

Eksplorasi dan Integrasi Etnokimia Gamelan Bali ke dalam Kurikulum Kimia SMA

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ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan dan menjelaskan bahan-bahan dan alat, proses pembuatan gamelan Bali, dan materi pokok kimia dalam kurikulum kimia SMA yang dapat diintegrasikan berkaitan dengan pengetahuan etnokimia tentang bahan dan alat, serta proses pembuatan gamelan Bali. Penelitian dilaksanakan menggunakan pendekatan kualitatif dengan jenis penelitian etnografi. Subjek penelitian adalah perajin gamelan perunggu dan gamelan besi. Sumber data penelitian adalah bahan-bahan dan alat yang digunakan dalam proses pembuatan gamelan, serta dokumen tertulis (literatur). Pengumpulan data dilakukan dengan observasi, wawancara, dan studi literatur. Teknik pemeriksaan keabsahan data dalam penelitian menggunakan *member check*, triangulasi sumber, dan triangulasi metode. Hasil penelitian sebagai berikut. (1) Bahan dalam pembuatan gamelan perunggu yaitu perunggu dan alatnya meliputi, *muse*, *perapen*, *sepit*, *culik api*, *penyangkan*, palu, *landesan*, gerinda, kikir, dan mesin amplas. Bahan yang digunakan dalam pembuatan gamelan besi, meliputi plat dan strip besi, lem pijer, dan kuningan; sedangkan alat-alat yang digunakan meliputi palu, mesin potong besi, mesin bor, jangka besi, las potong plasma, dan batu moncol. (2) Tahapan dalam pembuatan gamelan perunggu, yaitu: peleburan perunggu, mencetak bentuk, membuat bentuk, merapikan bentuk, mencari nada, pembersihan, penghalusan gamelan dan pengemasan. Tahapan pembuatan gamelan besi, yaitu pemotongan besi, pengelasan, penempaan besi agar sesuai bentuk, pembersihan dan penghalusan, penempelan kuningan, serta pengecatan gamelan dan pengemasan. (3) Bahan dan alat, serta proses pembuatan gamelan Bali dapat diintegrasikan ke dalam kurikulum kimia SMA, di antaranya: peran kimia dalam kehidupan, reaksi reduksi-oksidasi, senyawa hidrokarbon dalam kehidupan, sifat fisis dan sifat kimia unsur logam, kegunaan dan dampak unsur logam bagi manusia dan lingkungan

Kata kunci: gamelan perunggu, gamelan besi, tahapan pembuatan gamelan, kurikulum kimia SMA

Exploration and Integration of Ethnochemical of the Bali Gamelan into the High School Chemistry Curriculum

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ABSTRACT

This study aims to describe and explain the materials and tools, the process of making Balinese gamelan, and integrate the basic ingredients in the high school chemistry curriculum that can be integrated with ethnochemical knowledge about materials and tools, and the process of making Balinese gamelan. This study was conducted using a qualitative approach to the type of ethnographic study. The subjects in this study were bronze gamelan and iron gamelan crafters. Sources of data in research, namely materials and tools used in the process of making gamelan, as well as written documents (literature). Data collection methods used were observation, interviews, and literature studies. Data validity checking techniques in this study use member check, source triangulation, and method triangulation. The results of this study were as follows. (1) Materials in the manufacture of bronze gamelan, namely bronze and its tools, including muse, perapen, pinch, fire kidnapping, stamping, hammer, slamming, grinding, grinding, and sandpaper machine. Materials used in the manufacture of iron gamelan, namely iron, pijer glue, and brass, while the tools used include, hammers, iron cutting machines, drilling machines, iron term, plasma cut welding, and moncol stone. (2) Stages in making bronze gamelan, namely: melting bronze, printing shapes, making shapes, smoothing shapes, looking for tones, cleaning, refining gamelan, and packaging. Stages of making iron gamelan, namely cutting iron, welding, forging iron to fit the shape, cleaning and refining, brass attachment, and painting of the gamelan and packaging. (3) Materials and tools, as well as the process of making Balinese gamelan can be integrated into the high school chemistry curriculum, including the role of chemistry in life, the concept of oxidation-reduction reactions, hydrocarbon compounds in everyday life, physical and chemical properties of non-metals, metal uses and effects for humans and the environment.

Keywords: bronze gamelan, iron gamelan, stages of gamelan making, high school chemistry curriculum.