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Learning Innovation of Constructive Drawing in One Point Perspective Subject

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***Abstract*—This research is based on the problems that occur in students in teaching constructive drawing subjects Perspective material. Things that become obstacles for students are the use of media, teaching methods, evaluation of high ratings and subjective factors of educators. the purpose of writing this article is to create learning innovations in these subjects so that the paradigm that is built will be positive again so that the interests and motivations of students will increase with the presence of these innovations. This innovation in the form of a learning method that uses a technological approach as a support in the education process. This study uses the research and development method with several stages including problem identification in constructive drawing learning, data search using questionnaires and interviews, the initial step of data analysis as a basis for application, then implementing and implementing innovation by teaching digital constructive images, the last stage is processing data from the implementation process and obtained positive results, students are easier to use media, the level of understanding increases and teaching patterns are more innovative using new media technology.**

Keywords—learning innovation, constructive, perspective, digital media

I. INTRODUCTION

Talking about innovation, actually this word is often associated with change, but not every change is said to be innovation. Innovation is an idea, discovery or method that is felt or observed as something completely new to someone who is relative. While the learning innovation referred to here is an educator's method or tips in teaching students with certain goals. “the development of skills for innovation are critical aspects for the future of education.”(Saad Shawer dalam Communicative-based curriculum innovations between theory and practice: implications for EFL curriculum development and student cognitive and affective change” [1].

Learning innovation is something that is important and must be owned or done by educators. This is because learning will be more lively and meaningful. The willingness of educators to try to find, explore and look for various breakthroughs, approaches, methods and learning strategies is one of the supports for the emergence of various new innovations. “Research suggests that innovation be a definite aspect of functional, productive experience that works within media-practice education might usefully aim to generate” [2].

This challenge is felt in the institution that will be researched by the author, which is related to the resources of educators to the influence of technological developments which create new challenges for students regarding one of the Constructive Drawing courses. " In the lecture process, this course still uses paper media as physical work and uses a compass, ruler and track pen. This is what becomes a difficulty for some students who teach these courses, and the evaluation process of the work by educators is also considered very detailed and full of calculations, just imagine because of the aspects of neatness and accuracy that are prioritized, if there is a little trace of ink overflowing or not in path, the automatic value C has been obtained. As for the internal factors of the students themselves who are very anti to numbers, they end up becoming a phobia like a math subject when in elementary and middle level studies. This is also reinforced by the tendency of art students who have a creative thinking pattern to become an obstacle in the course of this lecture, instead of entering fine art because to avoid forms of study that have numerical characteristics or a structural or mathematical level of rationality, it is due to the pattern of thinking. students who are free are what are of interest to students because they always have lots of ideas, tend to take risks, are sensitive to their surroundings, are able to express their imagination, and are open to other people's opinions. However, creative people often find it difficult to be limited by rules. These characteristics are imaginative, high curiosity, critical, dare to take risks, sensitive to environmental situations, open to criticism, able to articulate ideas, generally difficult to schedule work.

What the writer feels in the implementation of learning in this course is a very interesting form of teaching because in its implementation it is very strict and measurable for an educator, seen from the aspects of mathematical and analytical assessments that affect the development of students. Students who succeed in this course will certainly feel satisfied, but in

its implementation it is so dramatic that at any time they have to go through several tense and confusing implementation of learning and the results of the evaluation of the assessment are so rigorous. This is used as the author's empirical foundation, because it has been part of the implementation of lectures as students.

The author responds that such implementation is very good for the mentality of students in facing reality for the future as a disciplined teacher, but on the other hand there are things that are in the spotlight, namely the rigid and underpressure process of lecture activities and the author is very interested and wants to observe the participants. students who can not pass this lecture smoothly, what are the factors so that students are very depressed and feel horror when teaching this course and the author wants to change the paradigm so that it becomes better and feels joyful for students today.

