvolino Zidane Riza Pradana	17	70	90	22
11.	God Airo Stupa	18	70	80	12
12.	Azalia Puspa Zahra Damayanti	16	60	80	25
13.	Fanya Friska Azizah	16	60	80	25
14.	Kirana Zaki Ramadhan Cahyadi	17	70	80	12
15.	Gilang Angga Pratama	17	60	70	14
16.	Qayla Rizki Mei Savira	16	60	80	25
17.	Naufal Zahirun Izzan	18	90	100	10
18.	Gilang Ari Ramadhan	17	70	80	12
19.	Muhammad Arif Nur Pratama	17	60	70	14
20.	Andika Adi Saputra	16	70	100	30
21.	Muhammad Rayhan Zaibadus Zam-Zam	17	60	80	25
22.	Hasna Nur Afifah	18	90	100	10
23.	Aprilia Bayu Renandra	16	70	100	30
	% AVERAGE				**12.60**

After attending counseling, the average value of students increased by 12.60%.

6. CONCLUSIONS AND RECOMMENDATIONS

Counseling activities can motivate the participants to attend 100% of the invitations that have been conveyed by the Unesa PKM team and SMK 3 Batu.

There has been an increase of 12.60% in knowledge about drawing using Autocad after counseling from the Unesa PKM team.

There were 7 students who got a perfect score of 100 on the posttest

The activity of making plan drawings can provide new knowledge for managers. Participants can develop drawing skills using the Autocad application.

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