

ANALISIS PRODUCTIVE PEDAGOGIES GURU DAN HUBUNGANNYA DENGAN COGNITIVE LOAD PESERTA DIDIK DALAM PROSES PEMBELAJARAN BIOLOGI MATERI SISTEM EKSKRESI

ABSTRAK

Penelitian ini dilakukan untuk memperoleh gambaran serta hubungan *productive pedagogies* guru dengan *cognitive load* peserta didik. *Productive pedagogies* diukur berdasarkan tiga dimensi yaitu kualitas intelektual, relevansi, dan penguasaan lingkungan kelas pada empat orang guru SMA dalam pembelajaran materi sistem ekskresi. *Productive pedagogies* diukur menggunakan angket, lembar observasi, integrasinya pada RPP, dan pelaksanaan pembelajaran. *Cognitive load* diukur berdasarkan tiga komponen yaitu usaha mental untuk menggambarkan *extraneous cognitive load* (ECL), kemampuan menerima dan mengolah infomasi menggambarkan *intrinsic cognitive load* (ICL), serta kemampuan penalaran sebagai hasil belajar untuk menggambarkan *germane cognitive load* (GCL). Usaha mental diukur dengan angket *subjective rating scale* menggunakan skala Likert, kemampuan analisis informasi diukur melalui soal sistem ekskresi berdasarkan komponen *information processing*, dan hasil belajar diukur melalui soal penalaran berdasarkan dimensi penalaran. Data penelitian menunjukkan bahwa *productive pedagogies* guru memperoleh nilai yang berbeda-beda, yaitu masih terdapat guru yang tidak secara menyeluruh memperhatikan *productive pedagogies* dalam menyusun RPP maupun pelaksanaan pembelajaran. Guru yang memperoleh *productive pedagogies* dengan skor tinggi, cenderung memperhatikan *productive pedagogies* dalam strategi pembelajaran efektif di kelas dengan menciptakan suasana belajar kondusif. Data penelitian menunjukkan, bahwa *productive pedagogies* guru dari yang tinggi ke rendah adalah Guru D, A, B dan C. *Cognitive load* peserta didik terendah ke tinggi berdasarkan korelasi antar komponen *cognitive load* terdapat pada peserta didik SMA A, D, B, dan C. Sehingga dapat disimpulkan bahwa semakin tinggi *productive pedagogies* dapat menekan *cognitive load* peserta didik dalam pembelajaran.

Kata Kunci: *cognitive load*, pembelajaran biologi, *productive pedagogies*, sistem ekskresi.

PRODUCTIVE PEDAGOGIES ANALYSIS OF TEACHER AND ITS RELATION WITH COGNITIVE LOAD OF STUDENT IN BIOLOGICAL LEARNING PROCESS OF EXCRETION SYSTEM

ABSTRACT

This research was conducted to obtain an overview of productive pedagogies as well as its relationship with student's cognitive load. Productive pedagogies are measured based on three dimensional: intellectual quality, relevance, and the control of classroom environment on four high school teachers in learning material of excretion system. Productive pedagogies is measured by using the question form, sheets of observation, its integration to the RPP, and the implementation of learning process. Student's cognitive load was measured based on three components: mental effort to describe extraneous cognitive load (ECL), the ability to process received information which describe the intrinsic cognitive load (ICL), and the ability of reasoning to describe germane cognitive load (GCL). Mental effort is measured based question form by using the Likert scale, the ability of information analysis is measured by questions of excretion system based on components of information processing, and the results of the study measured by question of reasoning based on the dimensions of reasoning. Research data shows that the productive pedagogies of the teachers acquire different values. There are still teachers who do not thoroughly observing the productive pedagogies in making up the RPP as well as the implementation of learning. Teachers who obtain productive pedagogies with high score, tend to pay attention to the productive pedagogies in effective learning strategies in the classroom by creating a conducive learning. Research data shows that the productive pedagogies of the teachers from high to low is teacher D, A, B and C. the lowest cognitive load students to high based on the correlation between the components of the cognitive load is present on the student's of high school A, D, B, and C. So that it can be concluded that the higher productive pedagogies can suppress the cognitive load of student's in learning process.

Keywords: biology learning, cognitive load, excretion system, productive pedagogies.