

## The use of Information Technology Based on Excel in Assessment of Chemistry at Vocational High School Excelin National Curriculum 2017

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### Abstract

Information Technology is something that must be mastered by teacher nowadays. The use of excel in education world is not strange anymore. National curriculum insist effectiveness and efficiency in work of teacher. Assesment needs excel facilities to support administration for teacher. Start from daily exam todescription in LHB/ report book can be applied in excel.

The use of excel is very helpfull for teacher to fulfill administration duty. Excel file for assesment is the best choice for teacher to achieve effectiveness and efficiency in work

**Keywords:** information technology, excel, assessment of chemistry, national curriculum 2017

### Introduction

Information technology is a technology that is used to process data, including to get, to arrange, to keep, to manipulate in many ways, in order to create high quality information. High quality information is information that relevant, accurate, on time, used to personal needs, business, and government. This information is strategic to make decision (Muslim, 2005).

Technology and information advancement gives access for transformation in many sites of social life. That advancement condition is also triggered many changes in education in Indonesia. That is why, education world need to continously flow with the rapid progress of technology and science.

Advancement of technology which penetrated through many sectors in social life makes many problems easy to handle and quick, based on technology system. Administration system will be very easy to handle. Information technology system is totally helpfull.(Sudibyoy, 2011)

Progression of national curriculum year 2017 require teacher to be more effective and efficient especially in assesment at class. Many things must be noted validly in teacher administration, starting from planning until following up action.

Assesment is very important action in education. Many types of assesment must be noted clearly. At the end of the assesment, there must be an existense of description for every student in LHB (Report Book)

Excel is become one of important alternatives to fulfill teacher needs in assesment administration. There are also many assesment aplication in the internet. Advantage of using excel in assesment are cheap and we can print out papers as we want, based on national curriculum requisite.

### **Material and Method**

Excel or Microsoft Excel is a spreadsheet developed by Microsoft for Windows, macOS, Android and iOS. It features calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications. It has been a very widely applied spreadsheet for these platforms, especially since version 5 in 1993, and it has replaced Lotus 1-2-3 as the industry standard for spreadsheets. Excel forms part of Microsoft Office.

This paper is created based on writter experience and also use Simple R&D Techniue (Research and Development/ *Penelitian dan Pengembangan*). This research and development uses 20 chemistry teacher at SMK in Gunungkidul Yogyakarta region as sample. There are 44 SMk in Gunungkidul. Hopefully, this product can be used by all chemistry teacher all around Indonesia. Sugiyono (2010:158) tells, there are 10 steps in Research and Development Technique as depicted below.

### **Assesment in National Curriculum Year**

Curriculum year 2013 or known as Kurtilas has been changed many times especially in assesment point. Many kind of assesment must be done by teacher and also must be greatly documented.

Implementation of Learning outcomes Assesment by teacher is form of professionalism of teacher as said in regulations number 14 year 2005 about teacher and lecturer. Learning outcomes Assesment can not be separated from

education process. That is why, learning outcomes assesment reflects teacher capability as professional educator.

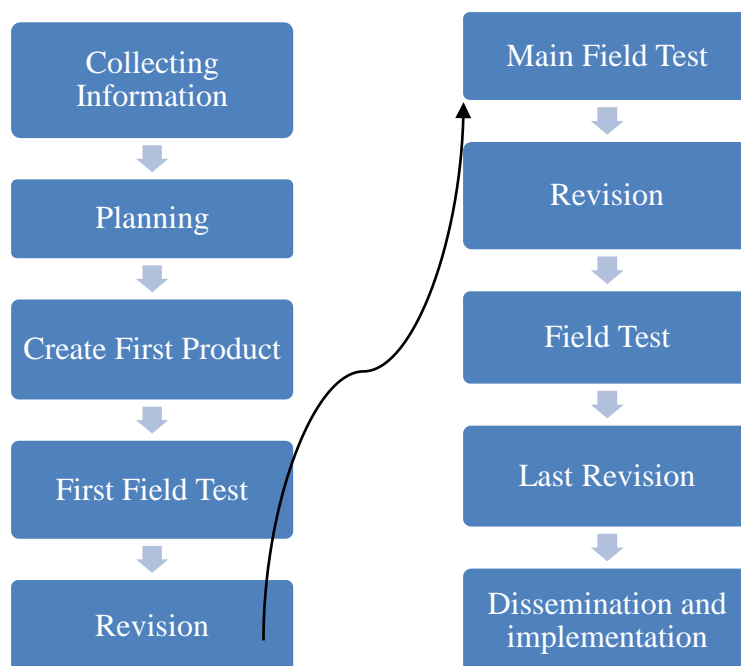


Fig. 1. Development Steps Based on Borg and Gall

In *standard-based education*, *competency-based curriculum*, and *mastery learning* contexts, process assesment and outcomes assesment are parameter of minimum achievement of student. many approaches, strategies, methodes, techniques, and education models must be developed to facilitate student. Student must be facilitated to make them easier to study and to make them achieve result in education. Assesment coverages attitude, knowledge, and skills.

