

BREAKTHROUGH STUDENTS WHO REGISTERED BASIC CHEMISTRY I COURSE IN SOLVING PROBLEMS IN ONLINE TUTORIAL

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Abstract

Online Tutorial (Tuton) is an internet-based tutorial service or web-based tutorial, which is offered by Universitas Terbuka (UT) and is followed by students via the internet and is one of the tutorials held by UT. The objectives of organizing Tuton are: Optimizing the use of the internet network to provide study assistance services to students, and enabling the distance learning process in a more communicative and interactive alternative choices for students who have access to the internet network to obtain optimal learning assistance services. To be able to access Tuton, students must activate an account on the <http://elearning.ut.ac.id> website Tuton is held every semester for 8 (eight) weeks or approximately 2 (two) months before carrying out UAS each semester. The contribution of the tuton value to the final value is a maximum of 30%. Maximum value can be obtained if students become active participants in implementing tutoring. Active participants are participants who read initiations, respond by asking questions or responses, discuss and work on assignments at initiations 3, 5 and 7. Students' breakthroughs in answering discussions and assignments in Kimia Dasar I (Basic Chemistry I)/KIMD4110 tutorials which mostly consist of molecular formulas and chemical structural formulas that are not easy to type in word format are manipulated by students by drawing in handwriting and then combining them with typing in word format.

Key words: tutorials, Kimia Dasar I, molecular formulas, chemical structural formulas, word format.

1 INTRODUCTION

In a traditional learning model, students arrive at class, the instructor introduces the material, expounds on relevant concepts, assigns follow up readings and assignments, and ends class. Students are then expected to go home, review their class notes, attempt to complete assigned readings and assignments, actually learn what was taught in class (which doesn't always happen), come to class the following week with any questions they have from the previous lecture, and be ready to move on and explore new material and concepts. The problem with this model is that it's ineffective, especially with subjects and material that are challenging to learn.

Tuton is an internet-based tutorial service or web-based tutorial (WBT), which is offered by UT and is followed by students via the internet and is one of the tutorials held by UT.

The objectives of organizing Tuton are:

1. Optimizing the use of the internet network to provide study assistance services to students.
2. Allows the distance learning process to be designed more communicatively and interactively
Link.

3. Provide alternative choices for students who have access to the internet network to obtain optimal learning assistance services.

To be able to access Tuton, students must activate an account on the <http://elearning.ut.ac.id> website. After this process is carried out, students will get account password to be able to enter the Tuton site. Before students do the login process, it is recommended for students to download and read the tutorial guide that is available on the tutorial site.

Tuton is held every semester for 8 (eight) weeks or approximately 2 (two) months before carrying out UAS each semester. The contribution of the tuton value to the final value is a maximum of 30%. Maximum value can be obtained if students become active participants in implementing tutoring. Active participants are participants who read initiations, respond by asking questions or responses, discuss and work on assignments at initiations 3, 5 and 7. While passive participants are participants who only read initiations, without participating in providing questions, responses, and answers to assignments.

As Universitas Terbuka students' enrolments in Online Tutorial continue to increase, there is a need to understand how students can best apply self-regulated learning strategies to achieve academic success within the online environment. (Gary Cheng 2013).

This article was compiled using the literature review method and the author's experience as a tutor for Kimia Dasar I (Basic Chemistry I) at the UT Faculty of Science and Technology. Currently, the author teaches Basic Chemistry I Online Tutorials in 3 classes of 50 students each. This course is a compulsory subject that is registered by students of study programs within the UT Faculty of Science and Technology, namely, Food Technology, Biology, Agriculture, Mathematic, and Statistics.

The Basic Chemistry course (KIMD4110) is a basic course that contains the main ideas in chemistry which became the basis for the scientific thinking patterns of chemists in the past. The Subject Learning Outcomes (CPMK) are students who are able to explain basic principles in chemistry as a basis for studying science related to chemistry and understand basic concepts in basic chemical calculations and their application with advanced science. To achieve this goal, Basic Chemistry I Course consists of material on Introduction to chemistry, Atomic theory, Periodic arrangement and electron configuration, Stoichiometry, Chemical bonds, Acids and bases, Introduction to chemical thermodynamics, chemical equilibrium, and chemical kinetics, Basics organic chemistry, and the basics of biochemistry. Basic Chemistry I is carried out

synchronously and asynchronously. Evaluation of learning outcomes is carried out with participatory assignments, mandatory assignments, and end-of-semester exams. Activities in the Tutorial class are for 8 sessions, in each session students are expected to: - Read the module according to what will be discussed

- Reading the Tutorial Activity Plan (RAT)
- Fill attendance at each session
- Reading and studying initiation
- Respond to discussions in each session
- Doing exercises in each session including the final practice in session 8
- Doing assignments in sessions 3, 5 and 7
- Fill out the tutorial evaluation instrument in session 7. (Universitas Terbuka 2022).

