



UNIVERSITAS NEGERI YOGYAKARTA

CHEMISTRY EDUCATION RESEARCH INSTRUMENT





The Chemistry Education Research Instrument course equips students in the practice of developing the test and non-test instruments to be used in chemistry education research that meet the requirements of good instruments including the validity and reliability analysis using certain software.

Through this course, students not only trained to prepare general test instruments, but also the context-based chemistry problems using local context.



Chemistry Education Research Instrument

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Why are instruments important in chemical education research?

What is a research instrument?

What are the types of instruments in Chemistry Education research?

What are the criteria for a good chemistry education research instrument?

How are good instruments obtained?



After finishing this course, students are able to:

1

- demonstrate the value of honesty, independence and responsibility in determining attitudes in the process of developing good chemistry education research instruments

2

- analyse the concept of a good instrument, its development procedure in producing a reliable instrument for retrieval of research data with the help of software

3

- collaborate with colleagues to support appropriate decision making regarding the selection and procedure for developing chemistry education research instruments to provide appropriate solutions in solving certain problems

4

- develop educational research instruments for collecting research data in the field of chemistry education

5

- analyse reliable educational research instruments for collecting research data in the field of chemistry education

6

- develop context-based chemistry problems using local home country context



Course Outline

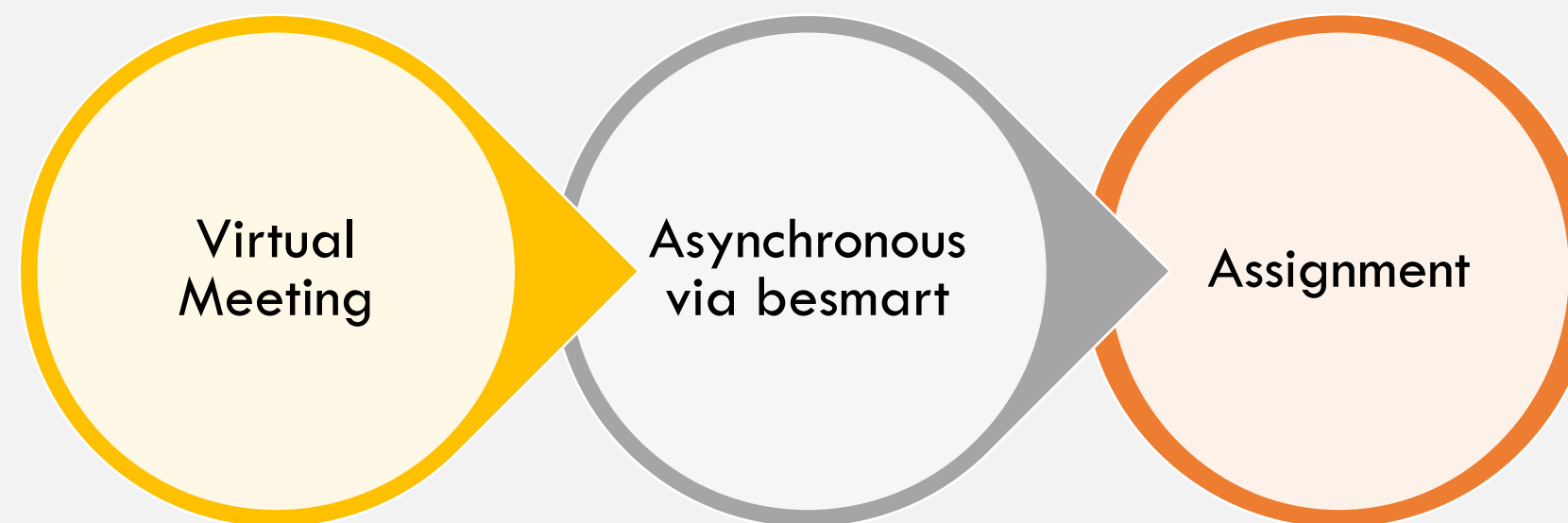
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Week	Course Material	Learning Methods	Task
1	Introduction to Chemistry Education Research Instrument	Virtual Meeting	-
2	Types and Forms of Chemistry Education Research Instrument	Virtual Meeting	-
3	Procedure for developing research instrument	Virtual Meeting	-
4	A good research instrument characteristics	Virtual Meeting	Analysis of good research instrument
5	Practice for developing test research instrument	Blended learning	Draft test research instrument
6	Presentation of test research instrument that has been developed	Virtual Meeting	Reflection sheet of presentation
7	Practice for developing non-test research instrument (questionnaire)	Blended learning	Draft questionnaire
8	Presentation of non-test research instrument that has been developed (questionnaire)	Virtual Meeting	Reflection sheet of presentation
9	Mid term exam	Asynchronous BESMART	-
10	Practice for developing non-test research instrument (observation sheet)	Blended learning	Draft observation sheet
11	Presentation of non-test research instrument that has been developed (observation sheet)	Virtual Meeting	Reflection sheet of presentation
12	Practice for developing context based chemistry problem	Blended learning	Draft CBCL problem
13	Presentation of context based chemistry problem that has been developed	Virtual Meeting	Reflection sheet of presentation
14	Practice for making validation sheet	Blended learning	Draft validation sheet
15-16	Practice for analysing validity and reliability instrument	Blended learning	Validity & reliability analysis



