TALOE Project Assessment of learning (1st part)

ALOA Model (Rita Falcão)

Presented by Alfredo Soeiro
EUCEN Autumn Seminar, Brussels, 16Nov15

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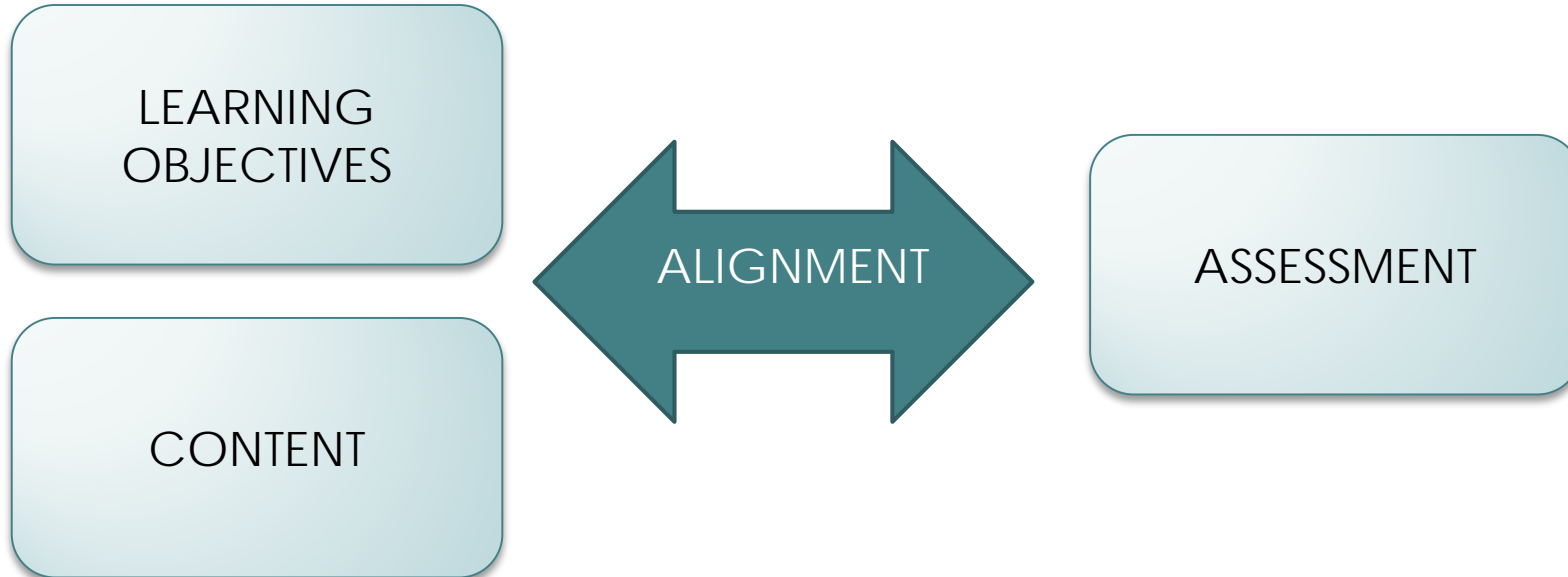
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What should be assessed?

LEARNING OUTCOMES ⟷ ALIGNMENT ⟷ ASSESSMENT

*What do we
hope students will learn?*

*How do we know that
they have learned?*

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Before: What will we teach our students?

LEARNING OBJECTIVES

CONTENT

ALIGNMENT

ASSESSMENT

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Why change?...

- Qualification - **skills and competences** (new?)

- Mobility and **recognition**

- **Quality** approach and accreditation

THE FOCUS IS ON THE STUDENTS!

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Learning Outcomes

Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of learning.

(AHELO - Assessment of Higher Education Learning Outcomes by OECD)

A common language, building blocks, genetic code

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Assessment

Assessment: Any procedure used to estimate student learning for whatever purpose.