The need for educational facilities can be met quickly. In the field of education, of course, there are many things and materials that must be prepared, for example, the use of digital media in learning to meet the need for alternatives in working on worksheets that take a long time to do if done manually. But with the development of technology all of that can be done in a short time. Especially in learning activities, there are several benefits that can be obtained from the development of science and technology, namely, learning becomes more effective and interesting. Can explain something difficult or complex. Speed up long processes. Presents events that rarely happen. Indicates an event that is dangerous or out of reach. The purpose to develop a form of constructive learning using digital media so that lectures feel more interesting and easier without leaving the essence of the course.

II. LITERATURE REVIEW

The research process requires intelligence from the point of view and use of the approach to be carried out as the basis and purpose of the research. The validity of a finding in the field is influenced by the supporting science that is the reference in the research. This will have a major influence on the written work produced, with a variety of scientific perspectives and obtained from the educational process. Mastery of material that is managed and displayed professionally, from the heart and without coercion, logic, and fun, and combined with a personal-emotional approach to students will make the learning process to be achieved materialized. In addition, learning must also be varied by creating a new learning method or by means of innovation.

Innovation is sometimes used to express inventions, because new things are the results of discoveries, the word invention is also often used to translate the words from the English words "discovery" and "invention". There is also a link between the notions of innovation and modernization, because they both talk about renewal [3].

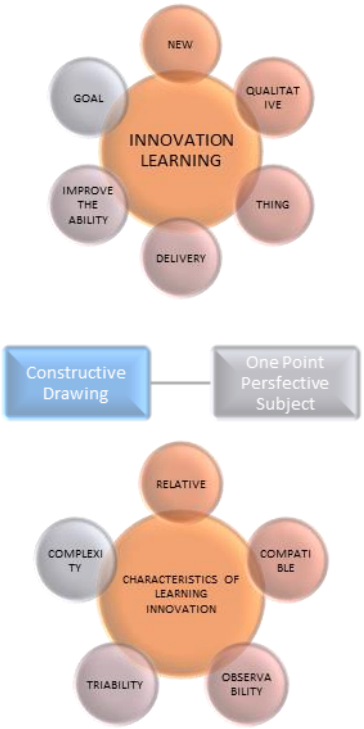

Fig. 1. Conceptual framework.

Newness by utilizing the development of information and communication technology, education can reach all levels of society. Education is not antipathy or allergic to the development of science and technology, but instead becomes a subject or a pioneer in its development. People with an interest in education are required to have the ability to understand technology according to their needs or technology literacy which is also called technological literacy, because it will play a role in today's life [4].

As new media becomes incorporated into daily life, each technology becomes valued accordingly. People see each new technology as changing how dialogue or dissemination takes place, introducing new possibilities and new risks to communication [5].

That educational innovation is a new change, and qualitatively different from the previous one, and deliberately made efforts to increase the ability to achieve certain goals in education. From this definition, several elements that are key to innovation can be described [3] (see figure 2 and 3).

Fig. 2. Theorytical framework (1).

Sooner or later acceptance of innovation is influenced by the characteristics of the innovation itself. educational innovations that can affect the acceptance of innovation sooner or later as follows:

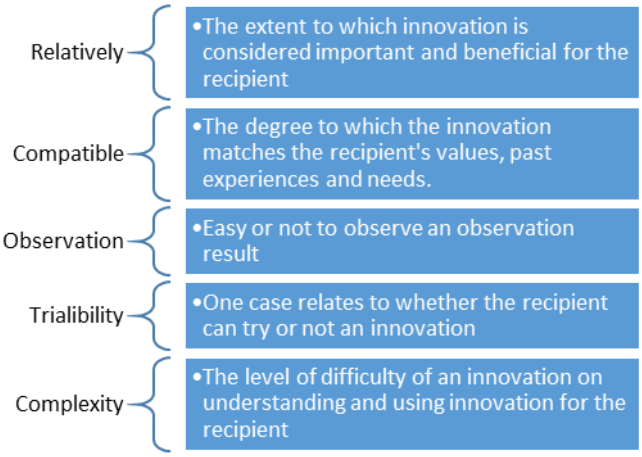

Fig. 3. Theorytical framework (2).

