KNOWLEDGE ON OCCUPATIONAL HEALTH AND SAFETY (OHS) AMONG UNDERGRADUATE STUDENTS

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1. Students work in laboratories need to follow the necessary procedures in handling and storing chemicals.
2. No minimum standards on knowledge on OHS students should acquire
3. Study to understand students’ knowledge on OHS is relatively rarely published, especially in Indonesia.
4. Students’ knowledge on OHS is important to understand to ensure they work healthy and safe
B. REFERENCES

1. Government act No. 74/2001 on Management of hazardous and toxic substances
3. Regional and International Accreditation Standards (AUN-QA, ABBET, THE, etc.)
C. PURPOSE

1. To understand students’ knowledge on OHS, particularly students’ of our population
2. To use the result for further action/policy to improve the curriculum as well as the work of students on laboratories
D. THEORETICAL FRAMEWORK

Theory of Learning
1. Curriculum is defined broadly to include four basic components; goals, methods, materials, and assessment (Ministry of Education, 2006).
2. To learn chemistry, student must direct manipulate chemicals (experiment), study their properties and reactions, (experiment) use laboratory and prudent practices in the laboratory (Ralph, 2011).
3. Revised Bloom Taxonomy for cognitive domain (Anderson and Krathwohl, 2001)
Theory of OHS in laboratory

1. Prudent practices in the laboratory is the necessary procedures for OHS in the handling and storage of hazardous chemicals (Lisa, 2010).

2. Set procedure for chemical handling and management are should be part of the entire life cycle of a chemical, including purchase, storage, inventory, handling, transport, and disposal (Lisa, 2010).
E. METHODOLOGY

1. Quantitative method
2. Using surveys of 21 validated items
   Difficulties of items were developed based on Cognitive Hierarchy of Revised Bloom Taxonomy; **Knowing (9 items)**, **Understanding (7 items)**, and **Analyzing (5 items)**
3. Final decision on quality level of knowledge of students was determined according to five-point scales for knowledge; **very poor** (0 – 20 %), **poor** (21 – 40 %), **average** (41 – 60 %), **good** (61 – 80 %), **very good** (81 – 100 %)

4. Respondents were 183 students of chemistry education of UIN Syarif Hidayatullah Jakarta who were sampled purposively
1. Previously, 50 items were developed and piloted to 38 students.

2. Using item analysis of Rasch Model, 29 items were deleted and the remaining 21 items were used for survey (Item and Person reliability was .96 and .82 respectively)
## Table of results

<table>
<thead>
<tr>
<th>PROCEDURES OF OHS</th>
<th>INSTRUCTIONAL ACTIVITIES</th>
<th>CONSISTED OF QUESTIONS</th>
<th>PERCENTAGE</th>
<th>QUALITY LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>storage</td>
<td>determine storage for hazardous chemicals</td>
<td>6</td>
<td>33</td>
<td>poor</td>
</tr>
<tr>
<td>handling</td>
<td>determine handling for hazardous chemicals</td>
<td>9</td>
<td>34</td>
<td>poor</td>
</tr>
<tr>
<td>disposal</td>
<td>determine disposal for hazardous chemicals</td>
<td>6</td>
<td>47</td>
<td>average</td>
</tr>
</tbody>
</table>

| AVERAGE           | 38                                              | POOR                   |
G. CONCLUSION

Quality of students’ knowledge on OHS was considered poor (38%). None of the items was satisfactorily answered by the students;

In fact, those students sit in a department where chemistry laboratory work is part of their compulsory course.
H. ACKNOWLEDGEMENT

This research has been part of my undergraduate thesis and thus I thank to my supervisors and all my colleagues at the department of chemistry education, Faculty of Tarbiya and Teachers Training, UIN Syarif Hidayatullah Jakarta.
I. RECOMMENDATION

1. Further analysis of data should be taken in order to find a better and more reliable survey
2. Respondents can be expanded in order to develop standardized test on the quality of students’ knowledge on OHS
3. Curriculum of OHS should be considerably reviewed