Integrating Competency-Based Assessment and Informed Decision-Making for Effective Learning Outcomes

The 41th AEAA Annual Conference
Addis Ababa, Ethiopia
August 24, 2025

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Agenda

08.30 – 08.45	Welcome, Agenda and Acquaintance
08.45 – 09.00	Introduction Lecturer and RCEC
09.00 – 09.15	Competency-Based Principles
09.15 – 10.30	Interactive Group Assignment 1 + 2
10.30 – 11.00	Coffee Break
11.00 – 11.15	Informed Decision Making
11.15 – 11.45	Interactive Group Assignment 3 + 4
11.45 – 12.00	Questions & Group Discussion
12.10 – 12.15	Future Assistance by RCEC
12.15 – 12.30	Recap, Questions, Feedback and Evaluation Form

Speed Meeting

- Say your name

- Tell where you are from

- Tell which organization you work for

- Tell what your current role is in your organization

- And tell one unique talent you have

Dr. Arnold J. Brouwer

✓ International Assessment Expert in Educational Measurement and Psychological Testing

✓ PhD on Systems-oriented Talent Management (STM)

✓ Director Research Centre for Examination and Certification

✓ Guest Lecturer and Researcher at University of Twente

Arnold Brouwer has conducted audits, training courses and workshops in:

Azerbaijan, Curaçao, Jamaica, Kazakhstan, Mexico, South Africa, Uganda, Zambia, The Netherlands

RCEC – Corporate Profile

Research Centre for Examination and Certification

Building Quality and Trust in Examination

RCEC - Audit and Certification

As a Certification Authority, we assess the quality of examinations and award the RCEC Certificate to those that meet our standards.

We contribute to large national and international examination systems in both formal and non-formal education.

Our Work - Audit and Certification

RCEC – Research and Innovation

As an independent Centre of Expertise, we conduct research, innovate, and deliver high-quality solutions for fair, reliable, secure, and valid examinations.

Our Work **–** Research and Innovation

RCEC – Training and Development

From our State-of-the-Art Academy, we offer tailored training and development programmes to support capacity building.

We also actively share knowledge through publications and conference presentations.

Our Work – Training and Development

Finished Research Projects

- Research on fundamental questions about examinations in secondary education in The Netherlands, commissioned by the Ministry of Education (https://www.nro.nl/nieuws/fundamentele-vragen-over-examens-en-toetsing-het-voortgezet-onderwijs).

- Research into possibilities and conditions for the use of public item banks in the civic integration exams, commissioned by the Ministry of Social Affairs (https://www.rcec.nl/en/news/research-on-civic-integration-exams-based-on-public-itembanks/).

- Research on the quality of the standardisation of final tests in primary education, commissioned by the ministry of education (https://www.tweedekamer.nl/kamerstukken/brieven_regering/detail?id=2022Z04753&did=2022D09651).

- The development of the Assessment Frameworks for Passage Tests and for Pupil Monitoring Systems for primary education, commissioned by the Ministry of Education (https://www.cvte.nl/onderwerpen/toetsen-primair-onderwijs/publicaties-en-regelingen).

PhD studies completed within RCEC

- Dr. Matthieu J.S. Brinkhuis, [Tracking educational progress](#)

- Dr. Arnold J. Brouwer, [Systems-oriented talent management, a design and validation study](#)

- Dr. Hiske Feenstra, [Assessing writing ability in primary education](#)

- Dr. Maaike M. van Groen, [Adaptive testing for making unidimensional and multidimensional classification decisions](#)

- Dr. Qiwei He, [Text mining and IRT for psychiatric and psychological assessment](#)

- Dr. Dorien Hopster – den Otter, [Formative assessment design: a balancing act](#)

- Dr. Fabiënne van der Kleij, [Computer-based feedback in formative assessment](#)

- Dr. Sebastiaan de Klerk, [Multimedia-based performance assessment in Dutch vocational education](#)

- Dr. Maarten Marsman, [Plausible values in statistical inference](#)

- Dr. Caroline F. Timmers, [Compter-based formative assessment: variables influencing feedback behavior](#)

- Dr. Jorine A. Vermeulen, [Diagnostic Mathematics Assessment in the Third Grade](#)

