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Capstone

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### Annotated Bibliography

Anderson, John R. "Retrieval of information from long-term memory." *Science*, vol. 220, no. 4592, 1983, pp. 25-30. doi: 10.1126/science.6828877

This academic article discusses the retrieval information of Long-Term Memory and how LTM works. LTM is formed by building up an association between learned concepts. Teenagers who need to memorize much knowledge during education have been forming long term memory frequently. Their brain will activate the concept learned through space, order, or any other outsider objects when they want to recall something. This is related to my point of psychological influence on participative education. When students, for example, are doing a scavenger hunt with finding cards of concept during the game, they may recall the card's position as an association of the words on the card when they want to remind themselves about some specific information.

Bekebrede, Geertje, Harald JG Warmelink, and Igor S. Mayer. "Reviewing the need for gaming in education to accommodate the net generation." *Computers & Education*, vol. 57, no. 2, 201, pp. 1521-1529. doi: 10.1016/j.compedu.2011.02.010

This article focuses on the gaming effect in education and describes the experiment researches did. Current students prefer a more game-like or technology-rich education because it fits their affections. When students are gaming, as shown by the experiment participants, they can memorize more efficiently as lastingly because they are immersing the role with total participation. Suggesting the benefit of participative education is one of my arguments. When I use this example as a reference, it can be a strong example of how fully participation helps education.

Carrell, Scott E., Teny Maghakian, and James E. West. "A's from Zzzz's? The causal effect of school start time on the academic achievement of adolescents." *American Economic Journal: Economic Policy*, vol. 3, no. 3, 2011, pp. 62-81. doi: 10.1257/pol.3.3.62

This article attempts to convey that early school time hinders the learning process for teenagers. The data shows that more than one-quarter of students fall asleep at least once a week. Most students wake up earlier than the circadian rhythm's peak production of melatonin, a kind of sleep hormone. Since so many schools ask pre-8AM attendance at school, many students nowadays appear to experience depressive mood and constant fatigue, influencing their concentration ability. It is hard to implement this hypothesis because of the

traditional schedule and skeptical parents about this theory. Explaining the fact that today's education is tedious is one of my arguments.

Chun, Bo Ae, and Hae Ja Heo. "The effect of flipped learning on academic performance as an innovative method for overcoming Ebbinghaus' forgetting curve." *Proceedings of the 6th International Conference on Information and Education Technology*, Association for Computing Machinery, 2018, pp. 56-60.  
doi: 10.1145/3178158.3178206

This article explains how the technique of Flipped Learning helps students to overcome forgetting content after the first exposure. Ebbinghaus's forgetting curve explains that people tend to remember more time after the second, third, or more exposure to a studied concept. Once one new knowledge is taught, students ask to watch a video tutorial before class, do various activities on the same thing in class, write a journal reflection after class regarding what they have learned, and watch another video tutorial before the next quiz. Flipped learning basically reinforced the habit of students reviewing contents of the same thing repeatedly to raise their academic performance. This repetitive learning strategy has a significant impact on the participants and serves as an example for my argument that "repetitive study strategy reinforces successful education."

Dionne I. Francis, Rick A. Hudson, Mi Yeon Lee, Lauren Rapacki and Crystal Marie Vesperman. "Motivating Play Using Statistical Reasoning." *Teaching Children Mathematics*, vol. 21, no. 4, 2014, pp. 228–237. JSTOR,  
[www.jstor.org/stable/10.5951/teacchilmath.21.4.0228](http://www.jstor.org/stable/10.5951/teacchilmath.21.4.0228).

This document focuses on applying participatory education in mathematics, which is currently the most tedious course considered by many students. Using this example, I can provide close to life examples to support my argument with personal examples that are easy to understand. This document uses the example of teaching students to figure out the number of siblings in a household. The question asked is, "how will you figure out?" and "how can you solve the problem for them?" Using those phrases in the question, the students can feel participating in the real case and may solve the question more efficiently.

