

Required resources

Two circles of different colours (points of reference in the #CreaCube task) and four modular *Cubelets* robot blocks: battery, distance sensor, inversion block and block with wheels.

Description

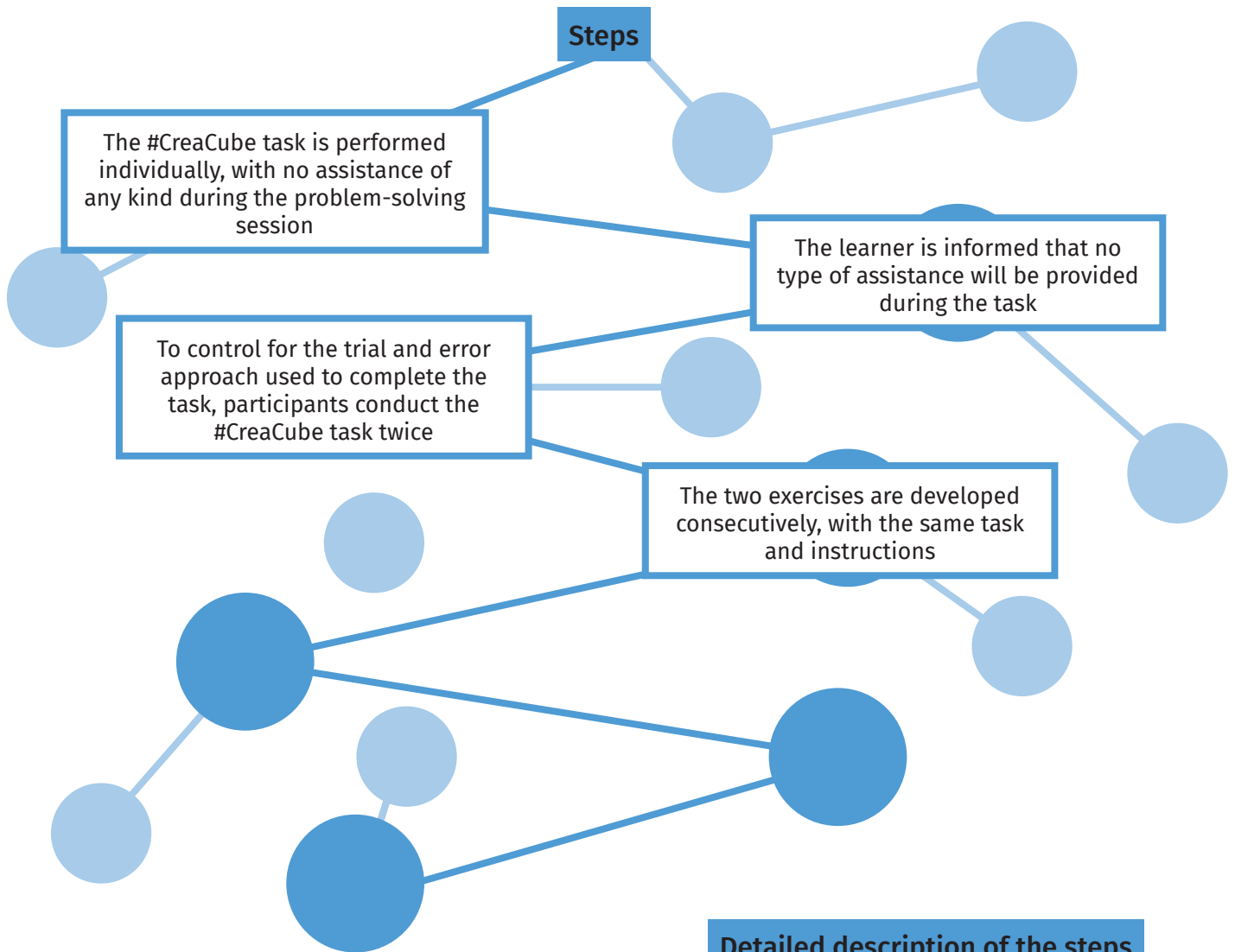
Our society is ageing, yet new digital devices and services tend not to be designed with the needs of older people in mind. The wrong use of digital devices could lead to errors related to the characteristics of human-technology interactions. Problem solving is a key skill for such activities and devices. Running an unknown technological artefact means being faced with a problem situation that can be influenced by creative exploration of the new artefact. Our activity aims to analyse creative exploration within the context of a problem-solving activity using parts of modular robotics with which both older and younger participants are unfamiliar. Does age matter?

What will we learn?

In a problem-solving approach, such as the #CreaCube task, the ideas for a solution are influenced by prior knowledge. More knowledge should give rise to a better resolution of the problem. Generally, older adults are slower in conducting tasks than younger people.

Suggestions on how to do the activity

Creativity evolves throughout life and presents different characteristics at different times across the lifespan. We have been able to carry out this activity that we propose, and from that we leave some suggestions inherent in its implementation. We asked children (ages 8 to 9 years, $n=4$) and older adults (from 60 to 64, $n=4$) to conduct the #CreaCube task as described above. In terms of time spent on the task, the children needed more time than the older adults in each of the task phases, particularly during the instruction and observation phase. When following the instructions, children needed to restate these or asked questions to clarify some of the concepts. The older adults were surprised to be asked to do the exercise a second time, especially, when they realised the instructions were the same.



Detailed description of the steps

The goal of the #CreaCube task is to analyse the process of how issues are resolved. To that end a task is performed involving interconnectable electronic cubes that are required to be manipulated and assembled such that the result is a vehicle that moves independently from an initial point to a final point. The four modular *Cubelets* blocks lie on the table on which two points of reference are also indicated: a red circle and a black circle. The #CreaCube task is solved when the cubes are assembled in such a way that they move autonomously from the red circle to the black circle. A participant without prior experience with the *Cubelets* cubes cannot solve the #CreaCube task without exploring different solutions in a creative way, testing different hypotheses of use and finding ways to overcome the intermediate failures before successfully solving the problem.

How to promote intergenerationality

In a society with new technological objects, it is important to understand the approaches to observation, exploration and testing that subjects of different ages are confronted with. On the one hand, authors such as Lin (2011) argue that children are naturally creative and open to experience and novelty: a human potential that should be developed and encouraged socially to be maintained in the final stages of life. On the other hand, the ability of older adults to adapt, allowing them to solve complex conflicts by better anticipating the consequences of situations and setting clear priorities, can be considered “practical intelligence” or “wisdom”. Playing intergenerational games together could be an example of an activity in which the abilities of each could enhance mutual fun and respect.