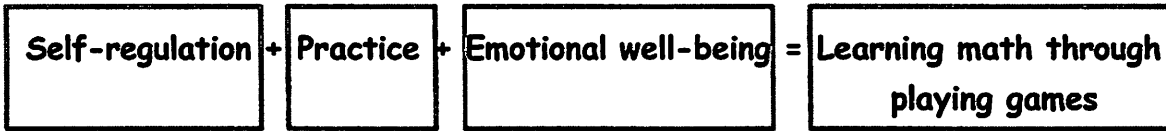


Let the Games Begin!

Three important reasons to play math games.

(We are sure there are many more than we have listed.)



Current studies in education point to the important role that self-regulation and emotional well-being have in becoming a successful motivated learner.¹ These attributes are evident and have been thoroughly studied in play-based learning.²

1) What is self-regulation anyway?

Self-regulation is the ability to think about ones learning, and set goals, make plans, and change plans as one goes along. It also involves motivation. Research has demonstrated that having good self-regulation skills is one of the most powerful predictors of children's academic achievement and emotional well-being and can be directly supported through playful activities.³

What do self-regulation and math games have in common?

Essentially, playing math games requires good self-regulatory skills. Working memory, flexible thinking, and inhibitory control (don't jump to conclusions, check your answers) are all necessary for math. In fact when researchers are studying self-regulation they use math activities to measure it!⁴

2) Emotional well being

Feeling competent, capable, and experiencing the pleasure in mastering a skill are all components of emotional well-being. Growing concerns over low ratings of emotional well-being in Britain have led to educational policies promoting play-based learning in schools.⁵

3) Practice, Yuk!

There is no getting around it. Remembering basic math facts takes practice. Traditionally, basic math facts have been taught through repetitious paper, pencil tasks otherwise known as 'drill and kill'. Teaching through games allows children to experience the art of 'practice' in a fun and motivating way. Research has demonstrated that when children perceive an activity as 'play' they attempt more solutions, are more creative in their responses, and will stick with an activity longer.⁶ Through play, children are able to focus on the process rather than on the outcome of the activity. This critical difference in games vs. worksheets, has been demonstrated to develop children's sense of self control and increase their engagement, which in turn leads to better academic performance.⁷

Tips for playing games with your student

Build choice into your lessons by allowing students to choose whether to use cards or dice, which game to play etc.

Be genuine, have fun! Keep the games moving. If they are lagging maybe they are too hard or just not a good fit. Don't be afraid to switch it up if the game has become a drag.

Make sure the student is clear about the goal of the game.

Model how you are figuring out the answers by saying your thinking out loud. For example: "Hmmm... $8 + 4$ well I know $8 + 2$ are 10 and that leaves 2 so the answer is 12 ". Encourage the students to vocalize their strategies in their own way, maybe not each time but often.

Fingers are a great manipulative for counting and you don't even need to buy them! Encourage students who struggle to use their fingers. Once they are very comfortable move to tapping fingers and finally to "in their head" math!

Footnotes

1 (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011).

2 (Whitebread, Basilio, Kvalja, & Verma, 2012)

3 (Whitebread & Coltman, 2011)

4 Brown, Roderick, Lantieri, & Aber, 2004).

5 (Howard & McInnes 2012)

6 (Howard & McInnes 2012).

7 Pelligrini (as cited in Whitebread 2012)