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5-6 December 2018

2018 EDULOG International Conference

Early Childhood Education: What Science has to Teach Us

Research with children:

Methodological and ethical issues

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- Adults views of children's mind and learning
- Differences of research with children
- Task-based methods with children
- Questionnaire construction for children application

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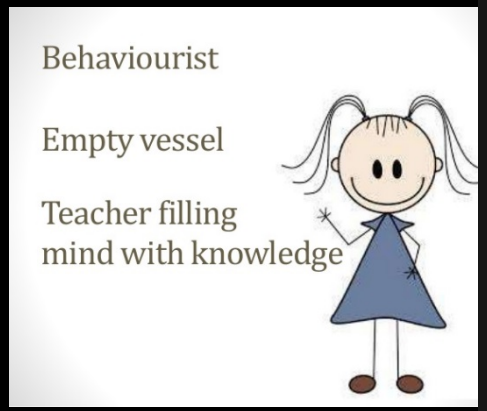
Adults view of children's mind and learning

Tabula rasa model of the learner

Still nowadays, many people have the idea that children are born "***blank***", as an "***empty vessel***" which needs to be filled in in one way or another (Locke, 1963).

Adults surrounding a child could potentially have a very lasting effect on **shaping child's personality by education** (Locke, 1963).

The learner is seen as a "***battery***", in that it continually **emits behaviour**, while the environment selects certain behaviours based upon their consequences (Skinner, 1938).



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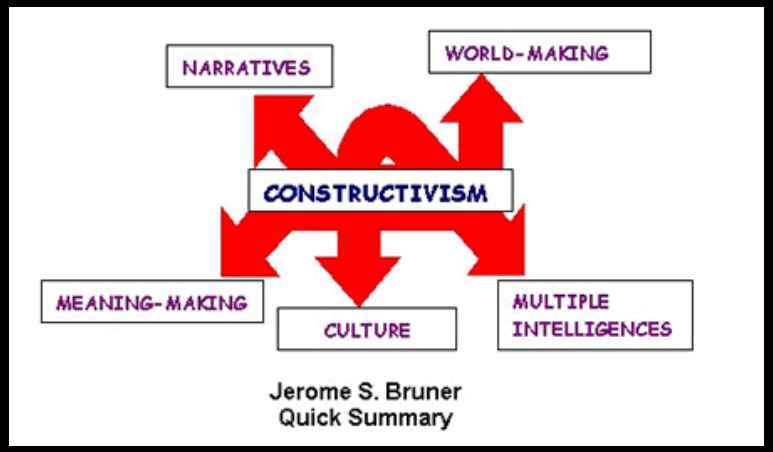
Adults view of children's mind and learning

Constructivist model of the learner

Constructivism is a theory that challenges the traditional behaviourist view.

The constructivist perspective asserts that learners construct knowledge by making sense of experiences in terms of what is already known (Brandt, 1997).



Jerome S. Bruner
Quick Summary

"Learning is contextual: we do not learn isolated facts and theories in some abstract ethereal land of the mind separate from the rest of our lives; we learn in relationship to what else we know, what we believe, our prejudices and our fears" **(Qureshi, 2004).**

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Traditional school

Transmission of information / Knowledge

↓

Changes towards healthier behaviours

K implies P

K – knowledge
P – Practices
A – Attitudes

K – is a necessary condition but not sufficient to make P occur

K – A – P

Informed choices

In addition to the acquired Knowledge, changes of Attitudes must happen in order that healthier Practices and behaviours can occur.

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Research with children:

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Health promoting school

Transmission of information + positives attitudes

↓

Changes towards healthier behaviours

It is to centre the learning in positive attitudes towards the ones' own health and the life in general

K – A – P

Informed choices

In addition to the acquired **Knowledge**, changes of **Attitudes** must happen in order that healthier **Practices** and behaviours can occur.

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Health promoting school

Transmission of information + positives attitudes

↓

Changes towards healthier behaviours

It is to centre the learning in positive attitudes towards the ones' own health and the life in general

A positive attitude facilitates :

- The *empowerment*
- The decision making towards healthier lifestyles
- A better tendency to avoid risk behaviours and, indirectly, the prevention of dieseses.