Elena L. Glassman, Juho Kim, Andrés Monroy-Hernández, Meredith Ringel Morris  
"Mudslide: A spatially anchored census of student confusion for online lecture videos." *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, Association for Computing Machinery, 2015, doi:  
10.1145/2702123.2702304

This article explains an effective method for students to interact with the teacher while they watch online lectures by adding muddy dots on the parts of the slide, which confuses them. When students add a muddy point to the screen, the teacher should respond to it accordingly to resolve the problem. This article aims to establish a significant interaction between teachers and students while having online classes. Due to coronavirus's current issue, many schools around the world start using online video lectures, which causes asynchronous time difference, making the immediate explanation from teachers impossible. This adds many confusions, which is corresponding to the point that students nowadays feel perplexing during the study

Jones, Raymond C. "The 'Why' of Class Participation: A Question Worth Asking." *College Teaching*, vol. 56, no. 1, 2008, pp. 59–62. JSTOR, [www.jstor.org/stable/27559354](http://www.jstor.org/stable/27559354).

To explain why participative education is useful in education, I have to explain what participation actually means in many course evaluations for many schools. I will use this article as a reference because it explains many aspects, such as the intent behind participation, the type of participation, and its implication on education. This article concludes that grading participation's primary intent is to assure students' accountability (reading the assigned article already?), involve more learners, stimulate thinking, and invite contemplation. Considering those intents carefully, all of those reasons can be reasons why participation is crucial for students. This article also divides types of participation into ten kinds and describes how each form of participation value the ability of students. Lastly, participation is a means to push higher-level thinking by forcing students to actively do easy tasks.

Mark G. Stokes, Kathryn Atherton, Eva Zita Patai and Anna Christina Nobre. "Long-Term Memory Prepares Neural Activity for Perception." *Proceedings of the National Academy of Sciences of the United States of America*, National Academy of Sciences, vol. 109, no. 6, 2012, pp. 1838–1839. JSTOR, [www.jstor.org/stable/41477033](http://www.jstor.org/stable/41477033).

This article explains how long-term memory helps in perception. It discovers that the hippocampus creates a link between the past event and future goals according to experiences. Training on forming long term memory, which assists perception skills, is essential to students because many concepts learned by students now do not just remember specific points, but instead apply the concepts and think deeply into the implication of learned things. Education techniques utilizing the property of long-term memory, such as repetitive recall, will be beneficial, which is one of my scope points.

Murre JMJ, Dros J. Replication and Analysis of Ebbinghaus' Forgetting Curve. *PLoS ONE*, vol. 10, no. 7, 2015, pp. 1-23. doi: 10.1371/journal.pone.0120644

This article has a thorough analysis of Ebbinghaus's Forgetting Curve's psychological concept, which supposes that people can relearn something faster than before because they still unconsciously possess the image representation in their brain. Experiments on

Ebbinghaus's Forgetting Curve can be a precursor of the implicit memory test. It also emphasizes the importance of getting sufficient sleep and its damage on daily performances. I will be using this as a psychological term to explain the psychological benefit of applying a valid teaching technique. Besides, this can also be used as a sub-argument for avoiding early school time in another argument: Students these generations feel tedious during the study.

Race, Elizabeth, Keely Burke, and Mieke Verfaellie. "Repetition priming in amnesia:

Distinguishing associative learning at different levels of abstraction."

*Neuropsychologia*, vol. 122, 2019, pp. 98-104. doi:

10.1016/j.neuropsychologia.2018.11.007

This academic article describes the relationship between repetition priming and associative learning with abstraction. For students today, many course contents are abstract and hard to understand just by memorizing a formula. Finding repetition helping learn things in abstraction will be beneficial because educators can use it afterward. It has been proved that repetition priming is one example of repeated exposure that leads to positive behavioral facilitation. I am going to discuss the importance of repetition. This repetition priming is included as one example of how repetition influences teenagers' study, which can be used as a useful source.

Rönnlund, Maria. "Young Citizenship—Academically High-Achieving Middle-Class

Students in Transitions Talk about Participation." *Youth on the Move: Tendencies*

*and Tensions in Youth Policies and Practices*, edited by Kristiina Brunila and Lisbeth

Lundahl, Helsinki University Press, 2020, pp. 17–36. JSTOR,

[www.jstor.org/stable/j.ctvx8b70v.4](http://www.jstor.org/stable/j.ctvx8b70v.4).