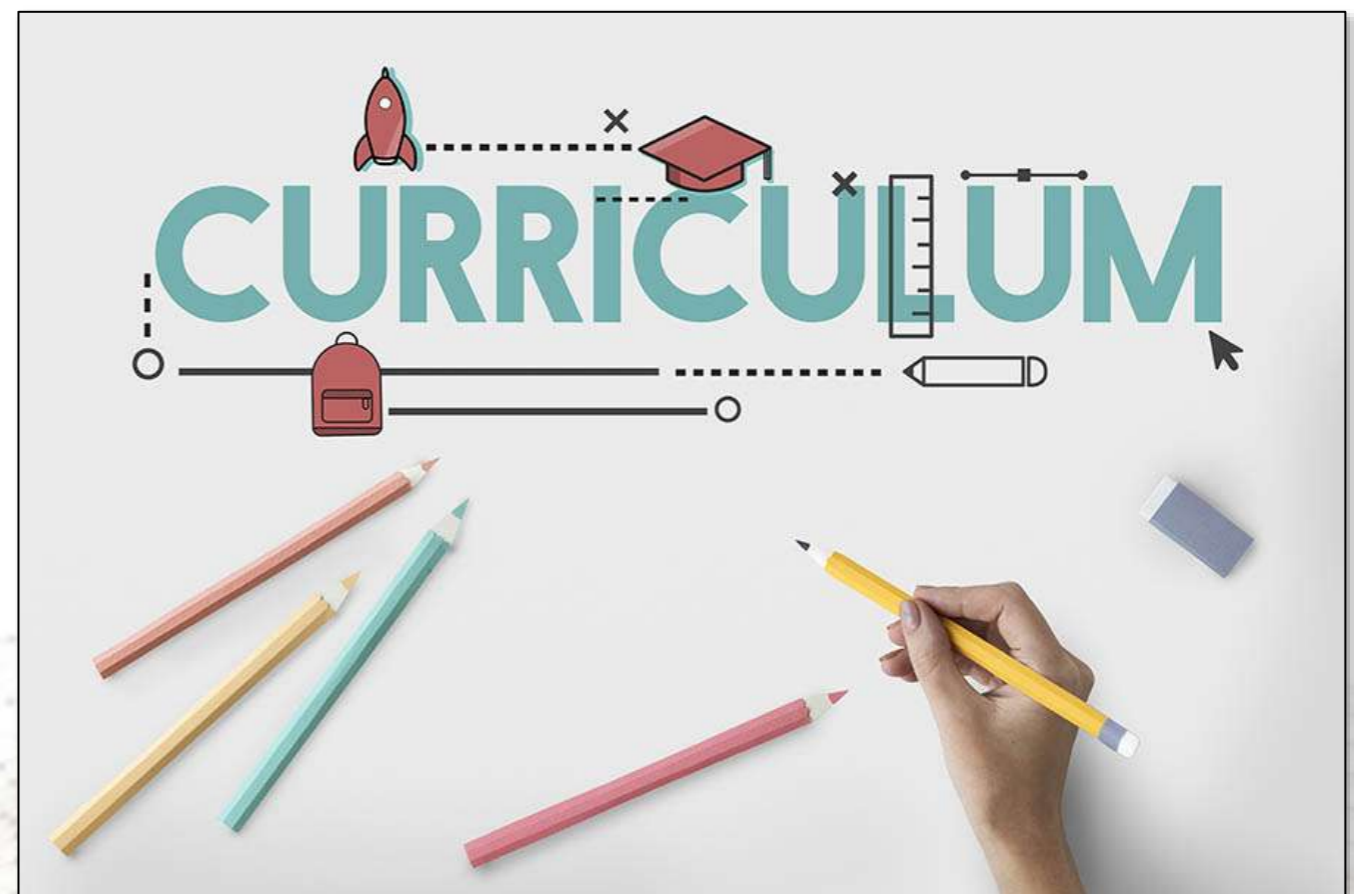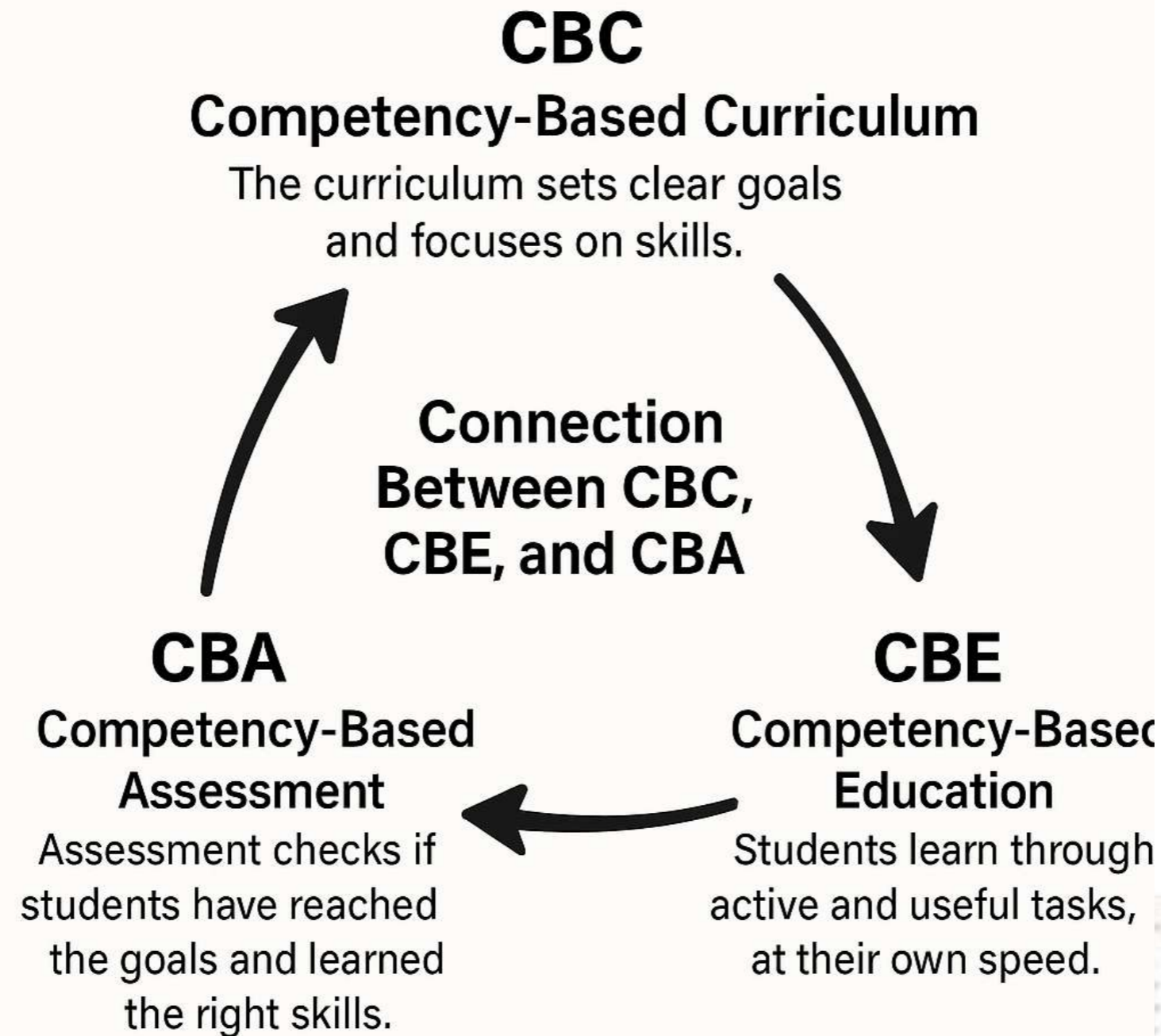- Dr. Saskia Wools, [All about validity, an evaluation system for the quality of educational assessment](#)

