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Supplementary Material

The supplementary material section is in the form of a STREAM approach framework in the Plant Anatomy practicum based on The Next Generation Science Standards (NGSS) in Table 6.

Table 6. Plant Anatomy Structure Model Framework

<table>
<tr><th colspan="2">Concept: Aspects of Science (Plant Anatomy)</th></tr>
<tr><th>Creating the Plant Anatomy Structure Model</th><th>Process: Think-Design-Create-Test</th></tr>
<tr><td>1. Tools and materials to create the Plant Anatomy structure model
2. The steps to create the Plant Anatomy structure model
3. Criteria for a good Plant Anatomy Structure model product
4. Practicum report on the making of Plant Anatomy structure model</td><td>1. Think: identifying problems in making the structure model found in various literature, finding solutions to problems in making the plant anatomy structure model
2. Design: determining the tools, materials, design of the structure model, determining the steps to make the plant anatomy structure model
3. Create: making the plant anatomy structure model according to the design
4. Test: analyzing and testing the Plant Anatomy Structure Model, namely following the design and criteria of a good structure model. The three criteria for a good plant anatomy structure model are as follows: the accuracy of the structure model with credible literature sources, the accuracy of the shape of the cell or tissue parts that make up the plant body (root/stem/leaf anatomy), and the accuracy in naming said cell or tissue parts. If the structure model product does not meet the three criteria, the design can be redone until it achieved good criteria (adapted from Suwarma, 2014; Agustina et al., 2022)</td></tr>
<tr><th>Technology Aspect</th><th>Religion Aspect: Core Competency 1 (Spiritual) on the Revised 2013 Curriculum and WMI Paradigm</th></tr>
<tr><td>Using simple tools (available in the environment) in making the plant anatomy structure model, such as cutters, rulers, scissors, etc.</td><td>Core Competency 1:
1. Respecting and appreciating the teachings of Islam: taking care of natural resources given by Allah. Plants are part of the natural resources given by God to humans. Plants have meristem tissue in the form of apical, secondary, and intercalary meristems. These tissues actively divide into mature tissues that can cause growth and development in plants (Fahn, 1995; Hidayat, 1995). Factors that affect growth include water and nutrients (Taiz & Zeiger, 2010). Therefore, the way to care for plants so that their growth and development are optimal is by giving water and nutrients according to their needs.
2. Living the teachings of Islam: grateful to Allah for the available natural resources. Humans are always grateful for the diversity of plants. One of the benefits of plants is for example the presence of parenchymal tissue in potato tubers (Solanum tuberosum L.) which contains starch as a source of human food.
3. Practicing the teachings of Islam (applying, implementing, and teaching): Biology Education students as teacher candidates can identify, differentiate and compare various tissues that make up roots, stems, and leaves. Students make a practicum report on the creation of a plant anatomy structure model. Students can then re-taught Plant Anatomy when they teach at school according to the subject of Biology in the national education curriculum.
b. “Wahyu Memandu Ilmu” Paradigm:
Many verses of the Qur'an that is generally about plants, such as Q.S. Qaf verse 9 which reads “And We send down blessed rain from the sky, bringing forth gardens and grains for harvest” (Departemen Agama/Ministry of Religion, 2005). One of the factors that affect plant growth is water (Yudianto, 2005). Tissues in plants that are actively dividing are meristem tissue. Primary growth is influenced by apical meristems. Secondary growth is influenced by secondary meristems that develop into cambium (Fahn, 1995; Hidayat, 1995; Agustina et al., 2022).</td></tr>
<tr><th>Engineering Aspect</th><th>Art Aspect</th></tr>
<tr><td>1. Designing a workflow for creating the Plant Anatomy Structure Model
2. Drawing the design of the plant anatomy structure model</td><td>The beautiful appearance of the plant anatomy structure model (paying attention to aesthetics)</td></tr>
<tr><th colspan="2">Mathematics Aspect</th></tr>
</table>

1. Determining the required number of tools 2. Determining the required number of materials 3. Determining the required budget