

Meta review - Group D - Betty's Brain

Positive aspects:

- Test group
 - The 5th graders are good subjects because they are not aware of their knowledge, so by teaching Betty they can learn to organise their knowledge.
 - One would need to make sure the test group has no previous knowledge of the subject.
- Previous studies
 - They present the history of the studies on this subject.
 - They go through the previous studies and explain how those have influenced their experiment and the factors they have decided on.
- Methodology
 - The difference between “learning” and “learning for future tasks” is analyzed.
 - The difference between “learning the information” and “learning to learn” is also analyzed.
 - Students were given enough time to understand how the system works.
 - Sufficient time between tasks was given in order for the students to forget how the system worked and correctly measure the progress.
- Structure
 - Individual sections were clear and explanations were given to support what the authors were doing in each one.

Negative aspects

- Paper structure
 - In the first few sections, a lot of background information is presented. However it would be better to start with an introduction to their study before going into depth of the background, otherwise the reader could be unsure of what the goal is.
 - Initially, they talk about three different ways to learn: ITS, SRL and LBT. Although, there is no further mention of ITS. It is assumed this is because they want to focus on Betty's Brain but the reason is not explicitly stated.

- In the conclusion, they don't explain the implications for the larger field. Instead they evaluate their study and present the possible future expansions.
- Results
 - Their statistics only show the mean and Standard Deviation (SD).
 - They have some very large SDs which could be influential. Moreover, they could provide more data measures, for example the median.
 - They talk about p values but do not put any meaning to it. Instead, they just vaguely state them without any context.
 - The representation measures aren't justified.
 - There is no evaluation of how the mentor affects the learning.
- Audience
 - It assumes previous knowledge of Betty's Brain.
 - It requires the reader to explore other papers in order to find some explanations of issues that were not included in the paper.

Our decision: **Neutral**

Although it is a good study, the paper is not suitable for an undergraduate book, without providing further context.