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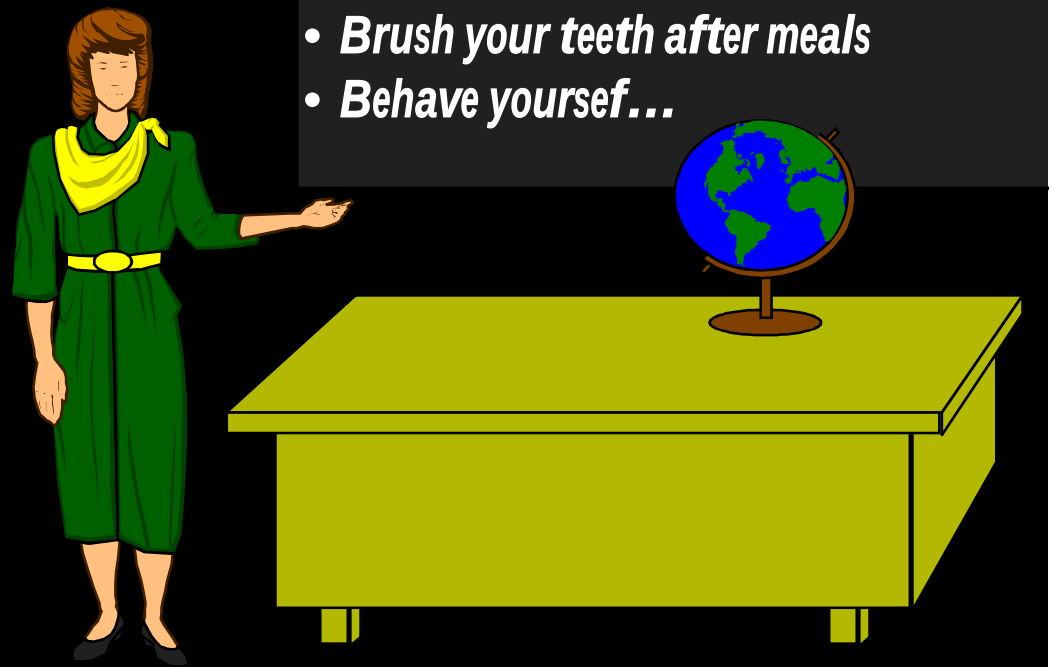
Traditional Health Education (HE)

- *Don't drink ; don't smoke*
- *Don't get involved with drugs*
- *Don't have sex without a condom*
- *Brush your teeth after meals*
- *Behave yoursef…*

The goal of HE is not only transmission of information on health issues and health rules.

HE must not focus on the specific goal of behaviour change – *'Behaviourism'*



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Health promotion in schools aims at

empowering children

to make healthier choices

Empowerment approaches:

- view children as social actors who act on the world around them.
- engage with children about their worlds, involving them in decision making and action about issues that are important to them.

Glenn Laverack (2013)

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Research with children:

Methodological and ethical issues

Differences of research with children



Tendency to perceive research as one of two poles

Just the same ⟷ Entirely different

Nowadays: similar to adults but having different competencies

Innovative/adapted techniques for data collection

- Drawings
- Photos
- Spider diagrams
- Diaries
- Interviews
- Questionnaires

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Differences of research with children

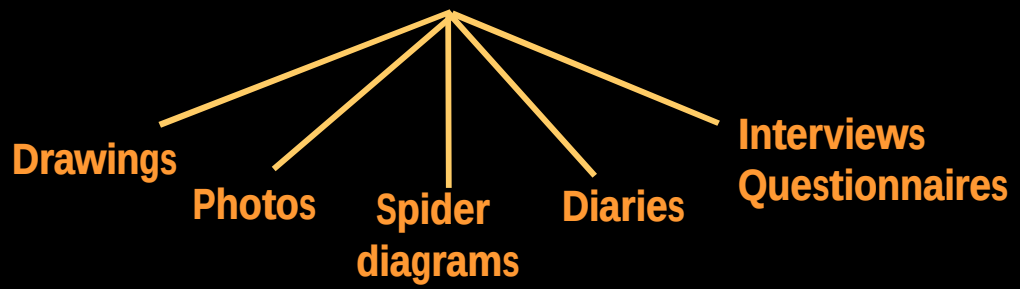


Ethical issues

Researcher must engage in a **critical reflection** of the use of such 'child-centred' methods:

- advantages and disadvantages of using such methods
- implications for data analysis
- researcher's role and personal assumptions
- confidentiality
- informed consent (children and parents)
- access to children via gatekeepers

Innovative/adapted techniques for data collection



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Differences of research with children



Three general areas of differences between adults and children

Position of childhood in adult society

Children:
- are marginalized in adult-centred society
- their lives are controlled by adults
- They expect adults power over them.

