

## Research Article

# Application of The Edutok Method (Education by Tiktok) in The Osmosis Pressure Learning

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**ORCID**Ani Dahliana: <https://orcid.org/0000-0002-1543-9839>Cucu Zenab Subarkah: <https://orcid.org/0009-0007-0142-7320>**Abstract.**

The purpose of this research for describing student performance learning of osmosis pressure material by online learning assisted by social media in TikTok Apps here in after referred to as the EduTok method (Education by TikTok). The method of this research use pre-experiment with the research design of the One-Shot Case Study. The subject of this research is 39 students of Chemistry Education Study students 3rd semester in the Capita Selecta Chemistry 1 course. Data were collected by instrument using performance sheets. The result shows that in learning activities at the pre-virtual class meet session, students make a resume of material from the learning video. In the virtual meet class, students conduct discussions and work on practice questions. Students design the EduTok video project at the out-of virtual class meet session. The proportion of student performance in the pre-class virtual meeting session was 88%, the virtual class meeting session was 100%, while out-of virtual class meeting was 98% so that the average proportion of student performance, in general, was 95% classified as a very good category. Thus, the EduTok Method can be used in learning chemistry online and can measure student performance.

**Keywords:** osmosis pressure material, online learning, social media, tiktok

## 1. INTRODUCTION

The government has taken a policy regarding the Study From Home program or carried out online (online) at all levels of education in Indonesia, including learning chemistry during the COVID-19 pandemic [1]. Computer technology with internet networks can be used to improve the learning process at home, as well as help students understand the material [2]. Students can access some material flexibly and through a video, it is hoped that there will be student interest in analyzing scientific phenomena and become one of the strategies in learning that supports students in overcoming limited time in online classes [3].

Social media supports the presentation of several chemical concepts because it focuses on image media and social media videos so that it can be considered one

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of the appropriate media in chemistry learning [4]. TikTok can be a social media that can be used as a medium in the learning process [4]. TikTok users have experienced an increase during the COVID-19 pandemic, including among students [5]. Choosing a chemical concept that includes procedural, declarative knowledge and chemical concepts has a lot of relevance to the lives of students [6]. Chemistry learning with the help of TikTok social media. Based on some of the reasons described above, researchers feel it is important to raise this topic in this study, because it has an urgency in improving the online teaching and learning process, especially during the COVID-19 pandemic.

## 2. RESEARCH METHOD

The method in this research is pre-experimental with a research design, namely One-Shot Case Study, where a group is given treatment and then the results are observed [7].

### 2.1. Preparation Stage

The preparation stage includes reviewing the RPS and syllabus in the Capita Selecta Kimia I course, then conducting a preliminary study in the form of discussion and confirmation regarding relevant learning methods and models used during the learning process during the COVID-19 pandemic to lecturers who are teaching the Capita Selecta Kimia I subject Next, namely analyzing relevant research journals, then analyzing the material, formulating problems to be measured or described in the study, then determining research variables, designing research designs and making research instruments.

### 2.2. Implementation Stage

The series of learning activities with the flipped classroom learning model is divided into 3 parts, the first is learning activities at home before the first meeting (Pre-Class Virtual Meet). The second part is In Class Virtual Meet which is conducted in 2 meetings via video conference Zoom Meeting and the third part is learning activities at home after the first meeting (out of class virtual meet).

## 3. RESULTS AND DISCUSSION

### 3.1. Student Performance at The Pre-Virtual Class Meet Session

Student activities at the pre-virtual class meet are understanding and studying learning videos (Figure 1) and making resumes from the material in the learning videos (Figure 2).



Figure 1: Display learning videos.