Assessment of Learning Outcomes (PHB) by the Education Unit is the process of collecting information / data about learning achievement of learners in the aspect of knowledge and skill aspects, done in a planned and systematic manner, done at the end of the unit of education. Assessment of Learning Outcomes by Educators serves to monitor learning progress, monitor learning outcomes, and detect the need for continuous improvement of learners.

Assessment of education as the process of collecting and processing information to measure the achievement of learning outcomes of learners in accordance with predetermined assessment standards. Assessment types include daily assessment, midterm assessment, final semester assessment, competency level examination, school / madrasah final examination, Competency Level Exam (UTK), Skills Competency Test (UKK), and national exam. Assessment techniques used include observation, written tests, oral tests, assignments, performance, projects, and portfolios

### **Product**

Product is excel file that consist of many sheets. This file contain basic data of students, such as student number, KKM, name of subject, etc. Sheets are linked to each other.

First sheet of the product consist of Daily Test Assesment Analysis, including remedial analysis. The other sheet is structured task sheet, and so on. The last sheet is the final mark for report book. Description for every student is added automatically.

### **Result and Discussion**

Based on this simple research, there are many important things, such as :

1. Based on the initial questionnaire the author distributed, all samples (100%) stated that they needed a computer program on the assessment. And most of them (80%) are still administering the assessment manually using simple pen-paper, word and excel.
2. Based on the initial questionnaire distributed by the author, most (90%) find it difficult to understand the administration required by the national curriculum so that it requires clear guidance on what administrative bills should be.
3. Based on the excel file that validated the curriculum experts, some improvements is made especially in KKM thing.
4. Based on initial field test, notes from the teachers(sample) are: some unconnected link (50%), writing error (70%), additional sheet (0%), additional column (0%).

5. Based on the main field test, the notes from the teachers(sample) are: some unconnected links (0%), writing error (0%), additional sheet (0.5%) ie attendance list, enrichment list, (0%). 87% satisfaction rate which means very satisfied, Level requirement 100% which means all respondents feel need this excel file in administration
6. Dissemination is done at UII seminar
7. Last product revision is used at education in year education 2017/2018.

Respondents / samples, teachers, felt helped by an excel program that is made to fulfill administration of assessment. Especially in writing the description, because teachers usually should look at one by one for each learners to make one simple description in report book.

### **Conclusion**

Excel file that contain assesment administration of national curriculum year 2017 is very needed by teacher nowadays. It increases teacher's work effectivly and efficiently. This excel file can be developed for Indonesia education progression. This excel file consist of many important sheets : 1) First Data, 2) Daily Exam Analysis and Remedial Analysis, 3) Midsemester Analysis, 4) Structured tasks and Unstructured tasks, 5) Skills Grade, 6) List of practice attendances, 7) Remedial Grade, 8) List of remedialattendances, 8) Final Grade, 9) Final Grade Analysis, 9) Sheet of Description formulation, 9) Sheet of Grade for Report Book

### **References**

- Anonim. (2011). *Modul Pembelajaran Microsoft Excel 2007 Tingkat Mahir*. Bagian Pengembangan Pegawai Setditjen Perbendaharaan (1-41)
- Direktorat Pembinaan SMK. (2017). *Spektrum Keahlian Pendidikan Menengah Kejuruan*.
- Dirjen Dikdasmen Kemdikbud. (2017). *Bimbingan Teknis Implementasi Kurikulum 2013 SMK. Materi Analisis Penilaian Hasil Belajar*.
- Haryati, Sri. (2012). *Research and Development Sebagai Salah Satu Model Penelitian dalam Bidang Pendidikan*. (Vol. 37 No 1: 11-26)
- Kemdikbud Dirjen Dikdasmen. (2015). *Panduan Penilaian pada SMK*.

# PROCEEDING

The 2<sup>nd</sup> International Seminar on Chemical Education 2017  
September, 12-13<sup>th</sup> 2017



Muslim. (2005). *Teknologi Informasi dalam Pendidikan*.  
([www.informatika.lipi.go.id/jurnal](http://www.informatika.lipi.go.id/jurnal) 1-11)

SK Dirjen Dikdasmen No 130 Tahun 2017 Tentang *Struktur Kurikulum SMK*.

Sudiby, Lies. (2011). *Peranan dan Dampak Teknologi Informasi dalam Dunia Pendidikan di Indonesia* (volume 20: 175-185)

Sugiyono. (2010). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung : Alfabeta