(Brown et al)

e-Assessment is the use of ICT and the Internet in particular for the assessment of learning, including design, delivery and/or recording of responses.
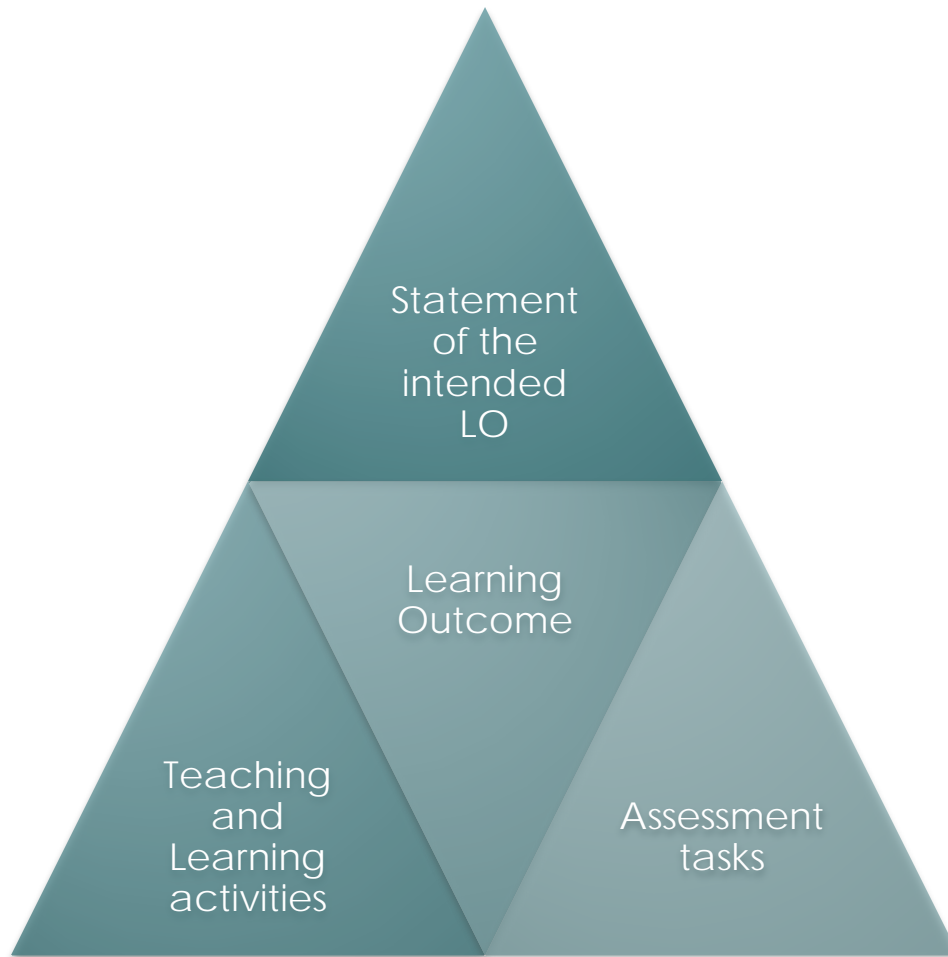*(JISC)*