Adults' attitudes towards children

- Adults' fears, assumptions and attitudes affect their behaviour towards children
- Researchers often think children do not provide valid and reliable data – if so, researcher's fault in methodology used.

Children themselves

Children have:
- limited and different vocabulary and understanding of words
- less life experience and world knowledge
- Shorter attention span.

Punch, S. (2002)

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Differences of research with children



Research issue:

1) Do not impose researcher's own perceptions

What is different?

Adults have been children, so think know all about childhood, but adults and children views of the world are different

Position of childhood in adult society

- - -

Adults' attitudes towards children

- Danger of imposing adult views because of preconceptions about childhood

Children themselves

- Children may have a different way of viewing the world

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Research with children:

Methodological and ethical issues

Differences of research with children



Research issue:

2) Issues of validity/reliability:
Children may exaggerate or lie to please the researcher

What is different?

Children are potentially more vulnerable to unequal power relationships in research

Position of childhood in adult society

- Children are used to please adults, and may fear adult's reactions.

Adults' attitudes towards children

- Adults are used to controlling children and, in some cases, abusing their power

Children themselves

- - -

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Research with children:

Methodological and ethical issues

Differences of research with children



Research issue:

3) Clarity of language

What is different?

More conscious use of language

Position of childhood in adult society

- - -

Adults' attitudes towards children

- Adult perceptions of children's lack of articulateness

Children themselves

- Children (particularly younger) may have limited vocabulary and use different language

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Research with children:

Methodological and ethical issues

Differences of research with children



Research issue:

4) Research context and setting

What is different?

Many research environments are adult spaces where children have less control

Position of childhood in adult society

- Adult spaces dominate in society so it can be difficult to find child spaces to conduct research.

Adults' attitudes towards children

- Adults assume that children would prefer their own spaces

Children themselves

- - -

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Research with children:

Methodological and ethical issues

Differences of research with children



Research issue:

5) Building rapport

What is different?

Adults may lack experience of building rapport with children

Position of childhood in adult society

- Children's status in adult society means researchers have to build rapport not only with children but also with adult gatekeepers.

Adults' attitudes towards children

- Fear of being patronizing, finding common ground but not faking

Children themselves

- - -

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Methodological and ethical issues

Differences of research with children



Research issue:

6) Analysis: care not to impose inappropriate interpretations

What is different?

Ultimately the power lies with the adult researcher to interpret children's perspectives

Position of childhood in adult society

- Children's generational position tends to mean that an adult has access to wider knowledge to be more able to analyse children's social status.

Adults' attitudes towards children

- Danger of imposing adult views because of preconceptions about childhood

Children themselves

- Children may not understand the adult world

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Differences of research with children



Research issue:

7) Using appropriate research methods: using children's preferred methods and familiar sources

What is different?

More attempts to make research fun with children and to tap into their interests.
Ex: use of drawing or photos, i.e. task-based methods.

Position of childhood in adult society

- Children are not used to be treated as equal and may lack confidence in an one-to-one situation with unfamiliar adults.

Adults' attitudes towards children

- Adults presume children prefer these methods, are more competent at them, and that have a shorter attention span

Children themselves

- Children are used to visual and written techniques at school.
- Younger children may have a more limited concentration span

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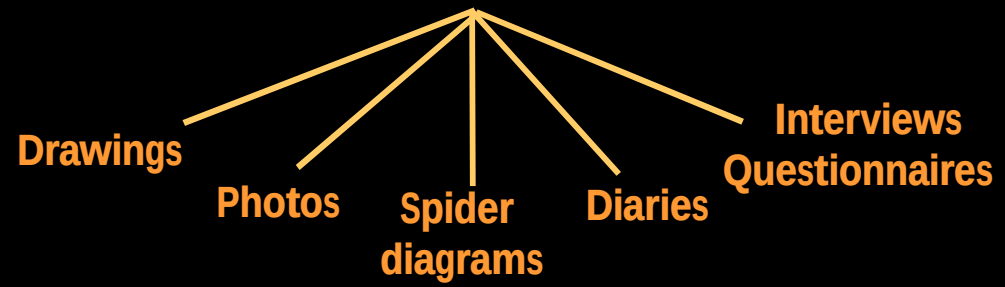
Innovative/adapted techniques for data collection



Researcher must engage in a **critical reflection** of the use of such 'child-centred' methods, for example:

- are certain methods used just because they are fun or because they also generate useful and relevant data?

