



International Conference The Future of Education Edition 4

SAVEL

Electronic Assessment as an Instrument for Promoting Educational Success

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Electronic Assessment as an Instrument for Promoting Educational Success

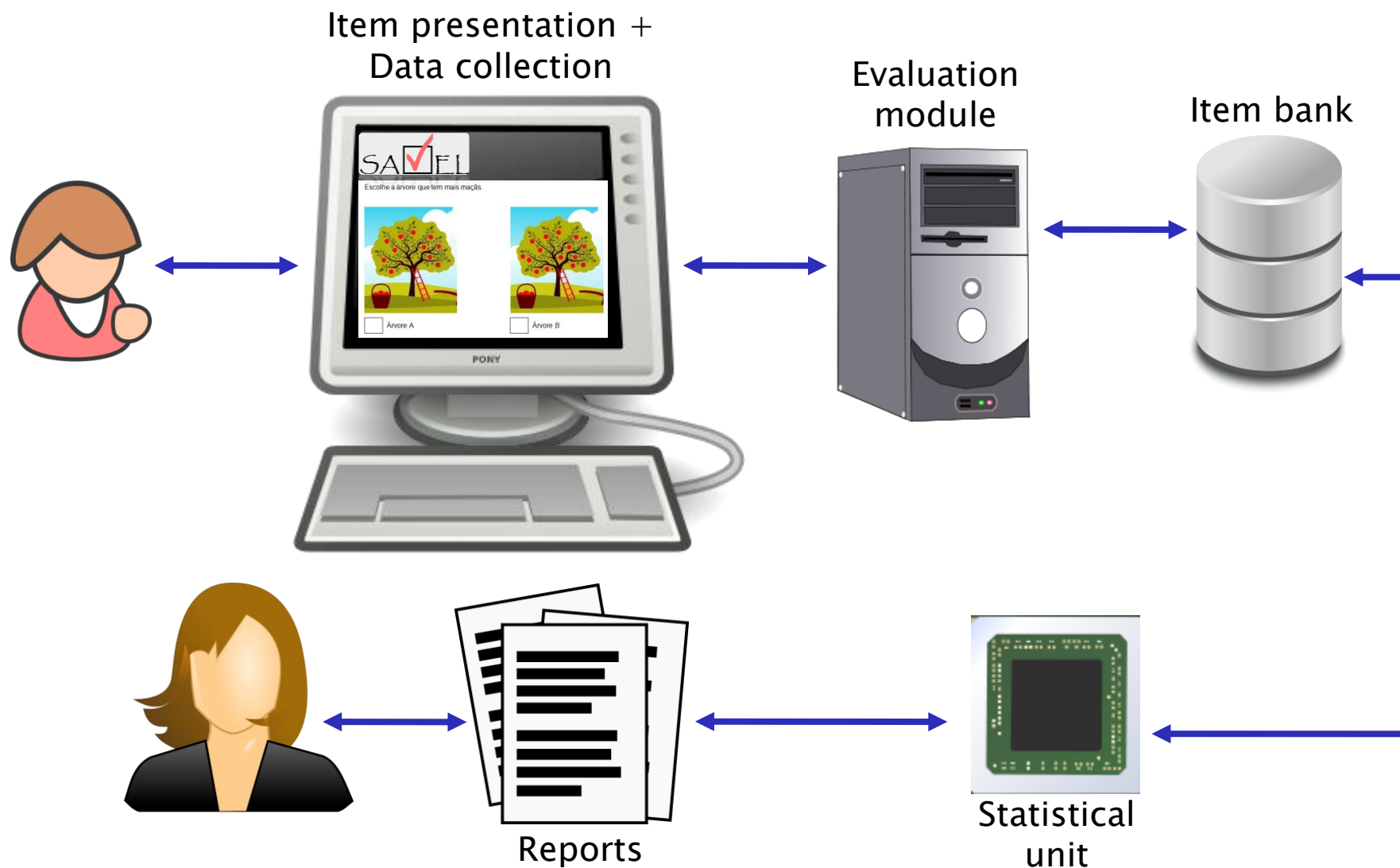
SAVEL

System of electronic evaluation devoted to primary school students assessment based on:

- ❖ a digital platform
- ❖ a database of education resources
- ❖ a statistical processing unit



Electronic Assessment as an Instrument for Promoting Educational Success





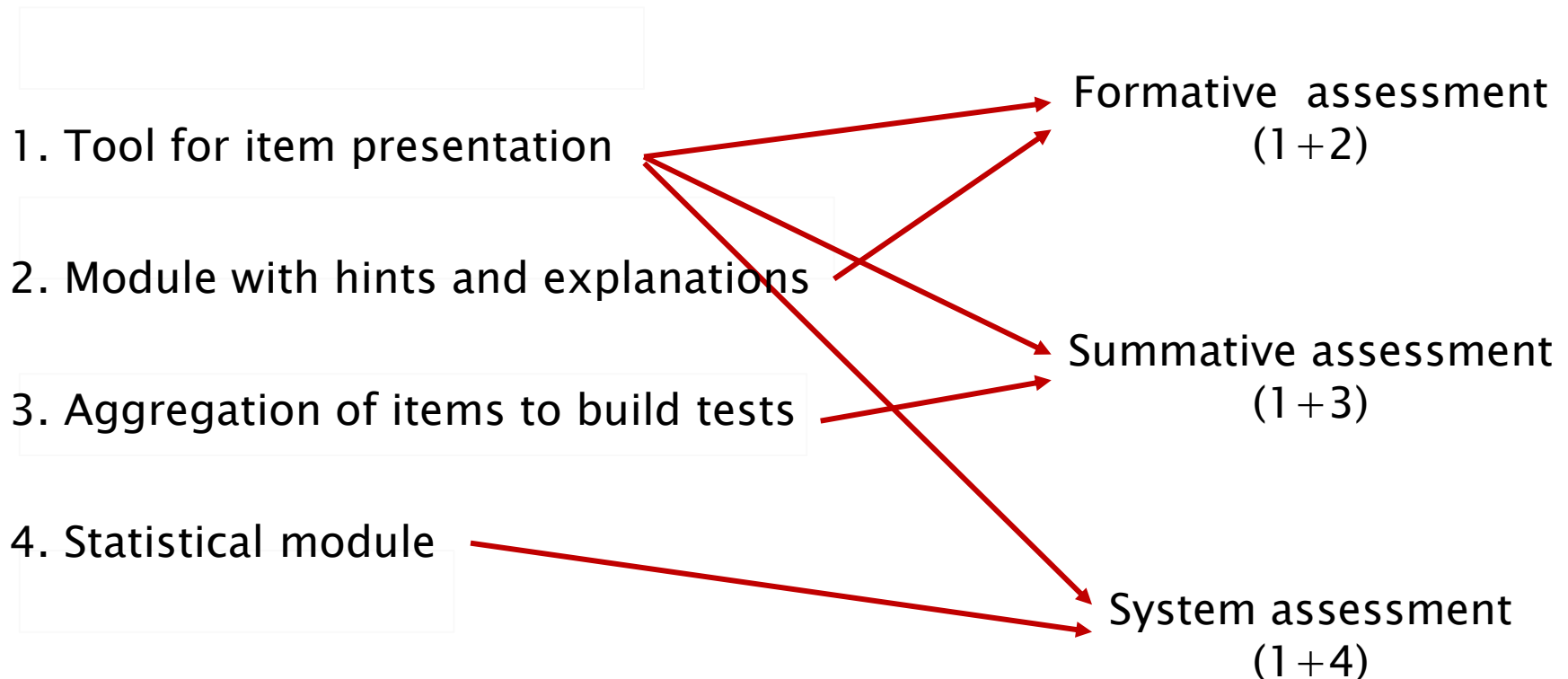
Electronic Assessment as an Instrument for Promoting Educational Success

The main objectives of SAVEL are the performance of:

- ❖ self-education
 - ❖ formative
 - ❖ summative
 - ❖ system
- } assessment



To accomplish such flexibility, an incremental implementation was adopted including the following building blocks:





Electronic Assessment as an Instrument for Promoting Educational Success

Tool for item presentation

Stimulus + Task

all items with optional oral presentation

Mostly closed items

drag and drop

establish relations with the mouse

mark multiple choice items

etc.