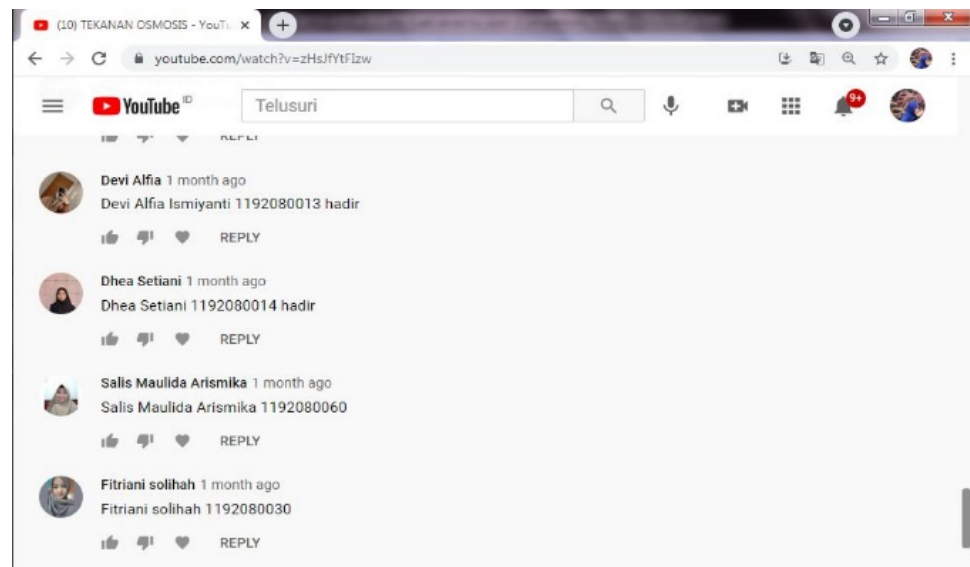


Figure 2: Display student performance watching learning videos.

Figure 1 above is a display of a learning video that explains the movement of solvent molecules across a semipermeable membrane. Learning videos are given to students to study two days before the start of the virtual classroom. Sharing of learning videos via the following Youtube link <https://youtu.be/zHsJfYtFlzw>. Figure 2

above is the student's performance in the pre-class virtual meet session, one of which can be measured by observing the learning video comment column uploaded to the researcher's Youtube account. Students are required to study learning videos and leave traces in the comments column, namely by mentioning their full name and NIM (Student Identification Number) as proof that students have watched the learning video. Based on the research results, it was found that the percentage of students watching the learning videos reached 98%. This is because Youtube is a platform that can be used as an audio-visual-based learning medium that is easily accessible as well as an alternative to learning during a pandemic [8].

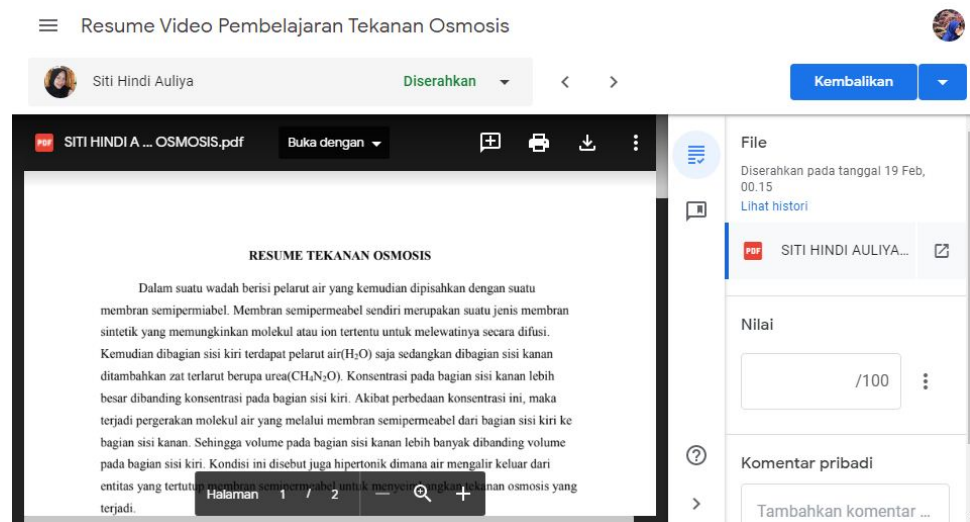


Figure 3: Student resume display.