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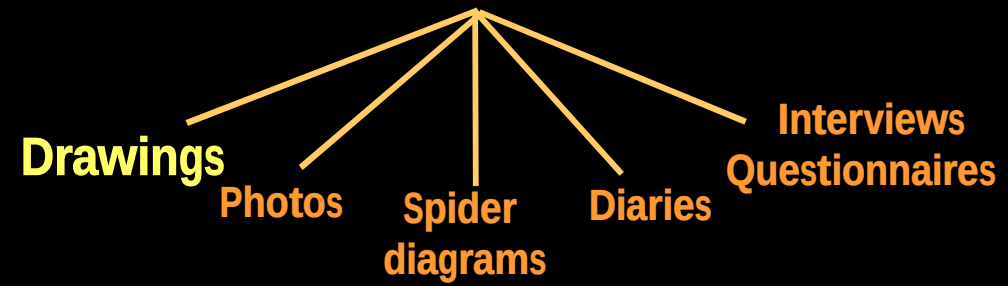



- Can be creative, fun and can encourage children to be more actively involved in the research.
- Children feel comfortable as they can take time to draw and can change drawings. Captions and text to explain drawings is necessary to complement.
- Often children tend to represent drawings of their textbooks.

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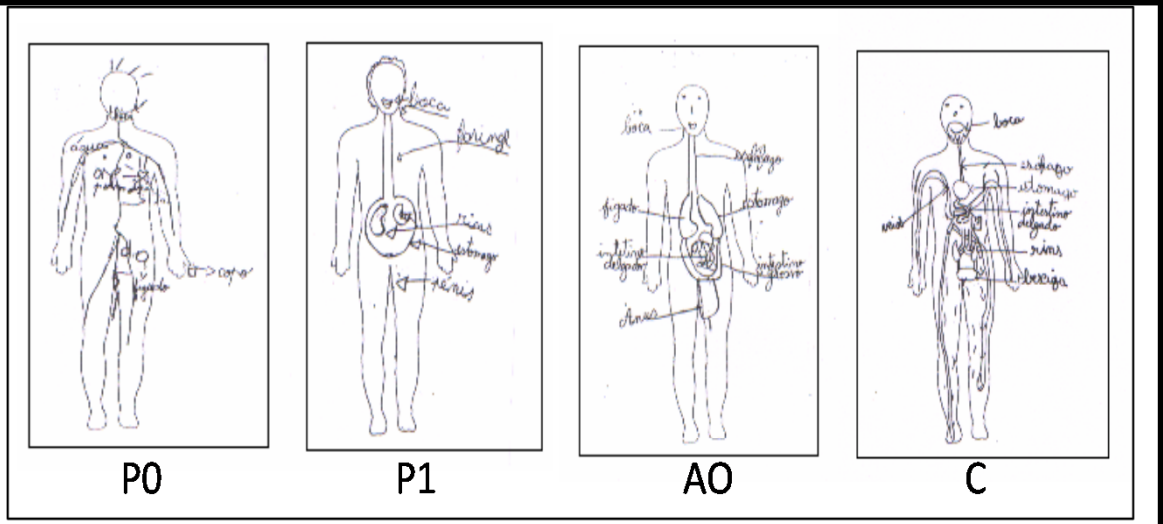

Figure 1: Examples of categories emerged from the drawings

Carvalho, G.S., Silva, R., Lima, N., Coquet, E. & Clément, P. (2004) Portuguese primary school children's conceptions about digestion: Identification of learning obstacles. International Journal of Science Education 26, 1111-1130.

Carvalho, G.S. & Clément, P. (2007) Relationships between Digestive, Circulatory and Urinary Systems in Portuguese Primary Textbooks. Science Education International 18, 15-24.