This study explores the students' self-regulated learning (SRL) ability and their achievement in a Kimia Dasar I course. Undergraduate students are given the obligation to answer discussion assignments at the end of each meeting, and do 3 tutorial assignments at meetings 3, 5, and 7. (Universitas Terbuka 2022).

2 FINDINGS AND DISCUSSION

The author observes student responses in answering discussions in each meeting. Students' breakthroughs in answering discussions and assignments in chemistry course tutorials which mostly consist of molecular formulas and chemical structural formulas that are not easy to type in word format are improved by students by drawing in handwriting and then combining them with typing in word format as follows:

1. An example of an uploaded discussion using handwriting

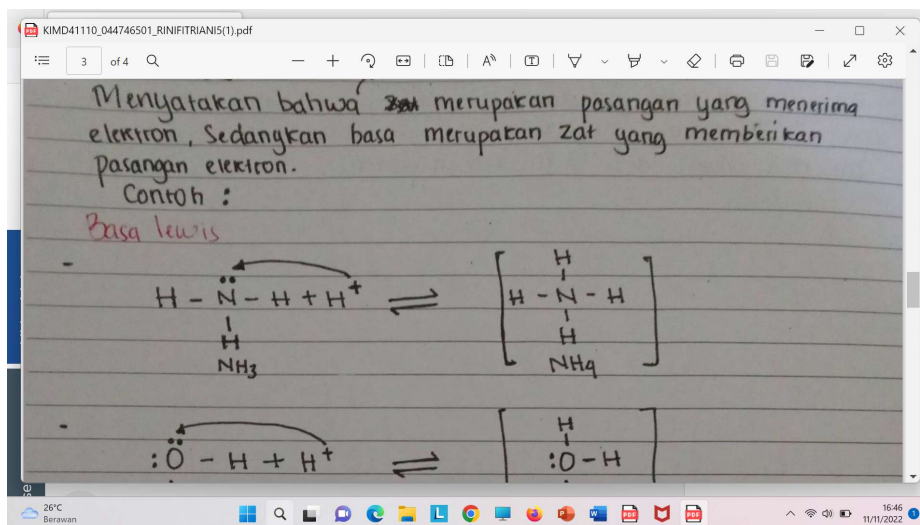


Figure 1. Discussion 1 on Acids and Bases

In Figure 1 It can be clearly seen that solving problems using handwriting can explain the structure of Lewis Bases. Thus, students understand and are competent about the material