Creativity still appears to be a mysterious issue of science. However, we already know that the essential force of design seems to be human creativity. This special issue perhaps aims to motivate innovative and dedicated researchers to gain knowledge of particular features of creative design and develop research methodologies to approach a better understanding of Design Creativity [6].

The theory and scientific concept of this learning innovation as a basis for exploring and managing constructive image learning innovations, perspective material. Perspective comes from the Italian word "Prospettiva" which means a picture of a view or viewpoint.

All theory about perspective is an art technique for creating an illusion of three-dimensions (depth and space) on a two-dimensional (flat) surface. Perspective is what makes a painting seem to have form, distance, and look "real". The same rules of perspective apply to all subjects, whether it's a landscape, seascape, still life, interior scene, portrait, or figure painting [7-9] (see figure 4-6).

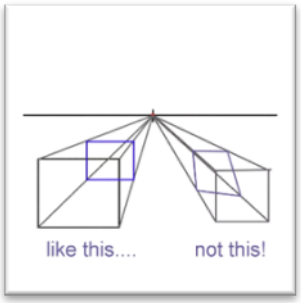

Fig. 4. Theory of one point persfective object (1).

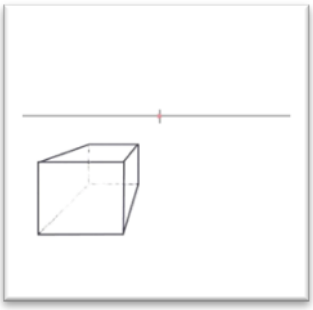

Fig. 5. Theory of one point persfective object (2).

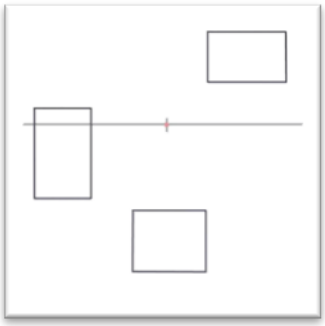

Fig. 6. Theory of one point persfective object (3).

All perspective systems are based on two basic methods, namely free hand drawing and measured drawing. Measured perspective drawing is used to accurately interpret an object or object. Drawing tools are used for this method, and the size scales are taken directly from the plan drawing. Freehand images are used to provide an explanation (detail) of an image. Object positions derive from a combination of guesswork (approximate system) and construction with nearly precise estimates. There is no need for exact and precise measurements. Perspective is an art technique for creating the illusion of three dimensions (depth and space) on a two-

dimensional (flat) surface. This perspective makes a painting appear to have shape, distance, and appear "real". The same rules of perspective apply to all subjects, whether it be landscapes, seascapes, still life, interior scenes, portraits or figure paintings. Whereas in projection science there are absolute laws including the following:

Draw objects that are far from the eye, get smaller and disappear at one point. Pictures of large objects farther away, appear smaller. Pictures of objects that are tall, the farther they appear the lower they look. All lines parallel to the horizon remain parallel to the horizon. All lines that towards the horizon meet at the vanishing point on the horizon. The color of a distant object will become increasingly blurred. This theory is used in the form of one vanishing point perspective [10] (see figure 7 and 8).

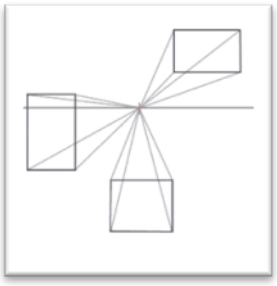

Fig. 7. Theory of one point persfective object (4).

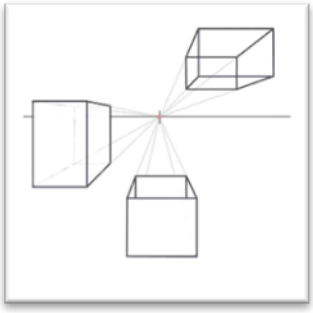

Fig. 8. Theory of one point persfective object (5).