Introduction Part I:

The Competency-Based Principles

Competency-Based Curriculum

- Skills and Application at the Centre

- Learning through Active Tasks

- Learning at own Pace

Six Key Features of CBC

1. Clear Learning Goals – Demonstrating ability over knowledge.

2. Practical Learning – Applying knowledge in real situations.

3. Interdisciplinary Approach – Integrating multiple subjects.

4. Active Learning – Encouraging student responsibility.

5. Flexible Learning – Adapting to individual student pace.

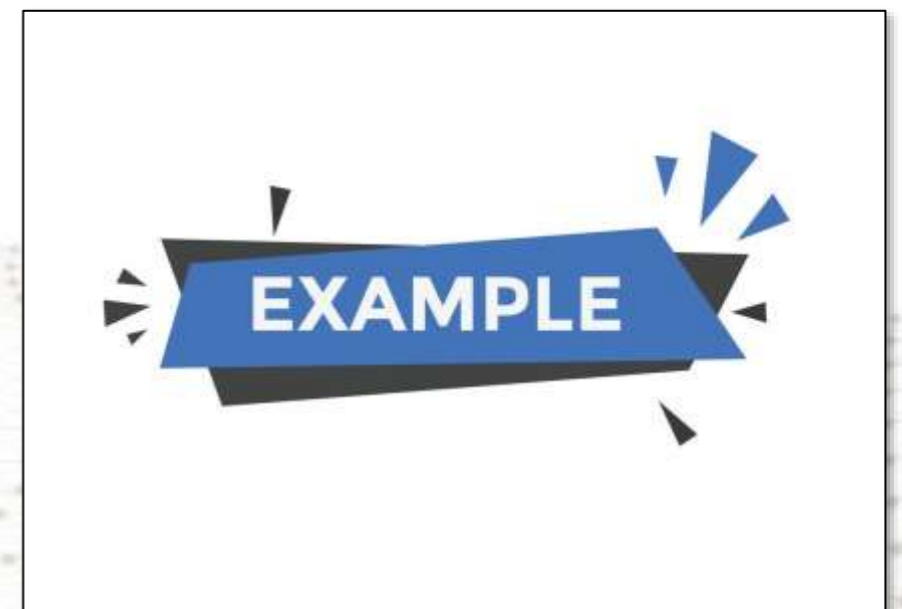6. Real-World Assessment – Evaluating skills through projects.

Practical Application

Example:

Analyse climate data and Present findings

Example:

Business simulation, managing real roles and budgets.

Competency-Based Education

- Focuses on skill demonstration.

- Allows personalised, flexible learning.

- Ensures equal learning opportunities.

Principles of CBE

1. Fairness – Support for all students.

2. Skill-Based Learning – Focus on practical application.

3. Transparency – Clear learning goals.

4. Personalised Support – Tailored learning assistance.

5. Mastery – Full understanding before moving forward.

6. Flexible Pacing – Individual progress tracking.

Competency-Based Assessment

- Evaluates what students can *do*, not just what they *know*.

- Beyond memorisation and written exams.

- Real-world skill application.

Core Competencies

What are learning goals?