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Categories of assessment

- Multiple choice questions

- Short Answer Questions

- Problems

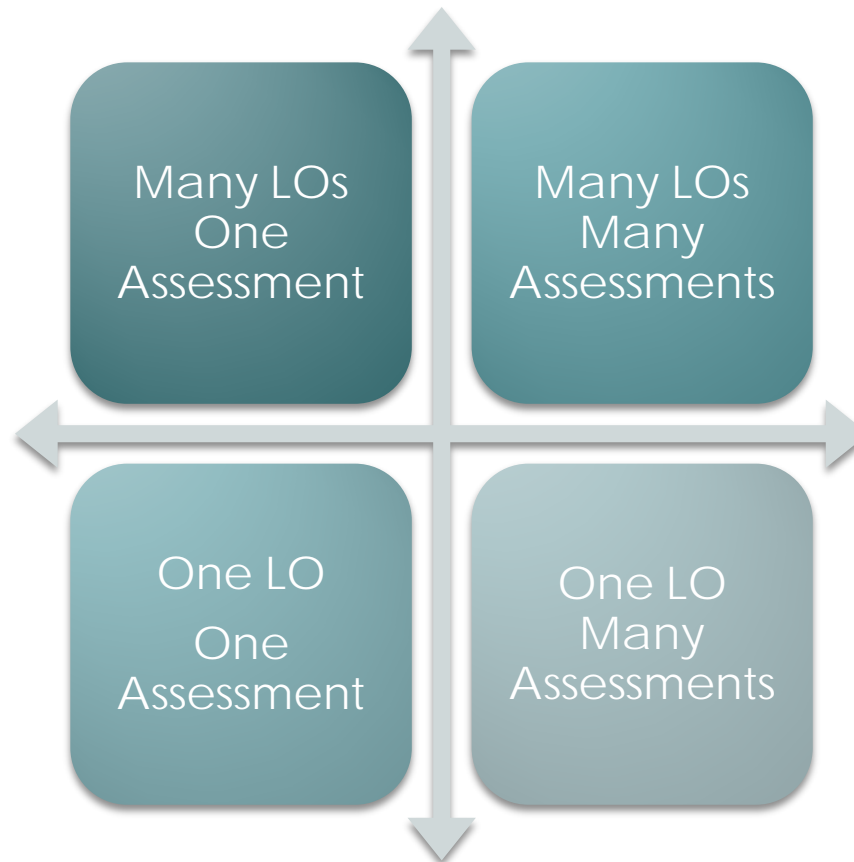- Essays

- Practical work

- Reflective practice

Alignment

Statement of the intended LO

Learning Outcome

Teaching and Learning activities

Assessment tasks

Alignment: The level of correspondence between objectives, instruction and assessment.

(Anderson et al)

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Alignment scenarios

At course level…

Many LOs One Assessment

Many LOs Many Assessments

One LO One Assessment

One LO Many Assessments

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Simple problem…?