This chapter of the book discusses how participation in the community in the future and now related to the middle class educated students. Many schools today are trying to let students participate in the social community and doing services. This is an example of participative education because it lets teenagers understand applying theoretical knowledge into real life. Experiencing or participating in a community cultivates, giving voice to one's opinions, sharing decision-making, and implementing the action, which is definitely useful in future employment. My point of the essay will discuss how participation should be viewed as valuable in education. Participating in real cases can create scenarios or difficulties that may be faced by students in the future, such as emergencies, so it is important, as described by one part of my essay.

Simpson, William B. "Revitalizing the Role of Values and Objectives in Institutions of

Higher Education: Difficulties Encountered and the Possible Contribution of External

Evaluation." *Higher Education*, vol. 14, no. 5, 1985, pp. 535–551. JSTOR,

[www.jstor.org/stable/3447055](http://www.jstor.org/stable/3447055).

This academic article aims to demonstrate the importance of organized values and objectives in the educational process. Difficulties are identified when assessing the achievement in reaching the objective. This is because many educational institutions, after deciding on a specific goal, narrow the alternative considerations to reach the essential goal, is being sought. This lets students feel that they are learning ways to solve questions in the course and ignore the purpose and why teaching them. One of my argument is that educations nowadays are perplexing for students. The incapability to identify why learning the things learned in school is a primary concern of current students.

Watanabe, Noriya, and Masahiko Haruno. "Effects of subconscious and conscious emotions on human cue–reward association learning." *Scientific Reports*, vol. 5, no. 1, 2015, pp. 1-6. doi: 10.1038/srep08478

Many real-life conditions will be processed unconsciously in our brain and affect behavioral adaptations. This article focuses on the relationship between emotional cue reward association and learning. They find that fearful emotion does influence learning efficiency more than the neutral face. One of my arguments is that letting students participate in the learning process vividly can produce a better outcome of learning because it triggers students' emotional fluctuation. When the students are fully immersed, for example, in the result of gaming or a competition, they will become aware of the reward and the failure, which influence their performance.

Missingham, Bruce. "Participatory learning and popular education strategies for water education." *Journal of Contemporary Water Research & Education*, vol. 150, no. 1, 2013, pp. 34-40. doi: 10.1111/j.1936-704X.2013.03133

This article carefully justifies the importance of participatory learning in education with many specific experiment cases. With participatory education, the student can learn not only theoretical knowledge but also skills and attitude. The researcher concludes that pedagogy should include the appreciation of participatory activity to cultivate critical thinking skills. By adding another benefit of critical thinking to why participatory education should be applied, my argument can be stronger. Therefore, I will reference the cases in this article.

Nathaniel F. Watson, Jennifer L. Martin, Merrill S. Wise, Kelly A. Carden, Douglas B.

Kirsch, David A. Kristo, Raman K. Malhotra, Eric J. Olson, Kannan Ramar, Ilene M.

Rosen, James A. Rowley, Terri E. Weaver, Ronald D. Chervin. "Delaying middle school and high school start times promotes student health and performance: an

American Academy of Sleep Medicine position statement." *Journal of Clinical Sleep*

*Medicine*, vol. 13, no. 4, 2017, pp. 623-625. doi: 10.5664/jcsm.6558

This academic article specifically discusses how tedious it relates to the school day activity engagement and its impact on attendance. Short sleep associates with increased depressive mood, which causes less active participation in school activities and poor school performance. This article also points out some students cannot arrive at school on time and lose many opportunities to engage in the first period. Since every middle school and high school student deserves the opportunity to start school awake, alert, and ready to learn, the schedule delay should be enforced in many schools as much as possible. The education nowadays feels tiresome for students because their teenagers' circadian rhythm leads to their sleepiness. There is also a gap between published scientific knowledge and public awareness of the untoward consequences of early start times, and this is where I can use it as a reference for explaining why the student feels tiresome.