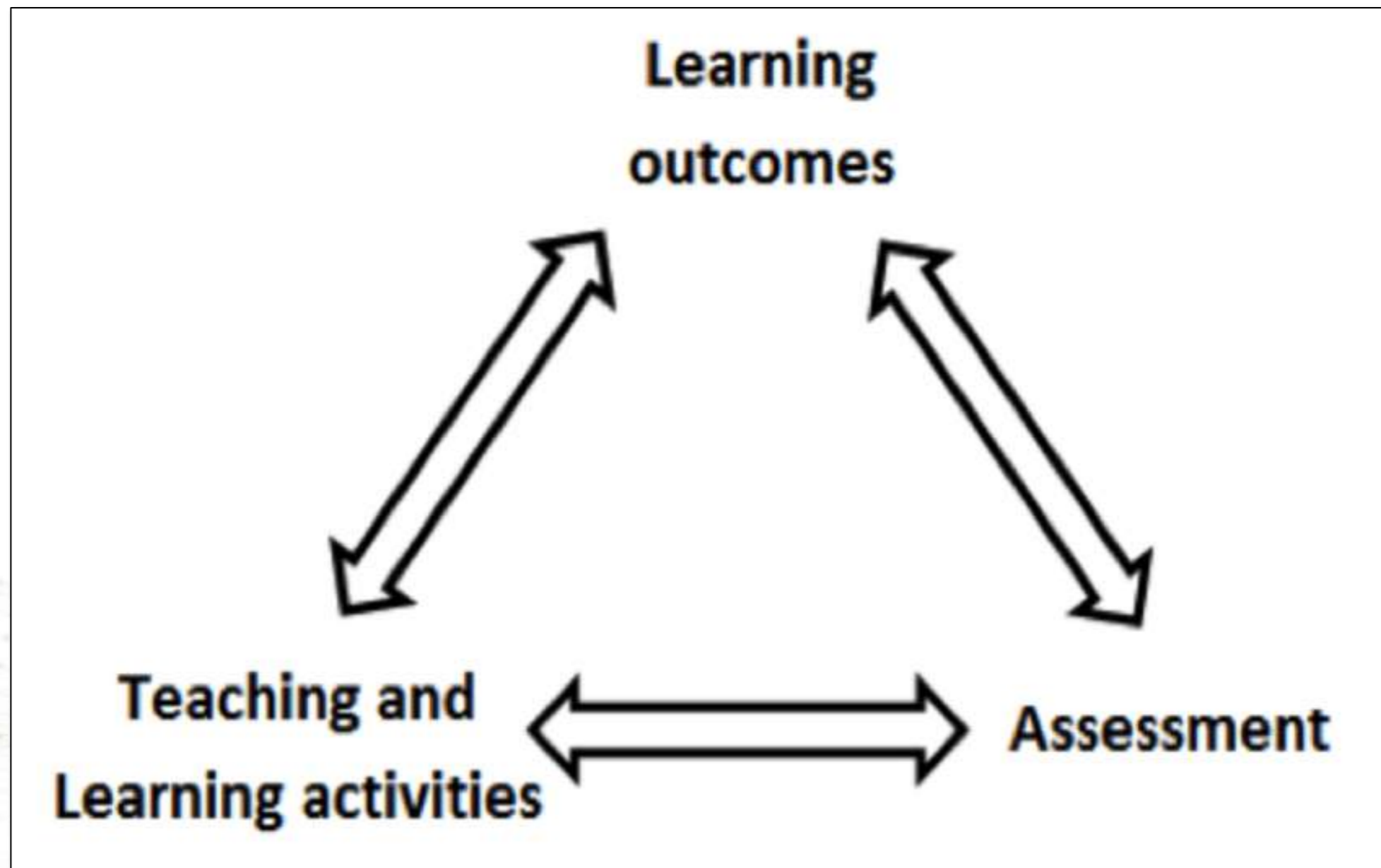Learning goals describe what students:

- Must know

- Must be able to do

- Must understand

Examples:

- Subject-specific: "Students can calculate the area of a triangle."

- General: "Students can work in a team."

Constructive Alignment

FORMATIVE SUMMATIVE

WHEN THE CHEF
TASTES THE SOUP

WHEN THE GUESTS
TASTE THE SOUP

@bryanMMathers   FROM STEVE WHEELER'S BLOG "THE AFL TRUTH ABOUT ASSESSMENT"

Group Assignment 1.1

- Step by step example from a competency-based curriculum

- Subject: English Language, Grade 5 (age 11–12)

- Area: Listening and Speaking

- Example activity: dialogue to share personal information

- **Learning goal: "Share personal information in a conversation"**

- Learning goal is starting point for learning activities and assessment

- Goal, activity and assessment must fit together (constructive alignment)

Group Assignment 1.2

Step 1: Read the goal:

- **"Share personal information in a conversation"**

Step 2: Rewrite the goal in a SMART way:

- Specific: says exactly what the learner must do

- Measurable: clear criteria to check success

- Achievable: realistic for learner and lesson time

- Relevant: matches learner needs and lesson goals

- Time-bound: says when the learner should reach it

Group Assignment 1.3

SMART version:

"By the end of the lesson, learners can share personal information in a conversation. They use the right words and grammar, with not more **than two small mistakes."**

Why is this SMART?

- Specific: says clearly what learners must do

- Measurable: "Not more than two small mistakes" is a clear way to check

- Achievable: possible in one lesson, because some mistakes are allowed

- Relevant: useful for learners, helps them speak in conversations

- Time-bound: "By the end of the lesson" says when the goal must be reached

From Goal to Activity

SMART goal is ready, now choose activities:

- Practise the goal

- Not random

- Link to goal

- Prepare for test

- Stay connected

- Constructive alignment

Group Assignment 2.1

SMART Learning Goal:

- By the end of the lesson, learners can share personal information in a conversation. They use the right words and grammar, with not more than two small mistakes.