Learning Outcomes → Assessment

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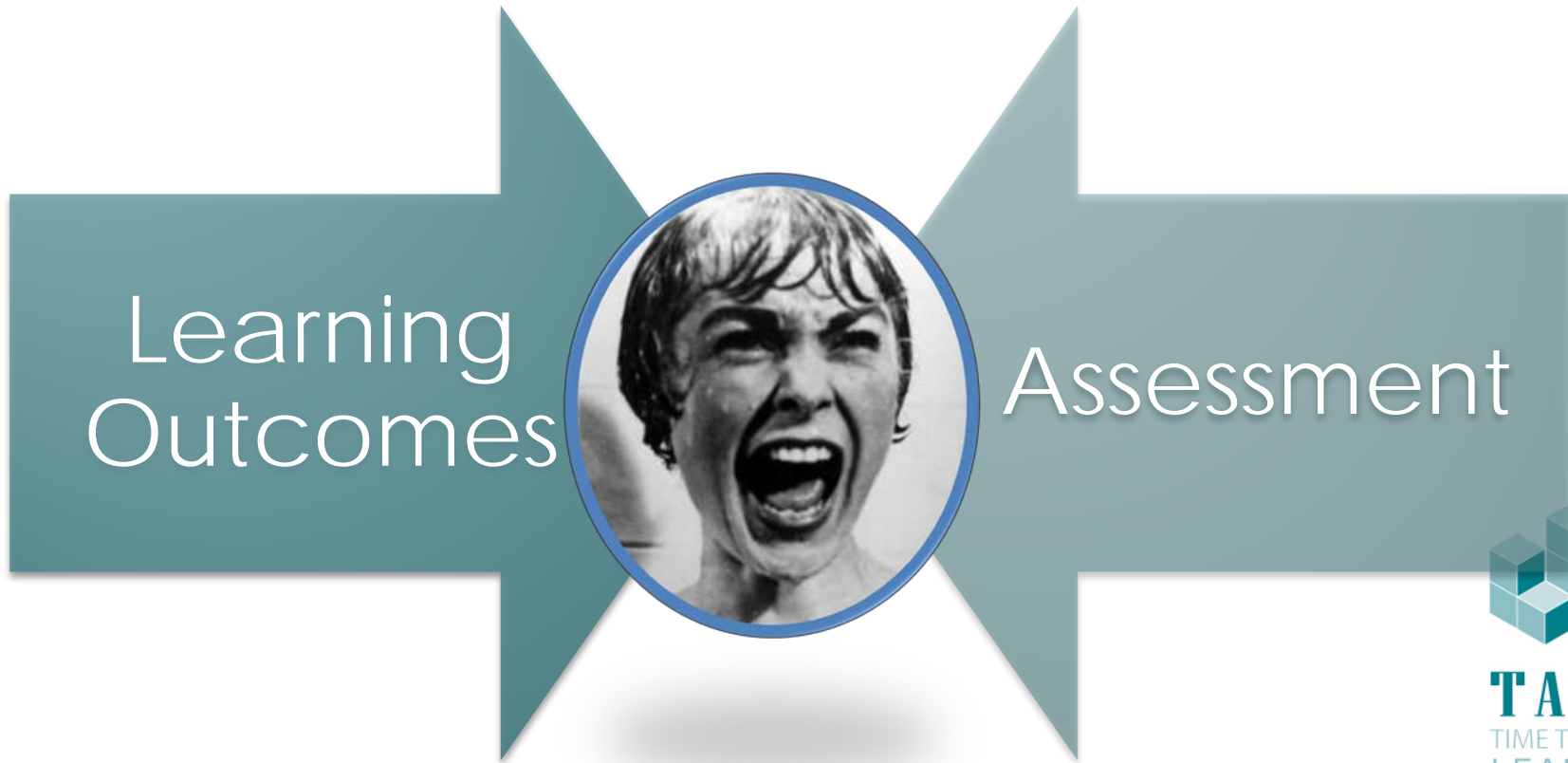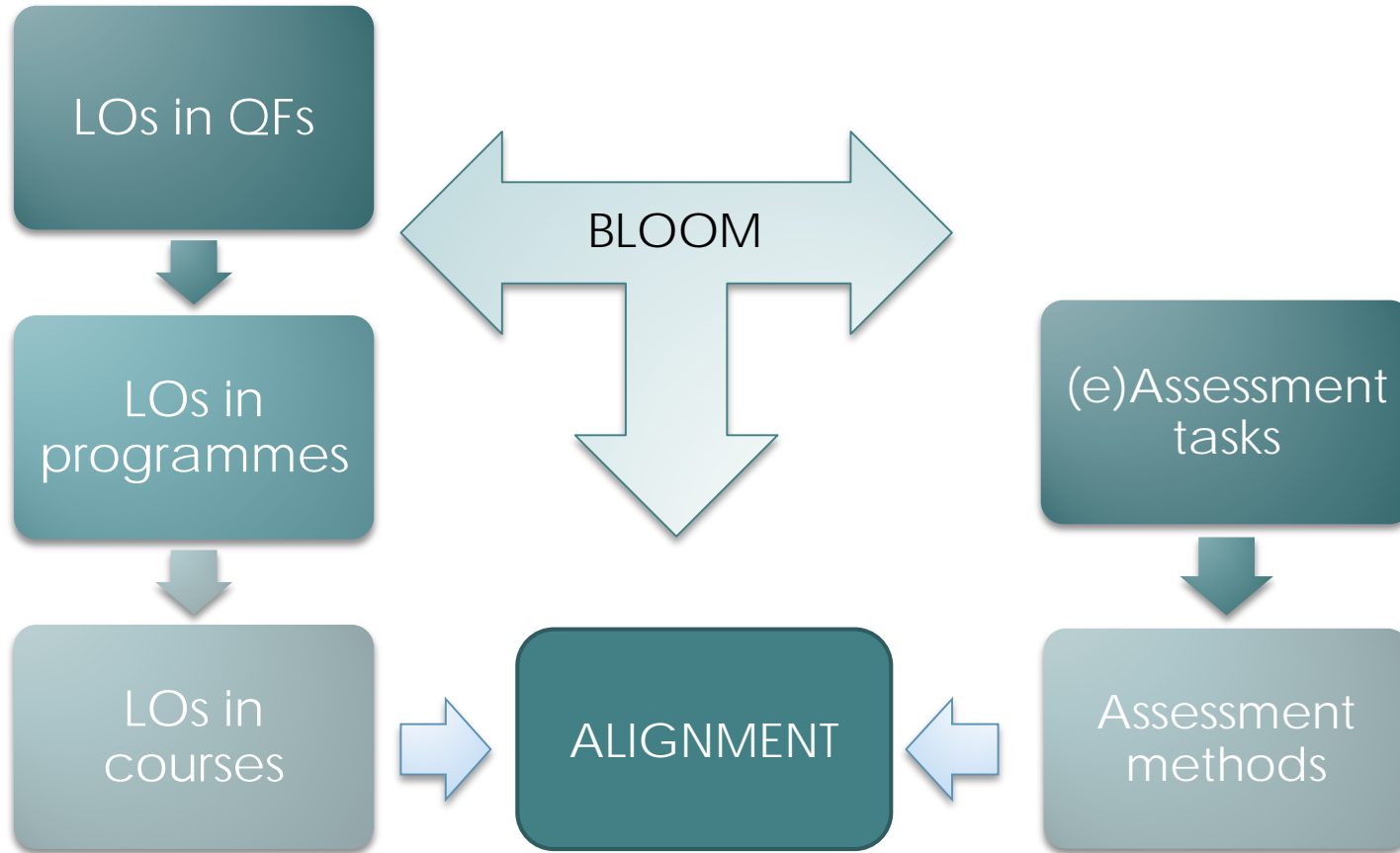
The ALOA conceptual model