III. RESEARCH METHODS

The methodology is influenced by the theoretical perspective approach that the writer uses to support an explanation or interpretation framework that allows the researcher to understand the data and relate it to events or other data based on the theoretical support used. In the process of this research, the authors used the Research and Development model [11].

The initial stage of research that describes the process of creating works from problem identification in the field, leads to problem development and becomes a research problem formulation using data analysis based on questionnaires and questionnaires. In this research process, materials and sample data become an instrument in research which will later be developed in the field application process. Development, which describes the process of implementing applied research on the subject of research, namely in the Constructive Drawing class, the Department of Fine Arts Education, Universitas Pendidikan Indonesia. Analysis, which describes the research implementation process based on the data that has been obtained which will be explained in the next chapter. First Wave Research The Research phase is the phase where the author examines the scope of problem identification as a starting point for determining the core problems that occur in the field, this process takes place periodically according to the development of field findings using interview patterns and data analysis. The data was obtained from the stage of the formulation of the problem identification instrument that had been obtained and then continued with the search for field data with the help of questionnaires and interviews. The detailed explanation regarding the steps in the first wave is as follows figure 9.

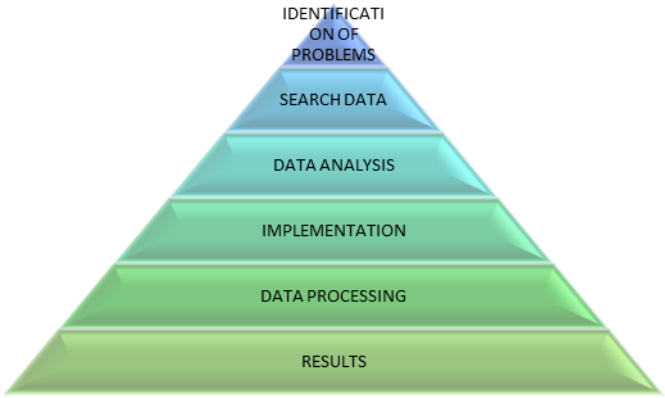

Fig. 9. Research method.

The Research and Development pattern in a sense is a research pattern that has several stages in the formulation of conclusions in research starting with the initial stage of research to the final stage with several developments from the results of previous research, to support the research process it is selected as a research application to the ongoing analysis and data search in the Department. Fine Arts Education, University of Pendidikan Indonesia. The quantitative process in research is a combined process of quantitative and qualitative, namely the process of processing data with numerical counting techniques and formulated with certain formulas and producing conclusions from these calculations as well as descriptive qualitative processing by describing some of the findings in the field in narrative form. Sample data obtained from each analysis and study using a quantitative approach. The quantitative method carried out by the author has a scientific basis of Statistics which is a science that is related to the methods of data collection, pengelohan or analysis until drawing conclusions based on the data collection and food analysis carried out. Basically, these statistics can be divided into two activities, namely the first is the collection and processing of data presented in tables or graphs to facilitate the information conveyed. From this first activity is descriptive statistics. Then the second is drawing conclusions that are

contrary to the processing of the data. This second activity is called inferential statistics. Judging from the definition of statistics above, of course it is based on the main characteristics of these statistics [11-13].

IV. Results and Discussion

The novelty aspect of this research is not entirely new in substance to teaching and learning methods, but the novelty here is more about solving problems in the process of transferring knowledge with digital assistance. Mastery of digital media as a supporting tool in the learning process as well as the development of stimulus in research so that it doesn't seem scary and the previous dogmatic factors are preserved until now (see figure 10).

