

# Replication package for 'On the Automatic Assessment of Computational Thinking Skills: A Comparison with Human Experts'

## 1 Scratch projects involved in the investigation

1. <https://scratch.mit.edu/projects/58360800>
2. <https://scratch.mit.edu/projects/61198738>
3. <https://scratch.mit.edu/projects/72270372>
4. <https://scratch.mit.edu/projects/81363284>
5. <https://scratch.mit.edu/projects/81804696>
6. <https://scratch.mit.edu/projects/85192148>
7. <https://scratch.mit.edu/projects/85723084>
8. <https://scratch.mit.edu/projects/85742130>
9. <https://scratch.mit.edu/projects/86213117>
10. <https://scratch.mit.edu/projects/86270038>
11. <https://scratch.mit.edu/projects/86401601>
12. <https://scratch.mit.edu/projects/87060591>
13. <https://scratch.mit.edu/projects/87098706>
14. <https://scratch.mit.edu/projects/87187846>
15. <https://scratch.mit.edu/projects/87187952>
16. <https://scratch.mit.edu/projects/87231977>
17. <https://scratch.mit.edu/projects/87346467>
18. <https://scratch.mit.edu/projects/87352409>
19. <https://scratch.mit.edu/projects/87513869>

20. <https://scratch.mit.edu/projects/87658620>
21. <https://scratch.mit.edu/projects/87981829>
22. <https://scratch.mit.edu/projects/88050947>
23. <https://scratch.mit.edu/projects/88051462>
24. <https://scratch.mit.edu/projects/88052294>
25. <https://scratch.mit.edu/projects/88054931>
26. <https://scratch.mit.edu/projects/88061201>
27. <https://scratch.mit.edu/projects/88062130>
28. <https://scratch.mit.edu/projects/88084856>
29. <https://scratch.mit.edu/projects/88112466>
30. <https://scratch.mit.edu/projects/88114673>
31. <https://scratch.mit.edu/projects/88116533>
32. <https://scratch.mit.edu/projects/88122793>
33. <https://scratch.mit.edu/projects/88124962>
34. <https://scratch.mit.edu/projects/88132198>
35. <https://scratch.mit.edu/projects/88133438>
36. <https://scratch.mit.edu/projects/88214225>
37. <https://scratch.mit.edu/projects/88214315>
38. <https://scratch.mit.edu/projects/88214885>
39. <https://scratch.mit.edu/projects/88222337>
40. <https://scratch.mit.edu/projects/88222344>
41. <https://scratch.mit.edu/projects/88223773>
42. <https://scratch.mit.edu/projects/88225627>
43. <https://scratch.mit.edu/projects/88225812>
44. <https://scratch.mit.edu/projects/88226081>
45. <https://scratch.mit.edu/projects/88264161>
46. <https://scratch.mit.edu/projects/88281683>
47. <https://scratch.mit.edu/projects/88293583>

48. <https://scratch.mit.edu/projects/88298269>
49. <https://scratch.mit.edu/projects/88301574>
50. <https://scratch.mit.edu/projects/88320199>
51. <https://scratch.mit.edu/projects/88376837>
52. <https://scratch.mit.edu/projects/88388440>
53. <https://scratch.mit.edu/projects/88464383>

## 2 Groups of experts

Table 1 shows the years of experience of the experts in each of the groups, as well as the mean experience of the groups, which ranges between 3.5 and 4 years for all of them.

Table 1: Years of experience of the experts in each of the groups

	Group 1	Group 2	Group 3	Group 4
	8	6	6	7
	3	4	4	6
	2	4	2	2
	2	2	2	1
Mean	3.75	4	3.5	4

## 3 Instructions for experts

### 3.1 Week 1

In this link you can access a form with the evaluation template that we ask you to follow this first week: [...]

You will have to fill out the form and submit it as many times as projects you evaluate. The list of projects that we ask you to assess this week is the following:

[...]

Although the rules of the competition state that the theme of the projects must be related to science, please do not take this issue into consideration for the evaluation of projects. We will later establish a filter in this sense, but we do not want it to influence your evaluations.

As you will see, this week's template is totally open, limiting us to ask for a global project score based on criteria that you, as experts, deem appropriate. Nonetheless we ask you to justify the score by explaining in the comments the criteria you chose.

### 3.2 Week 2

We write you with the new batch of projects of the programming contest with Scratch. If you have not yet evaluated the projects for week 1, please do not start with week 2 until week 1 is over.

In this link you can access a form with the evaluation template that we ask you to follow in this second week: [...]

You will have to fill out and send the form as many times as projects you evaluate. The list of projects that we ask you to evaluate this week is the following:

[...]

## 4 Templates for the assessment

The experts provided their assessments using Google Forms. The fields of the forms for each of the weeks are as follows:

### 4.1 Week 1

- URL of the project
- Global score of the project
- Justification for the assigned score

### 4.2 Week 2

- URL of the project
- Score in terms of creativity and originality
- (Non mandatory) comments on this aspect
- Score in terms of technical complexity
- (Non mandatory) comments on this aspect
- Score in terms of aesthetics and sensorial effects
- (Non mandatory) comments on this aspect
- Global score of the project