Marcus Pascual Group
12/10/17 (Sunday)

How Dragon Box 2 Helps Students Learn Algebra

Main Problem and Definition:

Most people know about the rather strenuous branch (according to most people) of math called, Algebra. Although, can it really be rather effortlessly taught by a game, called Dragon Box 2?

Well, before we talk about that, let's discuss the problem that the majority of people may struggle or/and dislike the world of Algebra, and usually would rather play a game not related to Algebra. Which means that students would strive with their studies with the subject of math.

The importance of it is that a lot of good-paying jobs may require Algebra, and those jobs, of course, help people with their lives at times. For example, a civil engineer might want to build something, like a bridge, which, would require the power of Algebra to build it and solve a possible problem in a city. I plan to work on it to show on how Dragon Box 2 could help students help them have an at least satisfactory job and that it could aid a community as a whole.

The Solution to the Main Problem:

As I mentioned before, the solution to the problem is a game called Dragon Box 2, which is a game whose main goal is to isolate x and to do so with the least amount of moves and the most simplified answer in later levels.

Progress to Date:

Currently, I have done all the levels and read an article about how a person (Fukomoto) thought about the game, and discusses about how academic, educational, and fun the game was.

Intro to Dragon Box 2

I've played Dragon Box 2 for 2 months and got some of the following information. Dragon Box 2 (called Dragon Box 12+ in the app store) is an educational game designed to teach students about elements of algebra:

- factoring,
- undoing operations,
- isolating variables,
- identity property,
- 0 multiplication property,
- additive identity property,

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- expanding parenthesis,
- multiplication of

its main goal is to isolate x in each level. It starts off with isolating x (represented as a dragon in a box) by removing “symbols” that represent 0 to, well, isolate x. It then builds up to more complex lessons like learning to expand with a variable or number multiplied with parentheses, factorising, etc. with symbols to represent numbers and variables.

How Fun Is It?

Students would usually find it fun for the most part; with the symbols helping them understand it easily instead of confusing variables and numbers at the start, gradually changing to actual numbers and variables. Which, after some time, you start solving rather complex equations with a brief amount of time. Take the image on the right as an example. (I think it’s fun, in my opinion.)

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How Educational?

Whilst it is fun, it is also very educational, as you can see on the image on the right, it teaches with the gradual change as I said before, with the game looking more of like what you see on actual algebra problems. Just so you will know, it also attempts to help children to use the least amount of moves in the game, with the green bar on top of each level showing the amount of moves to get an extra star. While at the same time, it helps students to get the most simplified value for x for another star. Like I said before, and as you can see on the image, it becomes more complex as you go (gradually) and gets quite complex, making it very educational. The lessons introduced before also get included at most later levels, making it easier to remember what it taught the player.

What About the Cons?

The main problem of this game is that it doesn't let the person playing it to do the arithmetic work, and does the arithmetic work by itself, for example, if you had to add -9 and 5, it doesn't require for the actual players do the work, and just leaves -4 with no work obligatory, which leaves possible "holes" in the actual experience, and can leave a student not so familiar with the arithmetic in algebra.

Conclusion

Though it is a very fun and educational game, it lacks the arithmetic work and can potentially leave holes. Although, it can still really help with the problem that most students struggle with the strenuous world of algebra.

Education Level: 90% very educational, but leaves "holes"

Level of Enjoyment: 90% most people would likely have fun, and I also found it enjoying

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References:

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