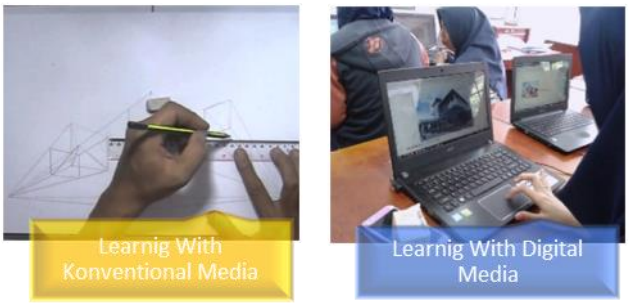

Fig. 10. Difference between old and new teaching.

- Preparation: Providing props or supporting media in the implementation of learning in the classroom. Opening lectures with some basic information delivery related to greetings and news to students. Observe and regulate class conditions by submitting attendance for lecture administration data

- Implementation: Explaining a procedure or process in a lecture, including reminding students in preparing media, tools and needs in supporting lectures as well as explaining the lecture implementation policy on timely attendance. Explain the policy for assessment of learning outcomes Carefulness, cleanliness, on time. In this implementation, all students will be able to follow the learning well. At this meeting the educator explained the introduction to the lecture containing an explanation of the objectives and competencies expected of the course; lecture procedures; tasks and evaluation systems in the implementation of Constructive Drawing II. At the second meeting the authors explain the meaning of constructive drawing II. Explain the theory of constructive drawing II. Explain the basic concepts of aesthetics in constructive drawing II. Explain the theory of drawing. One-point perspective is lost with the concept manual as an introduction. Explain the theory of drawing. One point of perspective is missing with digital concepts as the core of learning. Describes the use of constructive drawing tools. II. Able to explain about the use of applications in constructive drawing I Missing Points with digital media. When the learning process is running, the writer holds a question and answer session with students when there is information that is not clear.

- Evaluation: Provide opportunities for students to continue learning independently. Make the task of learning to draw constructively with the practical task of drawing the perspective of multiple objects; beam, prism, and pyramid with the technique of 1 Point Missing Perspective Using Digital Media. Analyze Reference Image obtained in Game / Image. Creating and Developing 1TH Perspective Forms with the Style of Each Task in A3 Digital Print. Asking questions to students when there is information that has not been conveyed. Learning Methode (see figure 11-19):

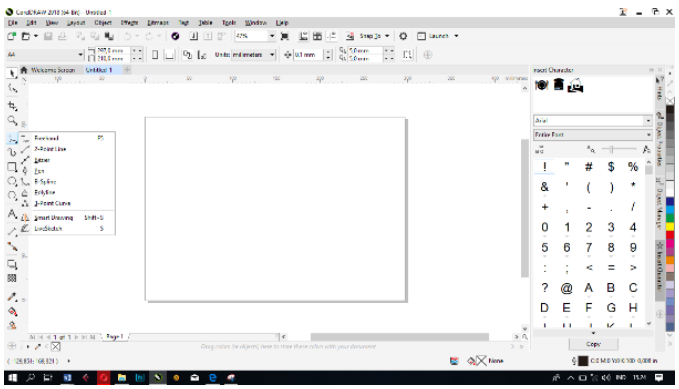

Fig. 11. First steps to draw 1TH perspective with digital media.

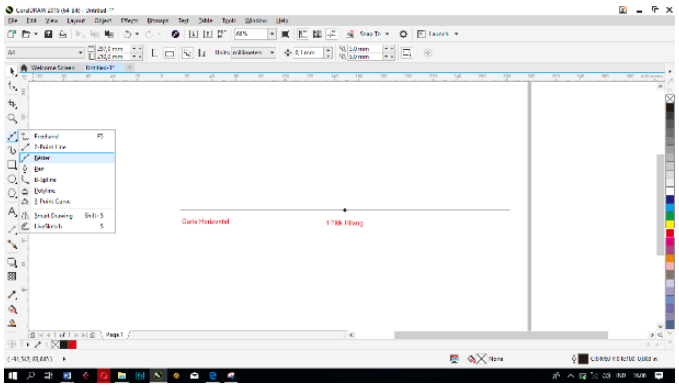

Fig. 12. Second steps to draw 1TH perspective with digital media.