Tool for item presentation – 1st grade math example

Escolhe a árvore que tem mais maçãs.

☐

Árvore A

☐

Árvore B



Tool for item presentation – 4th grade math example

A Luísa demora 30 minutos a percorrer o caminho desde casa à escola.
Quando chegou à escola eram 8 h e 45 min.
Qual dos seguintes relógios indica a hora a que saiu de casa?

☐☐☐☐



Items – mathematics and reading

Main criteria for item development:

- ❖ being relevant to predefined assessment goals – national curriculum
- ❖ being clear in their formulation – avoiding ambiguity
- ❖ being concise – clear wording
- ❖ being accurate – without scientific or technical errors
- ❖ being equitable to all students – gender, religion or ethnicity



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Module with hints and explanations

This module contains the:

- ❖ solution of each item
- ❖ explanation of how to solve each item correctly
- ❖ brief summary of content topic assessed



4th grade math – item

A Luísa demora 30 minutos a percorrer o caminho desde casa à escola.

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Qual dos seguintes relógios indica a hora a que saiu de casa?


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4th grade math – solution

SOLUÇÃO





4th grade math – explanation

EXPLICAÇÃO

Primeiro tens de subtrair o tempo que a Luísa demora (30 minutos) à hora a que chega à escola (8 h e 45 min).

$8 \text{ h e } 45 \text{ min} - 30 \text{ min} = 8 \text{ h e } 15 \text{ min}$

Depois tens de identificar qual é o relógio que marca 8 h e 15 min.

O ponteiro pequeno que indica as horas tem de estar no 8.

O ponteiro grande que indica os minutos tem de estar no 3 (porque cada número representa 5 minutos).

Para medir o tempo gasto numa determinada atividade usamos unidades de medida menores que o dia: a hora, o minuto e o segundo.

1 dia = 24 horas

1 hora = 60 minutos

1 minuto = 60 segundos

Podemos ainda dizer que:

- um quarto de hora é igual a 15 minutos,

- meia hora é igual a trinta minutos.



4th grade math – topic summary

RESUMO

Há muitos anos que houve a necessidade de começar a medir o tempo:

- **1 ano (A)** tem 365 dias e 12 meses, caso o ano não seja bissexto, se for bissexto, o ano tem mais um dia (366) e isto acontece de 4 em 4 anos;
- **1 mês (M)** tem 28 (ou 29, no mês de fevereiro, no caso do ano ser bissexto), 30 ou 31 dias;
- **1 semana (S)** tem 7 dias;
- **1 dia (d)** tem 24 horas;
- **1 hora (h)** tem 60 minutos;
- **1 minuto (min)** tem 60 segundos (s).



Um quarto de hora
são 15 minutos



Meia hora são
30 minutos



Uma hora são
60 minutos

O Relógio

Um dia tem 24 horas, no entanto nos relógios só aparece, no máximo 12 horas, ou seja, a partir das 12 horas (meio-dia), o relógio marca 1 hora da tarde, 2 horas da tarde, etc.



Aggregation of items to build tests

- ❖ Teachers can aggregate items to build tests.
- ❖ Items are classified so that teachers can develop the most appropriate tests to assess students knowledge and competences.
 - ✓ theme, sub-theme and curriculum objective
 - ✓ information about item performance characteristics
- ❖ Quick and automatic feedback allows teachers to assess students as frequently as needed.
- ❖ These features enable teachers to create an instrument capable of performing adaptive summative evaluations.



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Statistical module

- ❖ Estimation of item parameters using Item Response Theory
- ❖ Difficulty level
- ❖ Discrimination characteristics
- ❖ Item adequacy with respect to a corresponding curriculum



Advantages

- ❖ flexibility in the administration of assessments
 - ✓ time frame (administration moment and frequency)
 - ✓ place of administration
- ❖ provides answers to the several goals of student assessment
 - ✓ summative assessment
 - ✓ formative assessment
 - ✓ diagnostic assessment
- ❖ quick feedback to students and teachers



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Thank you!
Questions?

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