Main Objective: Preparing a good quality of chemistry education research instrument

Learning Methods





BeSmart: Choose FMIPA, Pendidikan Kimia,
Chemistry Education Research Instrument with
the enrollment key of: instrument

<https://besmart.uny.ac.id/v2/course/view.php?id=8577>

Zoom Meeting

WhatsApp for communication purpose about
learning methods



On camera and mute microphone while did not speaking

Technical problems and absenteeism must deliver before the class starts

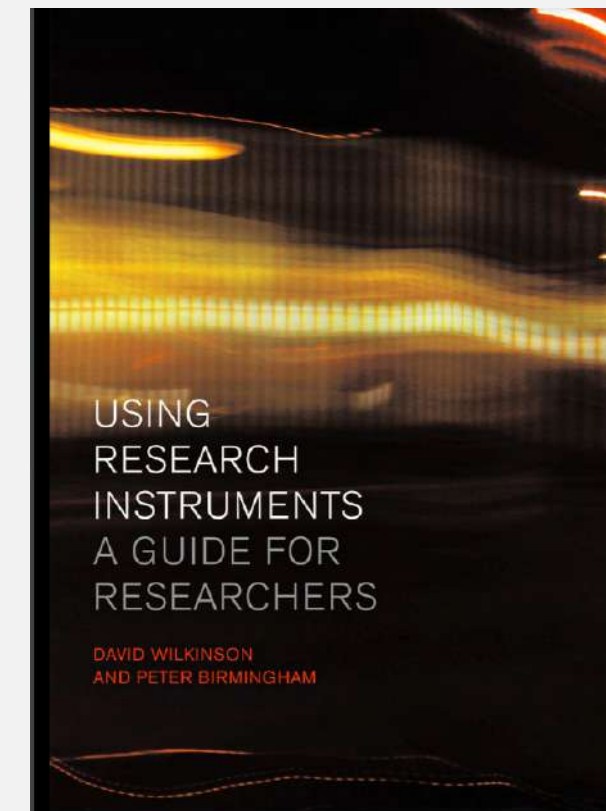
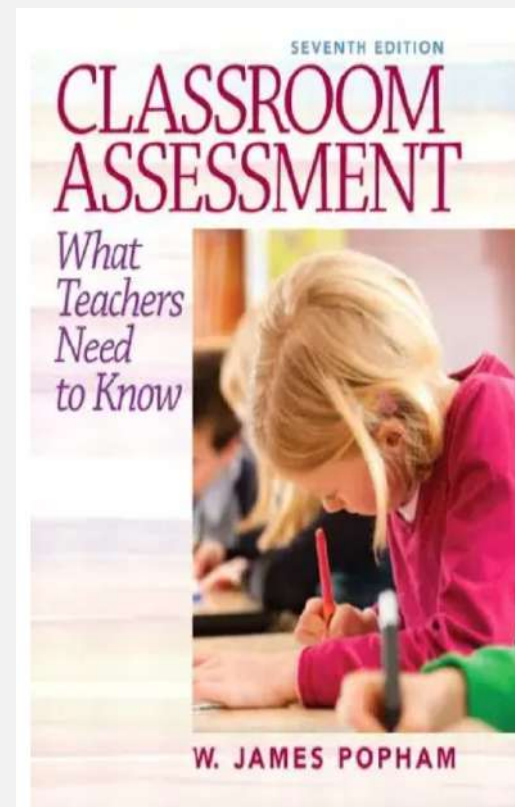
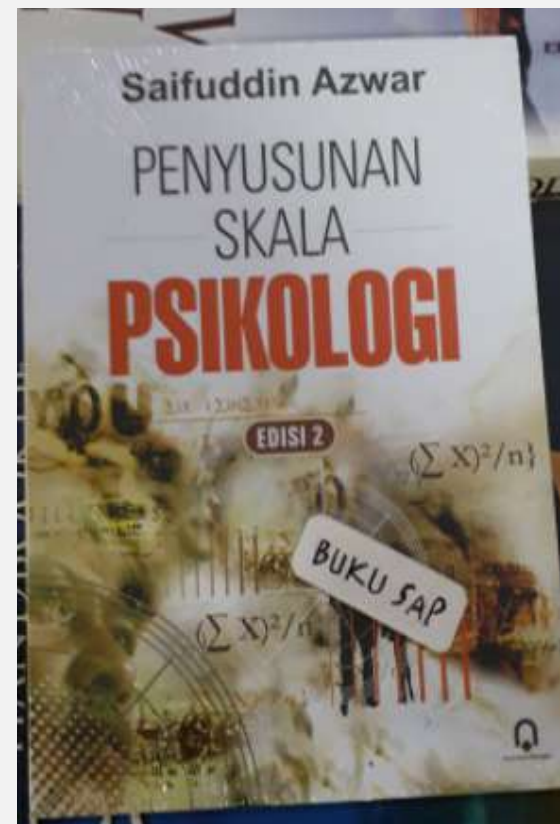
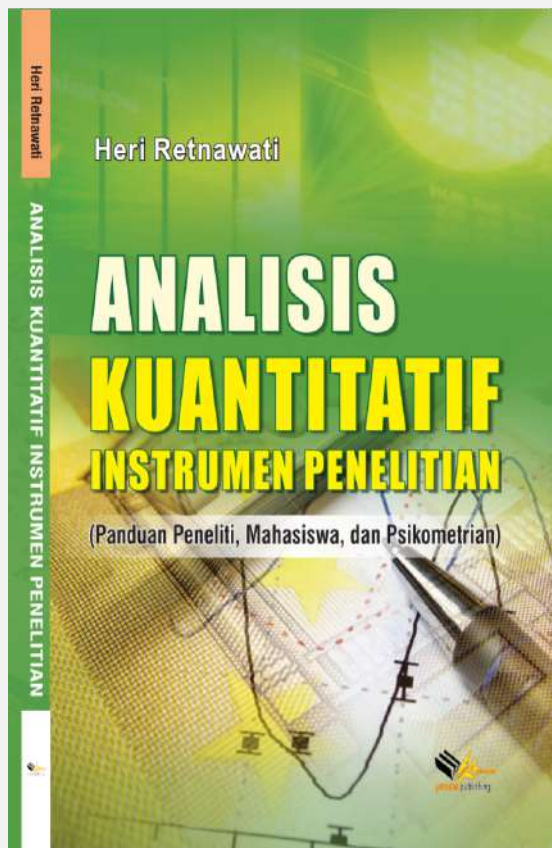
Actively participate in teaching and learning activities

Zero tolerance for plagiarism

Change the name of the assignment/exam file according to the format before uploading via besmart



Main References:



Supporting References:

International Reputable Journal about Chemistry Education Instrument



Activity

15%

Individual Task

45%

Mid Term Exam

20%

Final Exam/ Project

20%

The final grade of this course is determined based on the benchmark reference, as follows:

A if final score = 86-100

A- if final score = 81-85

B+ if final score = 76-80

B if final score = 71-75

B- if final score = 66- 70

C if final score < 66

Thank You
Any Question?