2. An example of an uploaded tutorial assignment using a combination of handwriting and word format

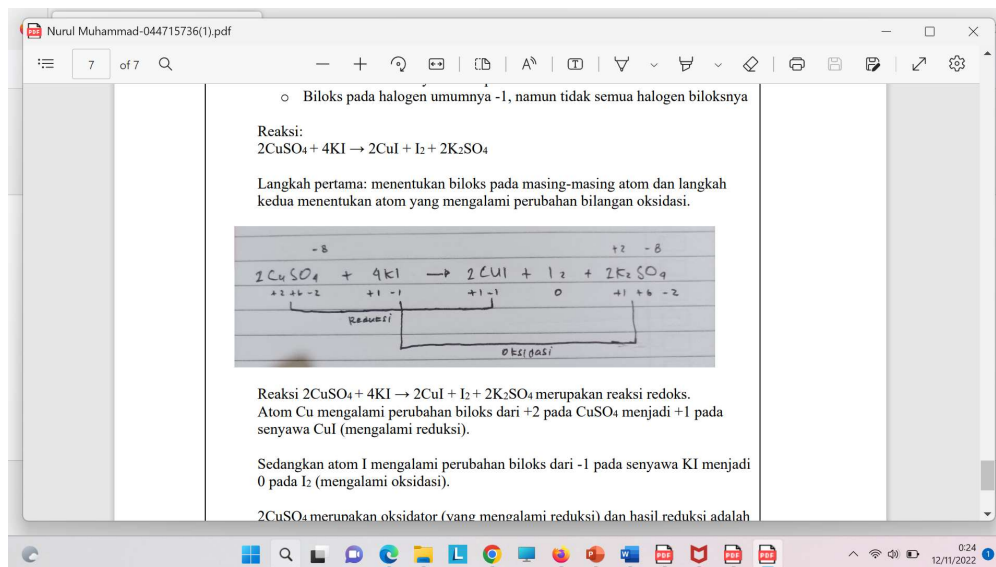


Figure 2. Completion of Tutorial Assignment 1 on Reaction Equation

From Figure 3, it can be seen that the students' answers using word format have difficulty in describing the Lewis structure for C_2H_6

4. An example of an uploaded discussion using handwriting

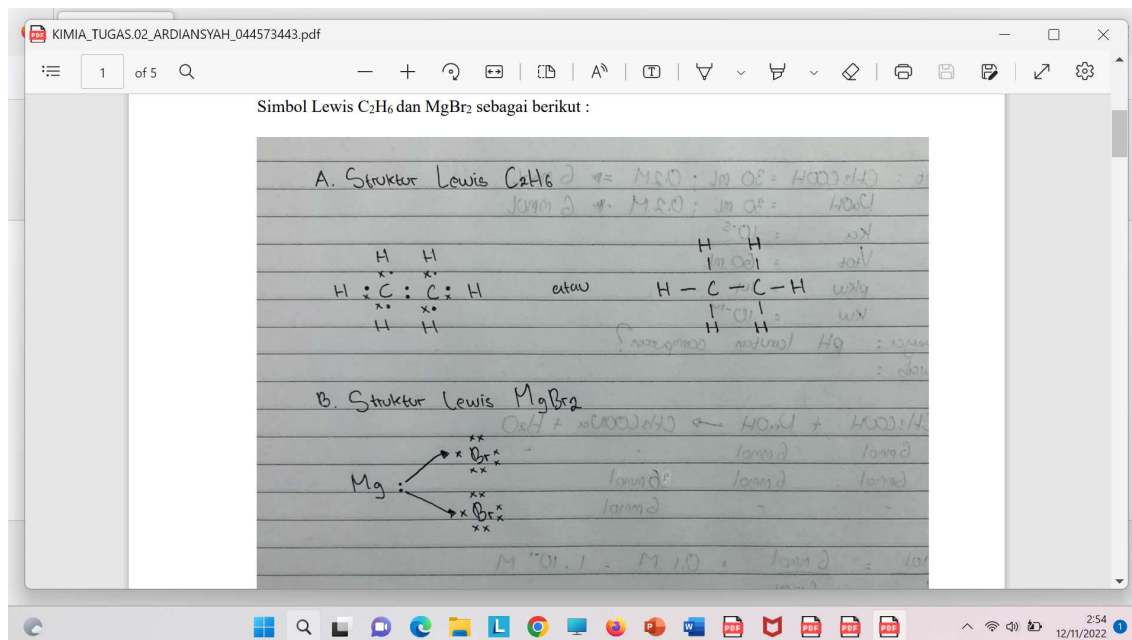


Figure 4. Tutorial Assignment 1 on Lewis's structure

In Figure 4, students can complete tutorial assignments using handwriting allows students to answer online tutorial assignments accurately and easily

3 CONCLUSION

Our findings reveal that Students in completing discussion discussions and assignments in the online tutorial for Basic Chemistry 1 by using a combination of handwriting and word format or using handwriting, it is easier and more accurate to describe the completion of the tutorial task. This article is only limited to the online tutorial for Basic Chemistry 1.

REFERENCES

Gary Cheng 2013, Juliana Chau, Exploring the relationship between students' self-regulated learning ability and their ePortfolio achievement The Internet and Higher Education Vol.17, Pages 9-15, Retrieved November,11-2022 from Science Direct: <http://dx.doi.org/10.1016/j.iheduc.2012.09.005>

Universitas Terbuka 2022, Tutorial Online Kimia Dasar I/KIMD4110. Retrieved November,11-2022 from <https://elearning.ut.ac.id/course/view.php?id=95623§ion=0#tabs-tree-start>

Universitas Terbuka 2022, Tutorial Online Retrieved November,11-2022 from. <https://www.ut.ac.id/tutorial-online>