Analysis of LOs with BLOOM (revised)

The student should be able to describe the main components of a personal computer.

NOUN / KNOWLEDGE

VERB / COGNITIVE PROCESS

Bloom's Taxonomy *(revised by Anderson et al)*

Cognitive processes

- Remember

- Understand

- Apply

- Analyze

- Evaluate

- Create

Type of knowledge

- Factual

- Conceptual

- Procedural

- Metacognitive

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Teacher with NEW course

- Write LOs statements

- Define content

- Define learning activities

- Define assessment

- Ensure alignment ◄ ALOA

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TALOE – Time to Assess Learning Outcomes in E-learning

Promote the internal consistency of online courses by using the ALOA model (Aligning Learning Outcomes and Assessment).

Develop a web-based tool to help teachers and trainers decide on the e-assessment strategies to use in their online courses.

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Specific goals of TALOE

- Research and select innovative e-assessment practices that take advantage of the use of technology;

- Develop a web-based tool that is easy to use by the stakeholders;

- To test the implementation of the tool with real case studies;

- To distribute and disseminate the TALOE tool among the communities of stakeholders.

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TALOE CONSORTIUM

- Universidade do Porto (UPORTO) - Portugal (coordinator)

- Gábor Dénes Főiskola (DGC) - Hungary

- Sveučilišni računski centar Sveučilišta u Zagrebu (SRCE) - Croatia

- Innovate4Future - Center for Advanced Educational Solutions (I4F) - Romania

- Università degli Studi di Padova (UniPD) - Italy

- European Distance and E-Learning Network (EDEN) - United Kingdom

- European University Continuing Education Network (EUCEN) - Belgium

- Hariduse Infotehnoloogia Sihtasutus (HITSA) - Estonia

- Universidad Nacional de Educación a Distancia (UNED) - Spain

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TALOE target groups

- **teachers and trainers of online or blended courses** from all levels of education: they may use the TALOE tool to define e-assessment strategies for their courses or modules.

- **researchers** dealing with learning outcomes and e-assessment;

- **recognition and accreditation staff** may use TALOE to verify the validity of assessment methods of prior learning or to provide evidence for accreditation of programmes;

- **programme developers** may use TALOE to define e-assessment strategy recommendations for new online programmes;

- **decision makers** may use TALOE to define valid e-assessment strategies for their institutions;

- **quality assurance officers and experts** for checking constructive alignment of LOs with other elements in a course;

- **networks and initiatives** operating in the fields of LOs, assessment, vocational education and training, higher education, continuing education and recognition & accreditation.

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STEP 2: Build rBloom matrix

KNOWLEDGE

Procedural
Conceptual

COGNITIVE PROCESS

Understand: interpreting
Apply: implementing
Evaluate: checking,
critiquing
Create: planning,
producing

		FACTUAL	CONCEPTUAL	PROCEDURAL	METACOGNITIVE
REMEMBER	**Recognizing**				
	Recalling				
UNDERSTAND	**Interpreting**		X		
	Exemplifying				
	Classifying				
	Summarizing				
	Inferring				
	Comparing				
	Explaining				
APPLY	**Executing**				
	Implementing		X	X	
ANALYZE	**Differentiating**				
	Organizing				
	Attributing				
EVALUATE	**Checking**		X	X	
	Critiquing		X	X	
CREATE	**Generating**				
	Planning		X	X	
	Producing		X	X	

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Backwash effect (Biggs)