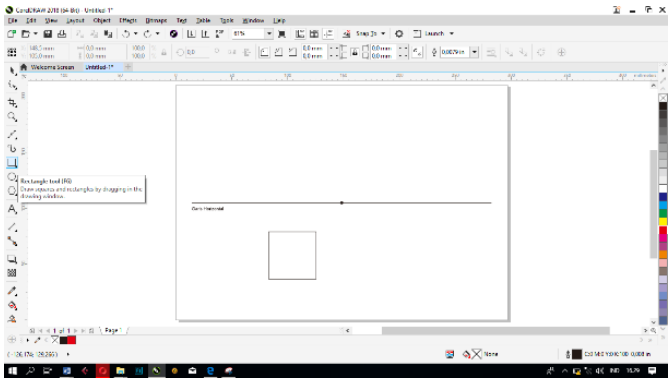

Fig. 13. Third steps to draw 1TH perspective with digital media.

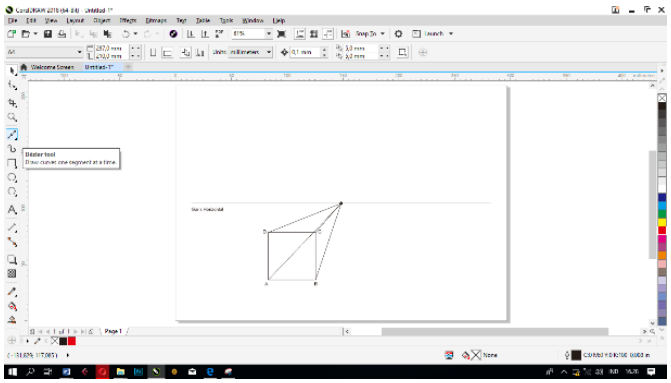

Fig. 14. Fourth steps to draw 1TH perspective with digital media.

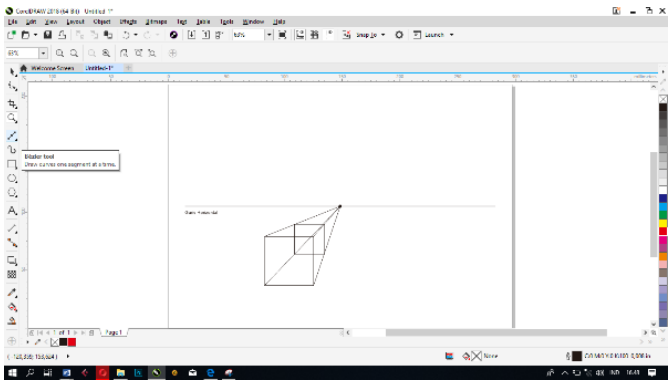

Fig. 15. Fifth steps to draw 1TH perspective with digital media.

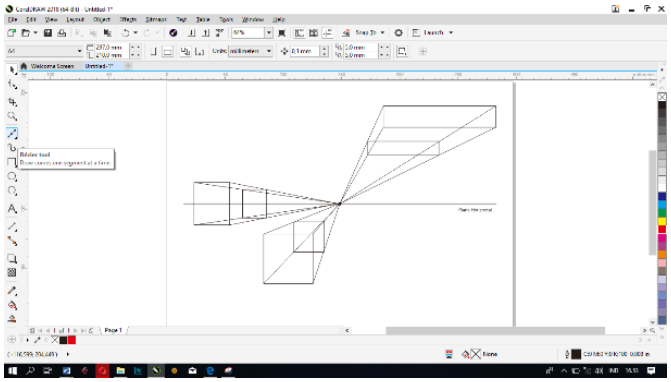

Fig. 16. Sixth steps to draw 1TH perspective with digital media.

