



# Measurement of effectiveness of Scrum training process using a Concept Inventory

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## Background

Development of competences of human capital using training processes. 4IR increase the demand for agile project management competences and require effective and monitoring ways of training professionals in real-time.

## References

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## Conclusions

The SCI reliability is low because the Cronbach alpha value = 0.545. The quality of questions of SCI was analyzed using the IRT, but further work is needed for improvement of the SCI. Thus, it is necessary to review the SCI questions and validate its content with a panel of experts.

## Objective

Develop an evaluation model for the effectiveness of a Scrum training process.

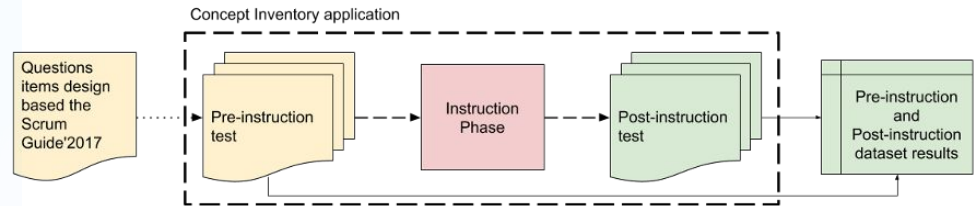


## Results

An Item Response Theory model considers that a learner's probability of getting the correct answer is related to his ability level. The mean post-instruction scores in the four groups analyzed were higher than the pre-instruction scores. We used the effect-size  $d$  measure to determine training efficacy comparing the two moments in all groups. The  $d$  values were more than 0.8, which means more than 79% of participants had learning gains.

## Methods

**Concept Inventory** is a set of questions that may be used before and after a training process, to evaluate misconceptions regarding one or more concepts.



The Scrum Concept Inventory (SCI) was applied in four groups in three universities in Brazil and Portugal in 2020, with 51 participants' total. All participants considered in this study responded to the pre-instruction and post-instruction tests.