Perspective of the teacher

LOs	→	TLAs	→	Assessment

Perspective of the student

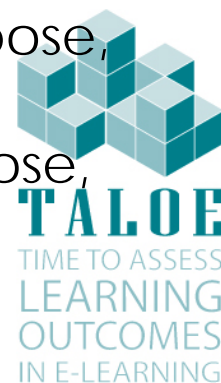| Assessment	→	LOs	→	TLA

MCQ

- Remember - Question includes who, what, why, when, where, which, choose, find, how, define, label, show, spell, list, match, name, relate, tell, recall, select

- Understand - Test item asks to compare, contrast, demonstrate, interpret, explain, extend, illustrate, infer, outline, relate, rephrase, translate, summarize, show, classify

- Apply - Test item asks to apply, build, choose, construct, develop, interview, make use of, organize, experiment with, plan, select, solve, utilize model, identify

MCQ (cont.)

- Analyse - Test item asks to discriminate, infer, outline, separate

- Evaluate - Test item asks to award, choose, conclude, criticize, decide, defend, determine, dispute, evaluate, judge, justify, measure, compare, mark, rate, recommend, rule on, select, agree, interpret, explain, appraise, …

- Create - Test item asks to build, choose, combine, compose, construct, create, design, develop, estimate, formulate, imagine, invent, make up, originate, plan, predict, propose, solve, suppose, discuss, modify

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Essays

- Speculative
- Quote to discuss
- Assertion
- Write on
- Describe/explain
- Discuss
- Compare
- Evaluate
- Problem

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Problem solving

- Simple closed ended

- Complex closed ended

- Open ended

- Routines

- Diagnosis

- Strategy

- Interpretation

- Generation

Practical work

- Demonstration - used to demonstrate theoretical principles, usually performed by the teacher or assistant. The student is given the aim of the practical, materials, method and answer and is only expected to recall previous knowledge and understand what is being shown.

- Exercise - These are very structured practical experiments in which the student is given the aim, materials, method and is expected to get to the results that are also well known to the teacher. Student should follow instructions and learn techniques, manipulation, observation and reporting skills.

Practical work (cont.)

- Structured enquiry - This type of practical is less structured and more open. The student is given the aim of the activity and might be given part of the materials and methods to use. Students are expected to select materials and methods to get to results.

- Open enquiry - Given a problem and constraints student will have to formulate it, choose and design the experimental procedures, interpret the results and implications. The student will be most likely, making judgments as he proceeds.

- Project - With freedom of definition of the aims student can choose materials and methods. This is usually the longest and more open type of practical that enables students to develop research skills.

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SAQs (Short Answer Questions)

- Select crucial evidence

- Explain methods, procedures and relationships

- Present arguments

- Describe limitations of data

- Formulate valid conclusions

- Identify assumptions

- Formulate hypothesis

- Formulate action plans

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Reflective practice (Kolb learning cycle)

- Concrete experience - Is the 'doing' component of the cycle of reflection

- Reflective observation - Student will describe and critically reviews his/hers learning experience

- Abstract Conceptualisation - Learner will draw conclusions regarding what has happened during his learning experience

- Active Experimentation - The student will design a plan to incorporate the conclusions from his reflection into new learning experiences to improve them, starting a new learning cycle

MCQ	Computer based test / online testing, Optical reading, CAT (Computerized Adaptive Testing)
Essays	File Upload, Essay Question in online exam, Discussion Forum Published media, Wiki, Concept maps, Videoconferencing, Chat
Problem solving	Computer based test / online testing, File upload, Chat, Concept maps and Diagrams, Simulation, Scenario-based activity
Practical Work	File upload, Computer based tests/Online testing, Video file, animations and sequence of images, Videoconferencing, Diagrams Publish media or wiki, Chat and discussion forum, Virtual Labs and Remote Labs, Simulation, Scenario-based activity, Game based learning
SAQs	Computer based test / online testing, Chat or Forum, Concept maps and Diagrams
Reflective Practice	Portfolios

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Questions for next 30 minutes

a) Are any assessment methods forgotten and should have been considered?

b) The model is applicable to all areas of study and learning?

c) Is the model of alignment depending on the context of discipline?

d) Can the model be improved?

e) Can the model be validated and how?

(each group should at least answer two questions)

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Thank you!

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