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#1388 Summary

Summary Review Editing

Submission

Authors	Fitria Fatichatul Hidayah, Muhamad Imaduddin, Eko Yuliyanto, Gunawan Gunawan, Muhammad Cholid Djunaidi, Supawan Tantayanon
Title	"Counting drops and observing color": Teachers' and students' first experiences in small-scale chemistry practicum of acid-base solutions
Original file	1388-4993-2-SM.DOCX 2021-07-10
Supp. files	1388-4994-1-SP.PDF 2021-07-10
Submitter	Muhamad Imaduddin
Date submitted	July 10, 2021 - 01:04 AM
Section	ARTICLE
Editor	Dolors Grau
Author comments	Dear Editor-in-Chief "Journal of Technology and Science Education" Here, we submit an article entitled "COUNTING DROPS AND OBSERVING COLOR": TEACHERS' AND STUDENTS' FIRST EXPERIENCES IN SMALL-SCALE CHEMISTRY PRACTICUM OF ACID-BASE SOLUTIONS. This research introduced small-scale chemistry practicum techniques on the concept of acid-base identification, determination of pH with indicators, and neutralization reactions with the concept of titration. This research aims to reveal teachers' and students' first experiences in small-scale chemistry practicum. This manuscript describes original work and is not under consideration by any other journal. All authors approved the manuscript and this submission. Thank you for receiving our manuscript and considering it for review. We appreciate your time and look forward to your response. Best regards, Muhamad Imaduddin Insitut Agama Islam Negeri Kudus Jl. Conge Ngembalrejo Kotak Pos 51 Bae Kudus 59322, Jawa Tengah, Indonesia Hp: +6285747908045 Email: imad@iainkudus.ac.id Journal of Technology and Science Education
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Submission Metadata

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Title and Abstract

Title: "Counting drops and observing color": Teachers' and students' first experiences in small-scale chemistry practicum of acid-base solutions

Abstract: This research introduced small-scale chemistry practicum techniques on the concept of acid-base identification, determination of pH with indicators, and neutralization reactions with the concept of titration. This research aims to reveal teachers' and students' first experiences in small-scale chemistry practicum. This research is action research to introduce a small-scale practicum technique for the solution of minimizing chemical tools and materials, as well as the availability of space for school chemistry practicum. This study involved 26 teacher participants and 36 student participants. The data collected in the form of quantitative data related to teacher responses to small-scale chemistry practicum workshops and student responses to small-scale chemistry practicum in the pilot class. The instrument used is an activity response questionnaire. Qualitative data is collected through observation, interviews, and documentation. The practicum involves qualitative observations and quantitative calculations. The qualitative aspect relates to the observation of color changes that occur in the mixture of solutions made from acid and alkaline solutions with a certain composition. Teachers got a lot of inspiration in terms of practicing chemistry with fewer material requirements, as well as modifying the tools used for laboratory activities. The tool and material box package illustrated to them that practicum activities do not

have to be carried out in a laboratory room, but can also be practiced in conventional classrooms, even done independently by students at home. Students have a unique experience in the process of counting the number of droplets because it requires concentration and careful observation.

Indexing

Keywords: Small-scale chemistry, acid-base, teacher's experiences, students' experiences, counting drop, observing color

Language: en

Supporting Agencies

Agencies: Higher Education Collaborative Research (Penelitian Kolaborasi Perguruan Tinggi/PKPT) from the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia

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