Carvalho, G.S., Silva, R & Clément, P. (2007) Historical analysis of Portuguese primary school textbooks (1920-2005) on the topic of digestion. International Journal of Science Education 29, 173-193.34.

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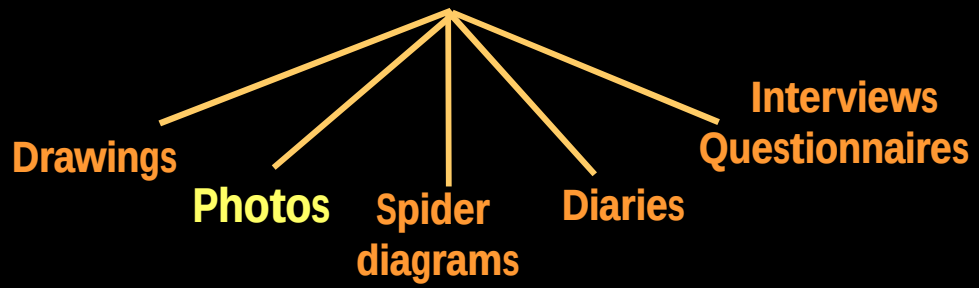



- Can be creative, fun and can encourage children to be more actively involved in the research.
- Text to explain photos is necessary to complement.
- Ethical issue: researcher make possible all involved children have access to a camera

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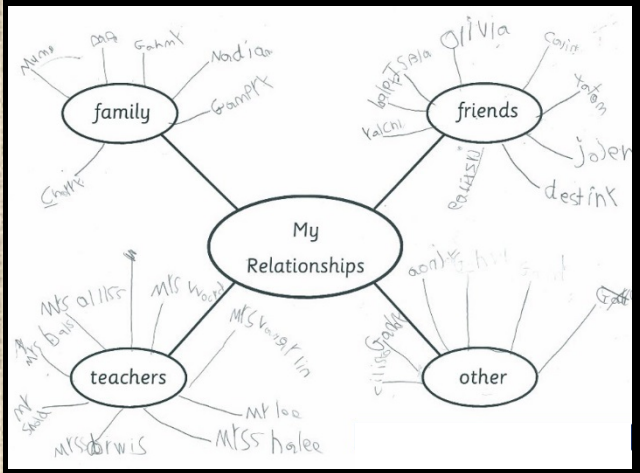
Innovative/adapted techniques for data collection

Drawings
Photos
Spider diagrams
Diaries
Interviews
Questionnaires



- Important to listen to children's voices, enabling them to communicate their opinions.
- Allows children to define relevant elements for the research.
- Usually important in the initial research stage, but also used in refining research questions.

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Innovative/adapted techniques for data collection

Food record

Drawings

Photos

Spider diagrams

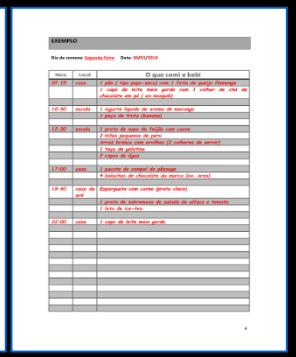
Diaries

Interviews
Questionnaires









Vieira, M. & Carvalho, G.S. (2013). Using the food records to follow adolescents' eating behaviour during the implementation of the educational program 'Planning Health in School'. In: The 4th European Conference on Health Education Schools – Equity, Education and Health. Odense, Denmark, pp. 199-201.

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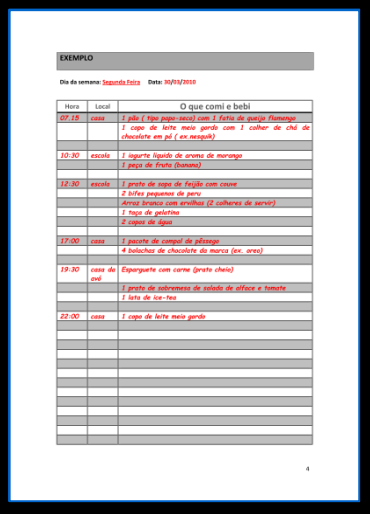