Based on Figure 3 above, one of the students made a resume on the basic principles of osmosis, which is to explain again the movement of solvent molecules across a semipermeable membrane and explain the relationship between osmosis events and solution concentrations such as isotonic, hypertonic, and hypotonic. Students work on assignments as many as 32 people on time and 1 person is late from the predetermined collection schedule. 6 students did not submit their resume assignments. The factor that causes students to be late in collecting and not even submitting resumes is the unstable network factor, this is in line with the shortcomings of implementing the flipped classroom model in Supiandi's research, Ujang (2018) which states that unstable signal factors can hinder the smoothness of the learning process. This problem is also strengthened by the statement that students are not willing to study the material beforehand, so they need appropriate learning media [9].

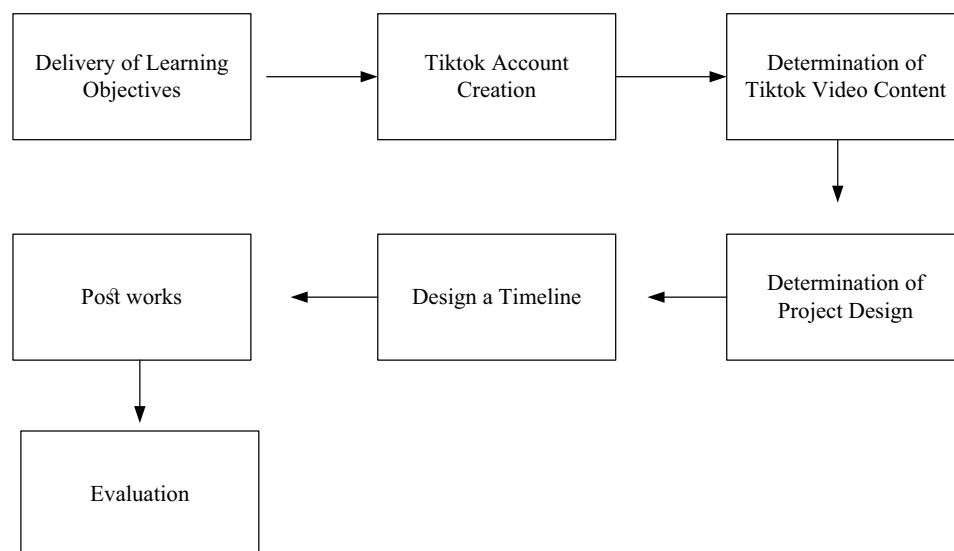
### 3.2. Student Performance on In Virtual Class Meet Sessions

After students collect resumes, the next student activity is learning activities at the virtual class meet session which consists of discussion and doing exercises on osmosis pressure material. Discussion using video conferencing. The discussion method chosen by the researcher aims to make students more interactive in the learning process. And optimize student understanding in understanding the osmotic pressure material. The discussion was held twice in a virtual classroom. Student activities when discussing the first meeting in a virtual classroom can be observed on the following Youtube link [https://youtu.be/1\\_M4WfiL\\_4Y](https://youtu.be/1_M4WfiL_4Y). The link contains videos of student activities that have been recorded by researchers using the “record” feature in Zoom Meeting. The following is a video link for student activities on the virtual meet in class at the second meeting <https://youtu.be/uwUCRBVtd34>. After conducting the discussion, the students did practice questions. The purpose of students working on practice questions is to evaluate students’ understanding of the concept of osmosis pressure with question levels based on Revised Bloom’s Taxonomy starting from the cognitive levels C-3 and C-4. Students work on practice questions regarding osmotic pressure material which are done through the following Google Form link <https://bit.ly/2Xs6P1G> with a processing time limit that has been determined by the researcher.

### 3.3. Student Performance in Virtual Meet In Out Class Sessions

After students carry out learning activities at the in-out-class virtual meet session, then students carry out learning activities at the out of virtual class meet session, namely making TikTok videos using the EduTok method (TikTok Education). EduTok is a learning method chosen by researchers so that students can take advantage of social media as a fun learning medium during online learning. TikTok videos contain content regarding the concept of osmosis pressure which is associated with several aspects of chemical literacy, such as attitudes, competencies, knowledge, and context [10]. Making videos with EduTok learning is done individually and does not involve groups. Students design EduTok videos with various concepts, such as a simple lab based on green chemistry, the application of osmotic pressure in everyday life. Figure 4 below is the steps for implementing EduTok (TikTok Education).