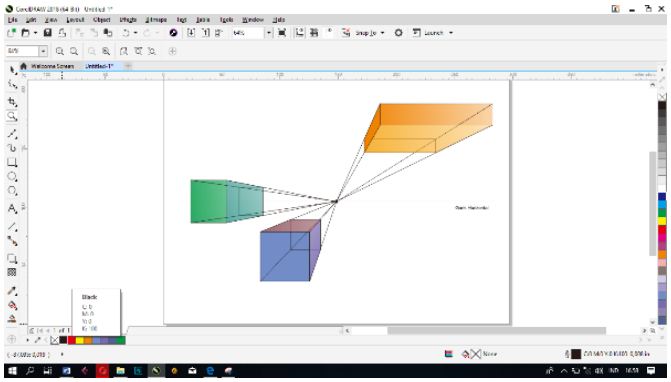

Fig. 17. Seventh steps to draw 1TH perspective with digital media.

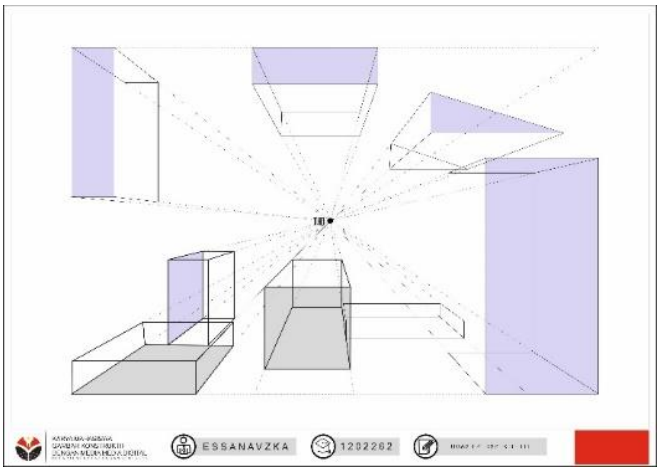

Fig. 18. Eigth steps to draw 1TH perspective with digital media.

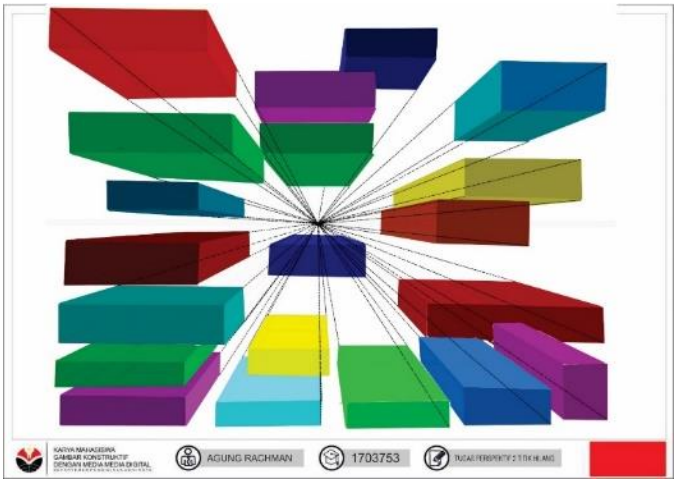

Fig. 19. Nineth steps to draw 1TH perspective with digital media.

V. CONCLUSION

In the analysis of the success of innovation carried out, the author uses several approaches to get the maximum results obtained from several data sources that have been processed and analyzed and the overall results of the evaluation of research programs carried out so far have experienced several very complex stages because they are supported by several factors, including factors. the interest of students' interest in the use of digital media in constructive drawing lectures with excellent perspective material. Supported by other factors and data related to the response to the use of digital media in the learning process which is considered to have a very positive impact on students. As well as data on the results of using digital applications in the learning process which are on average very good, the results are supported by electronic learning methods that can improve students' understanding, the results have a very positive effect so that learning motivation increases and creates an effective learning process resulting in a successful process according to with the hope of the author.

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