- Design 1 short activity (10 min)

- Write what learners have to do

- Write what teacher will observe

- Add 1 idea for beginners and strong learners

Group Assignment 2.2

- Title: Find a Friend

- Time: 8 minutes

- Instruction: Walk around and ask 3 classmates:

  - What is your name?

  - How old are you?

  - What is your hobby?

- Product: Write 3 answers and share 1 with the group

- Differentiation:

  - Beginners: get a card with the questions

  - **Stronger learners: add "Where do you live?"**

30-minute Coffee Break

Time for Questions

What is Informed Decision Making

- Goals and activities are connected

- Next question: Did learners reach the goal?

- We need evidence of what learners can do

- Assessment gives this evidence

- Assessment is not only at the end, it is also during learning

- We use it to make better decisions = Informed Decision Making

Why Informed Decision Making?

- No guessing, use evidence

- Evidence can be:

  - Observation

  - Small task

  - Rubric

- Three key questions:

  - What support does the learner need now?

  - Which activities repeat, adapt, extend?

  - How to adjust the programme?

Informed Decision Making Cycle
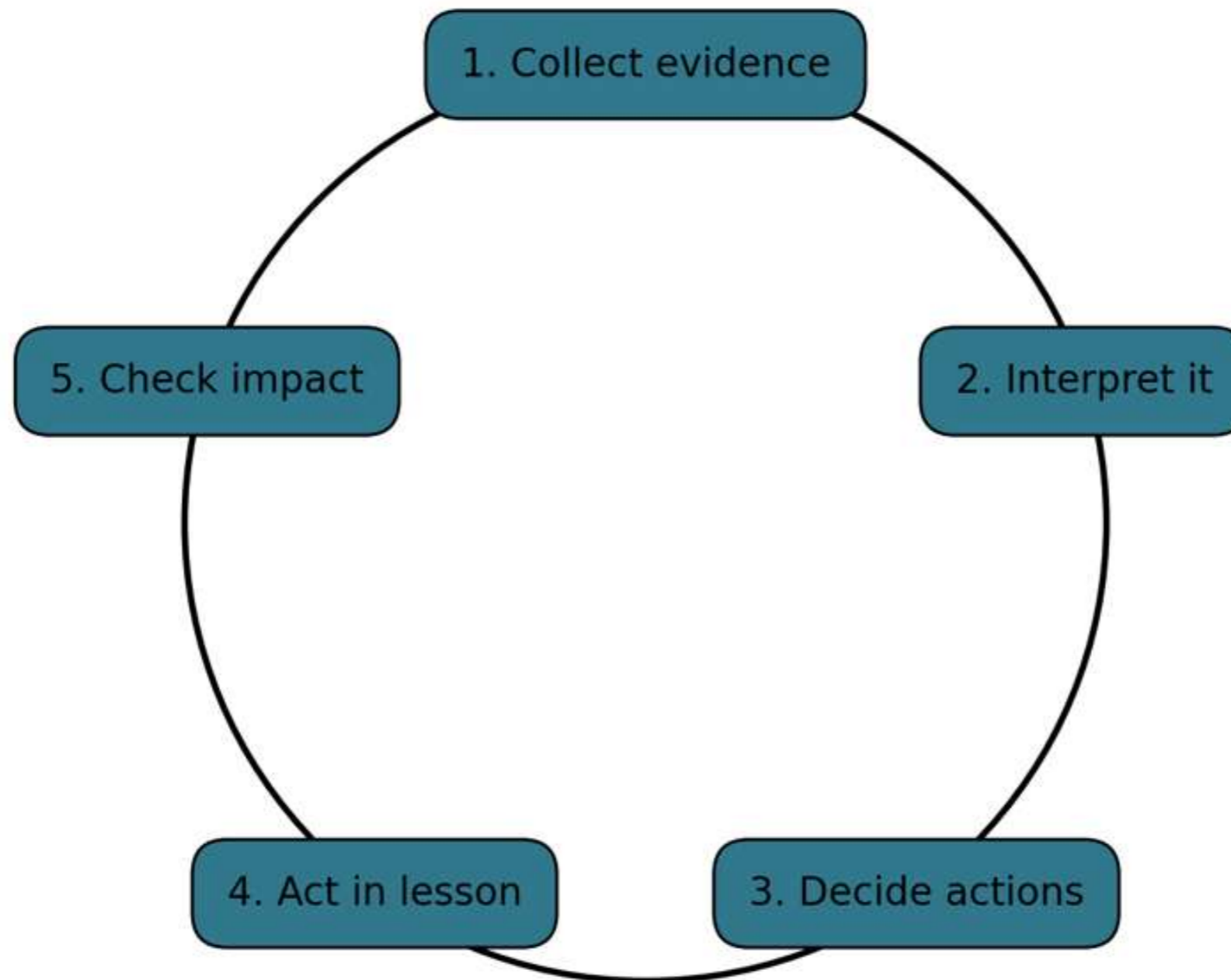
Role of Rubrics

