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UKRI Economic and Social Research Council

Conceptualising and assessing plant awareness

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Components of plant awareness

Beliefs: perceived importance, 'life concept', preferences

Attitude

Prior experience, knowledge

Perceptual attention

Qualities of the stimulus

Sustained attention

Positive affect

Motivation

Triggered situational interest

Is ‘plant blindness’ innate?

Stagg & Dillon, 2022

UK: ‘weed’

Russia: latex source in rubber production

Parts of Europe: food

UK: ‘weed’

Mexico, Spain, Turkey, China and Nepal: food

Native Americans: textile fibres and dye plant

UK: ‘pest’

Cambodia: food

UK: ‘pest’

China: food

Our goal? Behavioural change to support plant conservation

Behaviours
Let lawn become a meadow
Boycott peat
Citizen science e.g. tree health

Attitudes
Plants are important
I appreciate their role

Basic beliefs and values
All life depends on plants
We should conserve flora

Cognitive hierarchy and behaviours towards wildlife (Fulton et al. 1996)

Self-report measures

Series of statements based on rating scales e.g. Likert-based questionnaires, typically for attitudes, attention, and interest)

Limitations

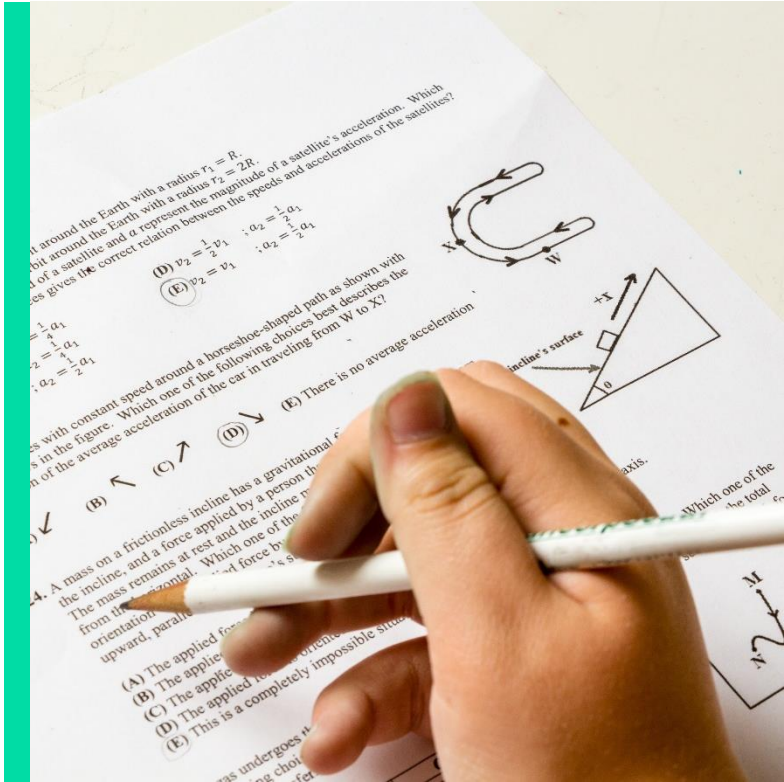
Cognitive tests

Aim to access learners' unconscious mental representations about phenomena

Examples: free-listing exercises, tests of recall

Typically used for knowledge, attention allocation and visual perceptions, but also beliefs around 'life concept' and 'relative importance of animals and plants'

Limitations



Multidimensional research instruments

Aim to capture multiple dimensions of the construct, in combination with tests of internal consistency and structural validity.

Provide benefits of both self-report measures and cognitive tests

Explain what tests of internal consistency and structural validity are

History of research instruments to date

Quick overview of each:

- Unidimensional tools
- Plant Attitude Questionnaire (Fančovičová & Prokop, 2010)
- Plant Awareness Disparity Index (Parsley at al. 2022)

Qualitative methods to inform research design

interviews can contribute to both the development and validation of the quantitative instruments (Amprazis et al. 2021; Parsley et al. 2022).

Mixed methods design. Sequential mixed methods (my chapter). Convergent

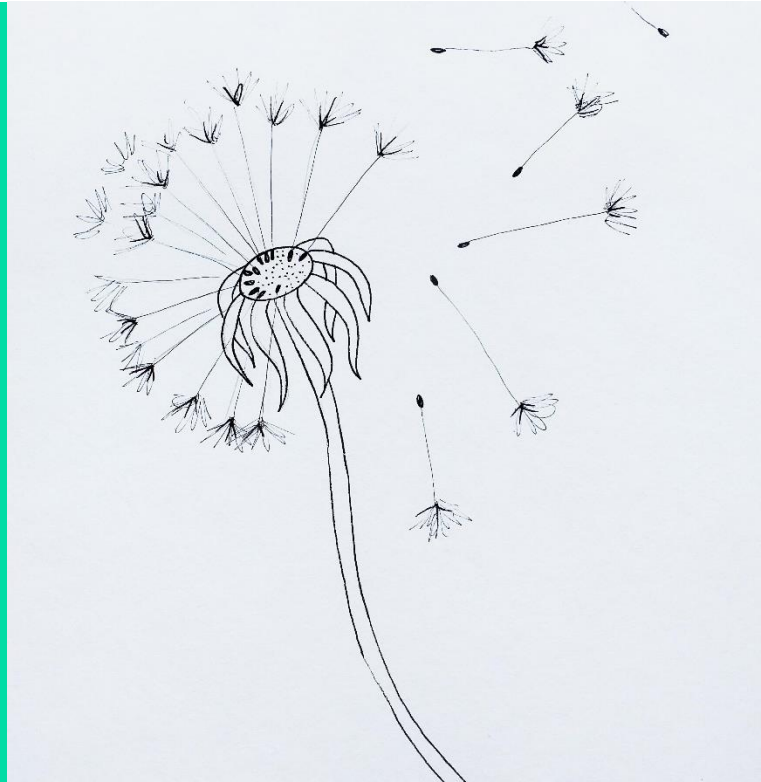
Qualitative methods for triangulation

interviews can contribute to both the development and validation of the quantitative instruments (Amprazis et al. 2021; Parsley et al. 2022).

Mixed methods design. Sequential mixed methods versus convergent methods (my chapter)

Qualitative methods for emergent properties

The role of qualitative methods for capturing emergent properties of the construct e.g. learner-generated drawings that investigate learners' beliefs and perceptions about plants.



Intervention-based research

Research instruments also need to be tested in the context of intervention-based research with learners, to ensure that they function well as evaluation tools.

Importance of impact and process evaluations and mixed methods

Ideally measure behavioural intent and actual behaviour (rare in educational research)

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Summary

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Research Questions for workshop

(1) What are the characteristics of an effective research instrument for measuring plant awareness and considerations for it?

(2) What are the strengths and weaknesses of the different measurement tools available, for use in correlational (non-experimental) and experimental research?

(3) What are the best ways of using these measurement tools in practice, with different audiences?

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Thank you for listening