EXEMPLO

Dia da semana: Segunda Feira Data: 30/03/2010

Hora	Local	O que comi e bebi
07.15	casa	1 pão (tipo papo-seco) com 1 fatia de queijo flamengo
		1 copo de leite meio gordo com 1 colher de chá de chocolate em pó (ex nesquik)
10:30	escola	1 iogurte líquido de aroma de morango
		1 peça de fruta (banana)
12:30	escola	1 prato de sopa de feijão com couve
		2 bifes pequenos de peru
		Arroz branco com ervilhas (2 colheres de servir)
		1 taça de gelatina
		2 copos de água
17:00	casa	1 pacote de sumo de pêssego
		4 bolachas de chocolate da marca (ex. oreo)
19:30	casa de avó	Esparguete com carne (prato cheio)
		1 prato de sobremesa de salada de alface e tomate
		1 lata de ice-tea
22:00	casa	1 copo de leite meio gordo

- 240 children (130 boys, 110 girls)
- Grade 6 (11,0 ± 0,7 years)
- Application 3-day food records (FR)
- Report all food and beverages
- High detail: * time and place
  * cooking method
  * quantity, brand
  * personal comments (if they wanted to)

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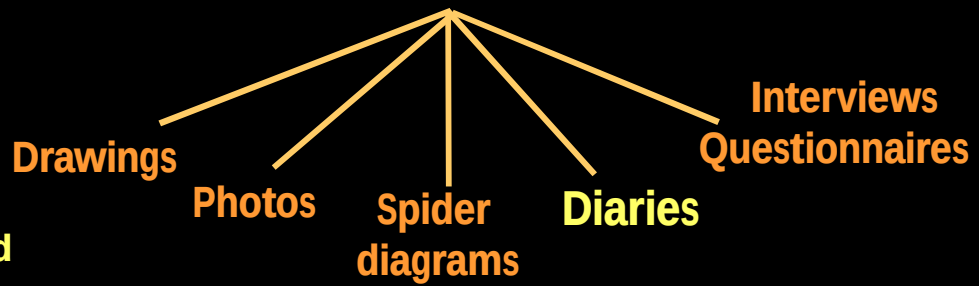
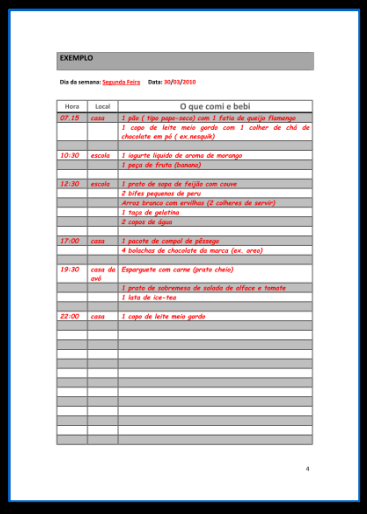


Food record



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22:00	casa	1 copo de leite meio gordo

4

Negative comments:

- *"too much work to do"*
- *"whenever I ate I had to record"*
- *"I do not like to write"*

Positive comments:

"It helped me to pay attention to what we were eating"

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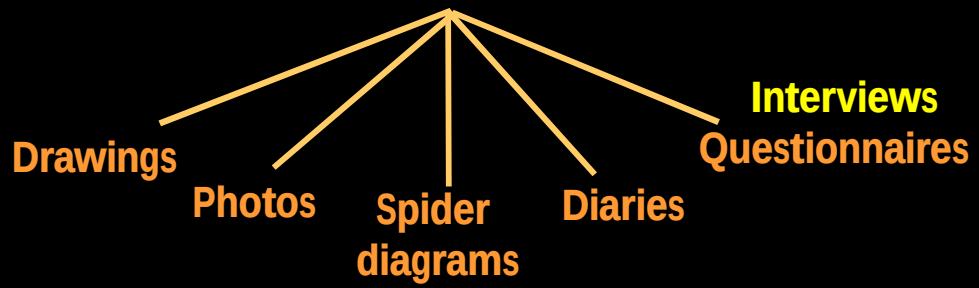



- Child friendly: their best interest comes first
- Sit on the same level
- Limit number of words used in a sentence
- Use the child's language and terms
- Check the child's understanding of what you have said; ask the child to repeat.