- Rubric = strong tool for decisions

- Makes goal clear and visible

- Shows criteria, levels, and examples

- Learners see what quality looks like; teachers see strengths and gaps

- With rubric: feedback is clear, on time, and useful

- Feedback gives next steps for learners

- Rubrics support 3 levels:

  - Learner: What to practise next?

  - Teacher: What to reteach or support?

  - Programme: What to improve in curriculum?

Short Excursion

- Rubrics are not the only tool

- Other ways:

    - Learning analytics (digital traces)

    - Portfolios (show growth)

    - Peer or self-assessment (checklists)

    - Learning progressions (step by step)

- All give evidence for better decisions

- Remember: many ways to do Informed Decision Making

Transition to the Next Tasks

- Assignment 3: In groups, design a rubric

  - Choose criteria

  - Choose levels

  - Write descriptors

- Assignment 4: Use rubric data

  - Small class scenario

  - Make decisions: learner, teacher, programme

- SMART goal → Activity → Rubric → Evidence → Decisions

- This builds strong competency-based education

Group Assignment 3.1

Use the same SMART Learning Goal:

- By the end of the lesson, learners can share personal information in a conversation. They use the right words and grammar, with not more than two small mistakes.

- Choose 3 criteria (e.g. understandability, vocabulary & grammar, conventions)

- Make 3 levels for each criterion:
  - Level 0 = not yet reached
  - Level 1 = partly reached
  - Level 2 = well reached

Group Assignment 3.2

Criterion	Level 0	Level 1	Level 2
Understand-ability	Partner does not understand	Partner partly understands	Partner understands everything
Vocabulary & Grammar	Many mistakes, unclear	Some mistakes, still ok	Few mistakes, clear
Conversational conventions	No greeting or closing	Greeting or closing missing	Greeting and closing present

Total score: 0–6 points. Success = 4 or more

From Evidence to Action

- Write SMART goals → Design short practice activities

  → Use rubrics to collect evidence

- Evidence alone is not enough; Assessment is strong when we act

  on evidence

- Informed Decision Making = no guesswork, use real data

- Last assignment: class scenario

- Task: look at data, find problem, decide what to do next

- Goal: see the real link between evidence and action

Group Assignment 4.1

Scenario:

- In this class, 60 percent of the learners score low on conversational conventions. That means many learners forget to greet at the start, they do not ask questions during the dialogue, or they do not close the conversation at the end.

- What is the main problem is in this scenario?

- Write down two decisions:

  - Lesson decision: What short-term action will you take in the very next lesson?

  - Programme decision: What long-term action will you take to improve the programme?

- What extra data would you collect in the next lesson, so that you can check if your decisions had an effect?

Group Assignment 4.2

- Problem: Learners forget greetings, questions, and closing

- Lesson decision: Role play with greeting, 1 question, and closing

- Programme decision: Add classroom language practice in first 3 weeks

- Extra data: Next lesson, observe if learners use greeting, question, closing

Questions & Discussion

Future Assistance by RCEC

✓ Customised follow-up training for your organisation

✓ Support in development and implementation through capacity building

✓ Assist in creating a system that meets international quality standards

✓ Future accreditation by RCEC

Evaluation Form

https://tinyurl.com/mwy5sz3p

Awarding Certificates

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