ALA Chapter 2 - Misconceptions about the Brain

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**Introduction**

Brain games or more appropriately known as brain-training games are the games or the activities that stimulate the thinking and analytical process of the mind and enable a person to exert certain mental effort to play the game. Brain games have been a center of attention for not only the game developers but also for the psychologists, social scientists and most importantly neurologists. The professionals in the field of neurology and psychology have been trying to create a link between various brain training games and the development of cognitive abilities.

There have been a number of studies and pieces of research that prove the existence of a positive relationship between various brain-training games and cognitive abilities. Where there are scientists who are praising the brain games and working day and night to bring more and more innovation in these types of games, there are experts who oppose the idea of such games. And consider them a total waste of precious time and money. In short, it can be seen that the scientists, experts, and professionals have a divided opinion on the fact that brain training games enhance the learning capability and cognitive abilities of a person (Nijholt, Bos, D. P. O. & Reuderink, 2009). The opponents of the notion that brain games make an individual smart put forward multiple kinds of questions based on logic and reasoning and demand the answer back in the same style. Some of these quest5ions have been discussed below and the answer to them has been tried to be provided based on intelligent reasoning and valid logic.

**Discussion**

It is a commonly known fact that brain games and brain training games are an important source of improvement of various cognitive abilities. These games have been used for a long time to enhance the cognitive and analytical abilities of human beings. The interesting fact about these games is that these games are not only used to judge and enhance the various problem-solving abilities in the human beings have also been tried on a number of animals to check their intelligence level. Monkeys and chimpanzees are at the top among these animals.

The various kinds of tests run on different kinds of animals especially monkeys, chimpanzees, elephants, and fish have proven that these games do not only enhance the learning capability in the humans but also improve the problem-solving skills in the animals.

Talking about the examples of some specific games that have been ranked at the top in improving the thinking capabilities in the humans and improving their decision making power, then it can be said that there is no specific number or examples of any such game (Bos, (D. P. O., Reuderink, van de Laar, Gürkök, Mühl, Poel, Heylen, 2010). a number of games contribute in this respect and test the analytical and critical thinking power of the brain. Some of the notable games among them in this respect are puzzle games, arcade games, crosswords, linking the words, and finding the words. Finding differences between two different images or pictures is also very effective in improving the judgmental and the analytical skills of the players

Brain training games have been found to enhance the memory and the cognitive skills if the players' bur up to a certain level. There have been multiple experiments in which it was observed that whether playing such games has any effect on the brain and abilities of the newborn child in pregnant mothers. The results of these experiments revealed that the children born the mothers who were involved actively in playing the brain-training games were much sharper and smarter as compared to the kids born to the mothers who did not play brain games.

Moreover, another concern is raised by the opponents of brain training games that these games do not help in slowing down the cognitive process of the brain. The aging process will take as it is and there will be no difference in the players and non-players of the game, at the end. Hence, the experts opposing the idea of brain-training games argue that there is no use of such games if the end result is ultimately the same. This assumption is quite wrong at many fronts as these games have also been proven to slow down the aging process of the brain and boost up t6hinking capabilities in older people (Imbeault, Bouchard, & Bouzouane, 2011). These studies were conducted by the Canadian psychology professors, Silvie Belleville, Isabelle Peretz, and Gregory West, working at Montreal University, on the people of ages between 55 and 75 years old. The results of these experiments showed amazing performance and the people involved in the gaming depicted amazing performance. In fact, the results of these studies showed a reversal of the brain aging symptoms and the grey matter in the hippocampus of these players increased considerably, which improved their cognitive capabilities. Hippocampus is the part of the brain that contains and releases grey matter, which is associated with cognitive abilities and memory. When the thinking process is nil or the brain is not being utilized much in the older age, the grey matter in hippocampus atrophies and eventually finishes, which leads to the reduced or no decision making power and lower cognitive abilities in older people.

Similarly, the opposing experts of brain training games present the argument that just like having no effect in the cognitive abilities, these games also play a very minor or no role in reducing the risk of Alzheimer’s in the old age people. This concern or reservation has also been shunned and nullified by the experts working in the area of brain games development proving their point with the help of various kinds of studies that assist in proving that playing brain games help in ultimately diminishing the various symptoms and effects of Alzheimer’s in the people above the age of 50. The idea of brain-training games is based upon the notion of reducing the risk of cognitive impairment by giving different sorts of challenges to the brain. This helps the brain in staying active and up to date with reference to the challenges of the modern world (Anderson, & Grossberg, 2014). The brain training games include various puzzles, crosswords, Sudoku, finding the words, various word games, and even chess. The world of these games is not only limited to physical games but also they can be played on the computer. Various kinds of experiments were conducted on using multiple gaming consoles like Super Mario ^, Xbox and PS4 so that no lagging or hindrances could be faced.

**Conclusion**

Hence, it can be concluded that brain games or brain-training games are the best sources for increasing the mental capabilities of a person. They not only enhance the cognitive abilities of a person but also help them in proper decision making and better judgmental processes. Brain-training games gave also been proved to bring an improvement in the thinking capabilities of the person. The problem-solving skills of an individual have been successfully proven to increase after playing brain-training games. In addition to this, it has also been proven that brain training games slow down the aging process of the brain, especially in older people. Experiments have shown that these game are also very effective in reducing the symptoms of Dementia and Alzheimer’s.

**References**

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