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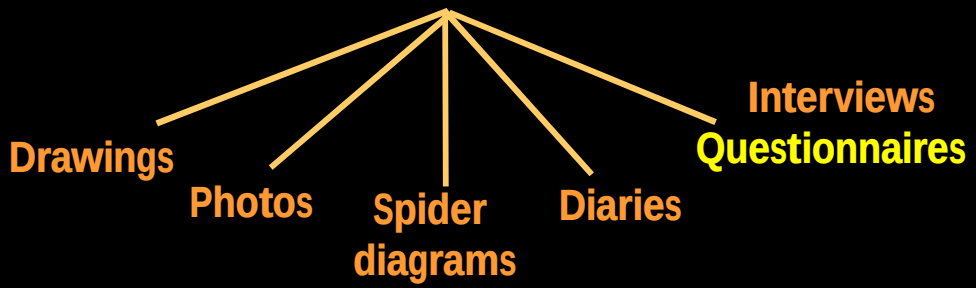



- A set of questions (open and close ended questions) to collect data.
- Answers can be collected in scales that allow measure/quantify specific issues (variables): nominal, ordinal, interval and ratio scales
- To estimate attitudes and opinions: Likert scale, Semantic differential (Osgood scale), Thurstone scale.

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Research with children:

Methodological and ethical issues

The preparation of a questionnaire must be a rigorous process, taking into account many factors.

Before elaboration it is necessary to define:

- The type of questions to be asked;
- The questions adequacy to the target population
- Type of scales to be used
- Methods for the data analyses

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Research with children:

Methodological and ethical issues

Stages to be taken into account

1 – Literature review on the subject

2 – Formulate the problem

3 – Define objectives

4 – Formulate hypotheses

5 – Identify variables and indicators

6 – Define the sample

7 – Validate questions' semantics – specialists & children

8 – Pilot test – reliability (Cronbach's α)

9 – Final questionnaire wording

10 – Questionnaire application – data collection

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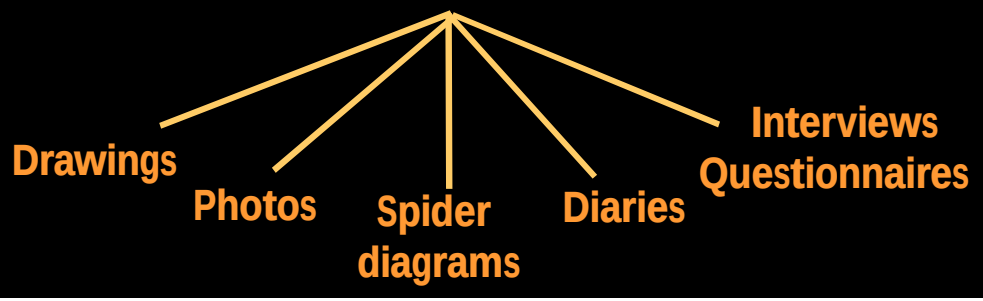
Research with children:

Methodological and ethical issues

Long questionnaires and scales can be adapted for children, but they may not be the most appropriate way and more effective children's data collection.

Other techniques for children's conceptions assessment can be developed:

Innovative/adapted techniques for data collection



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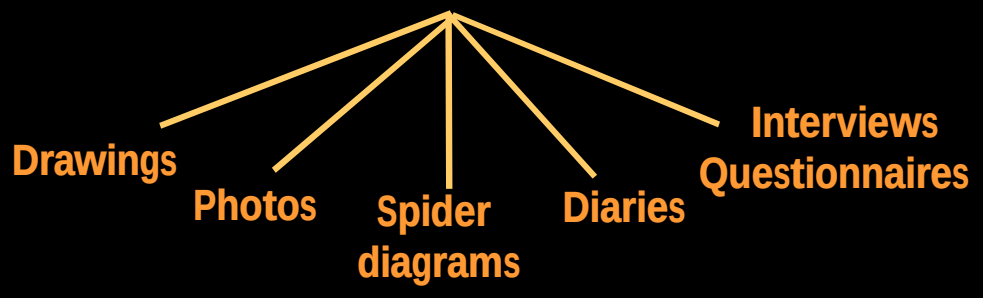
Research with children:

Methodological and ethical issues

Main points to be taken into account for children's data collection:

- **What is the problem and what is the specific research questions?**
- **Do we want to get quantitative data?** (for statistical analysis and comparisons between groups? // or go into depth study of understanding the context?)
- **If quantitative, what of the methods below can be made quantitative?**
- **In any case, children must be involved in the process of preparing the instruments for data collection.**

Innovative/adapted techniques for data collection



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Thank you

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