

Evaluating Tongs



According to you, which of these tongs:

- (a) is the most efficient? Why?
- (b) is the most inefficient? Why?
- (c) has the best design? Why?
- (d) has the most flaws?

List the criteria you would use to evaluate a pair of tongs, for the given vessel.



Above images depict only some types of tongs. You can provide these and more types to students.

Image source (Vessel): Pixabay (Creative Commons CC0)

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Background

Literature in the area of D&T education has often cited product evaluation as a useful task. For example, Martin (2007) suggests that product evaluation allows students to appreciate the ways in which different products meet the same needs, and allows them to see their own work in relation to the world around them. This would also allow observation and communication skills to develop. Crismond (2001) highlights the potential of product evaluation activities in inspiring naïve designers to identify and redesign features in products. Apart from developing technological literacy (Martin, 2007), researchers have also identified potential tangential advantages in product evaluation tasks, such as developing self-esteem of children, revealing students' stereotypical views concerning technology, exploring value judgements, identifying underlying socio-cultural factors influencing design etc. (Garvey & Quinlan, 2000; Siraj-Blatchford, 1995; McLaren, 1997; Moalosi at al., 2007). In general, a simple product evaluation task may involve a variety of sub-tasks like investigation, identifying strengths/weaknesses, justifying, prioritizing, recognizing conflict, testing ideas and communicating.

Adapted from: Ara, F. (2013). Investigating students', teachers' and designers' ideas about design and developing design activities for Indian middle school students (Doctoral Thesis). Mumbai: HBCSE, TIFR Deemed University.

References

- Crismond, D. (2001). Learning and using science ideas when doing investigate-and-redesign tasks: A study of naïve, novice and expert designers doing constrained and scaffolded work. *JRST* 38(7), 791-820.
- Garvey, J., & Quinlan, A. (2000). Evaluation and design and technology. In J. Sefton- Green and R. Sinker, *Creativity: Making and learning by young people*. Routledge, Taylor and Francis Group.
- Martin, M. (2007). Role of product evaluation in developing technological literacy. In J. R. Dakers, W. Dow and M. J. de Vries (eds), *PATT 18, International Conference on D&T Education Research*. Glasgow.
- McLaren. S. (1997). Value judgements: Evaluating designs: A Scottish perspective on a global issue. *IJTDE*, 7, 259-276.
- Moalosi, R., Popovic, V., & Hickling-Hudson, A. (2007). Product analysis based on Botswana's postcolonial sociocultural perspective. *International Journal of Design*, 1(2), 35-43.
- Ritchie, R. (2001). *Primary design and technology: A process for learning*. London: David Fulton Publ. Ltd.
- Siraj-Blatchford, J. (1995). Kelly's repertory grid: A technique for developing evaluation in design and technology. In J. S. Smith (Ed.), *IDATER 95*. Loughborough University of Technology.