Based on Figure 4, the steps for implementing EduTok in learning are broadly divided into two stages, namely the preparation stage and the implementation stage. The preparation stage consists of submitting learning objectives to designing the timeline,



**Figure 4:** Edutok implementation steps scheme.

while the implementation stage starts from posting works to conducting evaluations. Students post works on their respective TikTok application accounts. Based on Figure 5 below, students make TikTok videos made by students by analyzing the relationship between concentrations of intravenous fluids and osmosis. After uploading the TikTok video, students responded in the TikTok video comments column which was used as part of learning activities in the in-out-class virtual meet session. Figure 6 below is a display of student responses in the TikTok comments column.

The TikTok video (Figure 5) explains the possibilities that will happen to the patient if the infusion fluid concentration does not match the fluid concentration in the patient's body. Students made the video related to several phenomena that are often encountered in real life, for example in osmosis events in intravenous fluids needed by patients. Apart from being linked to the health sector, some students are linked to industrial fields such as making chocolate jam and making pickles. This is in line with the fact that one of the components of chemical literacy is the social context and chemical phenomena in everyday life [11]. This statement is then reinforced in other research which states that the context of science application becomes a dimension of scientific literacy which consists of the understanding of situations related to the application of science in everyday life which is the ground for understanding scientific concepts and application of processes [12]. The recapitulation of student activity feasibility in the learning process using the flipped classroom model can be described in detail in table 1 below.



Figure 5: TikTok video display.

TABLE 1: Recapitulation of student performance appropriateness.

No	Stages	Activity	Percentage	Information
1	Pre-Virtual Class Meet			
	Understanding	Watch learning videos	95%	Very good
	Remembering	Create a resume	81%	Good
2	In-Virtual Class Meet			
	Applying Analyzing	preliminary	100%	Very good
		Discussion	100%	Very good
Evaluating	Doing practice questions	100%	Very good	
3	Out Of Virtual Class Meet			
	Creating	Make TikTok videos	98%	Very good

#### 4. CONCLUSION

In general, student activities at the pre-virtual class meet, in-class virtual meet and in out class virtual meet overall were done 95% in a very good category. Online student learning outcomes, namely by doing exercises on the osmosis pressure material, in general, the average value was 73.51 with a good category.

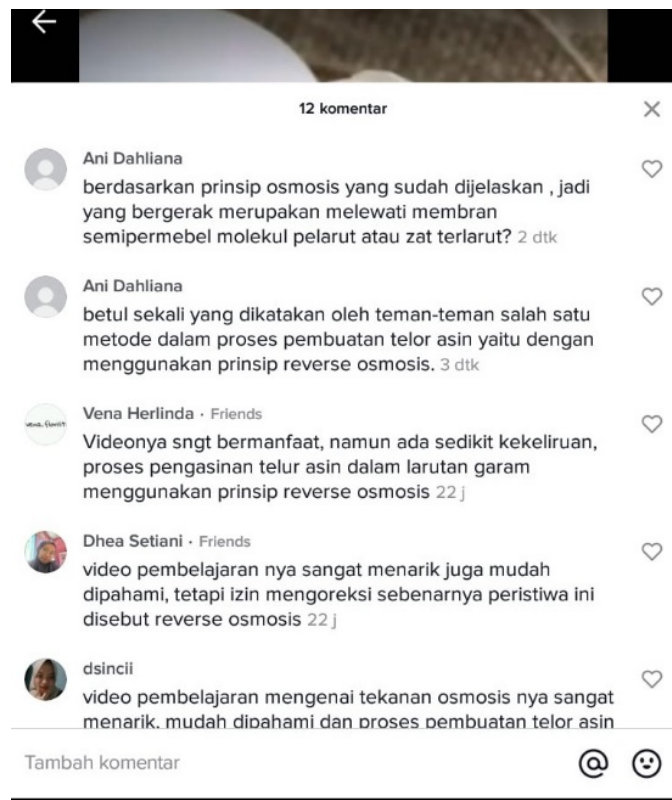


Figure 6: Student comments.

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