



Evidence-Based Study Methods to Mitigate the Forgetting Curve

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“The mark of a successful college student is the mastery of knowing not only what to study, but also how to study it.”

— Patricia I. Mulcahy-Ernt.

Often, faculty receive questions from students inquiring about the best methods for study. Educators know it is not unusual for students to experience learning loss between semester and summer breaks (Great Schools Partnership, 2013). Learning loss and the forgetting curve are well described in adult learner literature. Learning loss is defined as, “a general or specific loss of knowledge or skills due to an extended gap or discontinuity in a student’s regular education program” (Law Insider, n.d.). There is a normal pattern of forgetting during the education process that is well known (Donnelly & Patrinos, 2021). A review of the literature also reveals there are interventions to address this phenomenon (Wittman, n.d.). Academic programs, faculty, and students should coordinate efforts to intentionally intervene and mitigate the forgetting curve.

Ninety-four percent of the student population has been impacted by the pandemic (Donnelly & Patrinos, 2021). Some faculty and students had challenges with the transition to remote learning systems during early pandemic sequestration and this may have introduced a period of discontinuity. The uncertainty in the lives of students and the necessity for them to participate in coursework through new online applications contributed to an increase in their cognitive load. And because working memory is finite, these circumstances may lead to exacerbation of learning loss and the forgetting curve (Gutierrez, 2015). Collectively, higher learning institutions are challenged to support student success and retention during this peri-pandemic era.

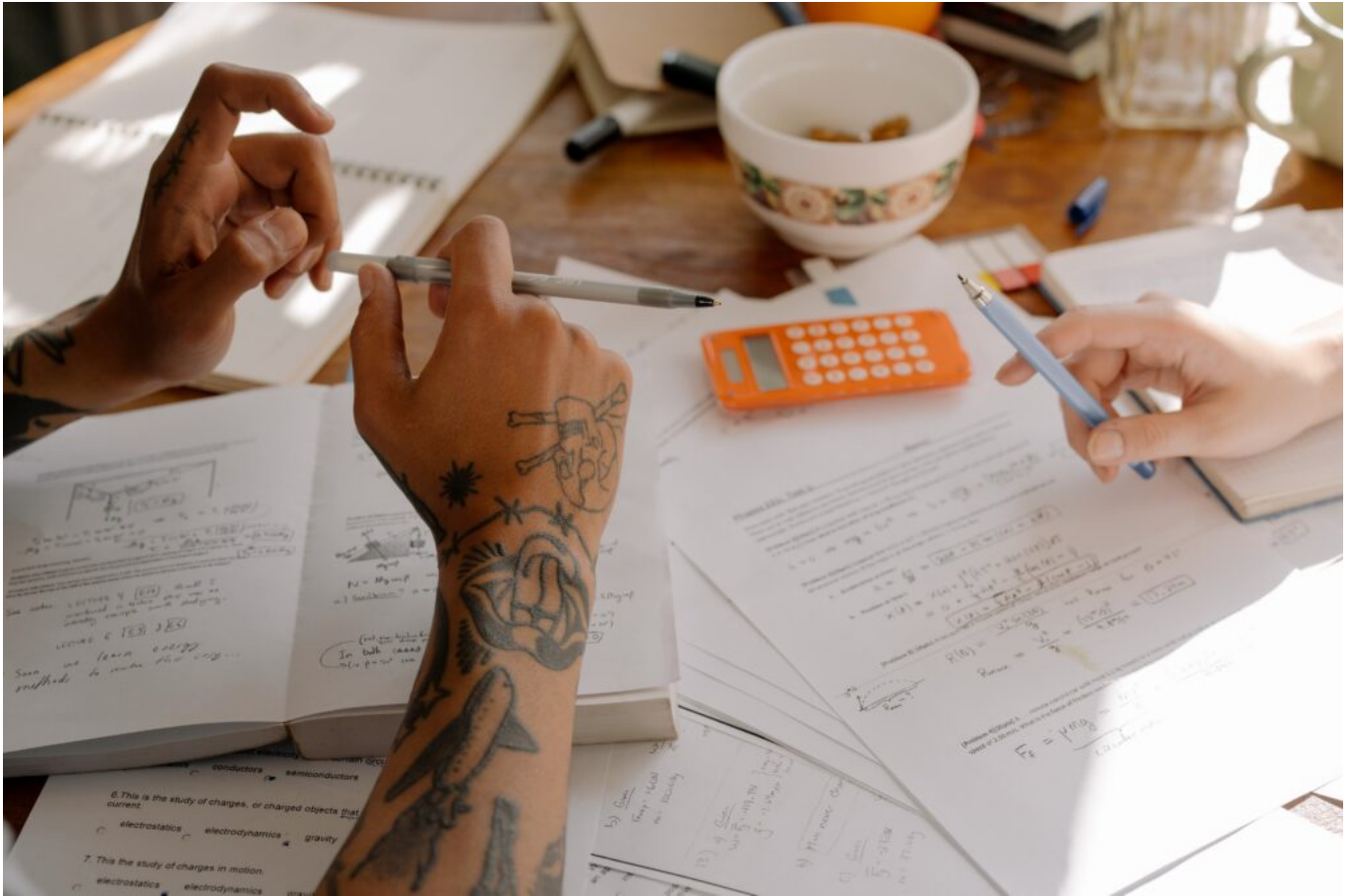


Photo by cottonbro:

<https://www.pexels.com/photo/person-with-tattoo-on-arm-holding-pen-writing-on-white-paper-4778424/>

Various authors agree there are evidence-based study methods that will improve students' retention of information (e.g., active recall and spaced repetition; [Abdaal, 2018]). During the pandemic when the academic environment required transitioning to remote learning applications, patterns of student learning loss emerged revealing widening disparity due to the inequity in their socioeconomic circumstances (Donnelly & Patrinos, 2021). Donnelly (2021) conducted an early systematic review of studies (completed between March 1, 2020, and March 18, 2021), measuring learning loss evidence. Some students' academic performance improved; others showed a decline. The academic performance variation in the student population of higher learning institutions, during the pandemic, is described in the literature. Some students had supportive environments during this time and others did not. And it showed (Gonzalez, et al, 2020).

Fortunately, all is not lost. As faculty, we appreciate that while students may have experienced some adverse conditions during the pandemic sequestration, they did learn new valuable skills and took on new roles with family and friends (Strauss, 2020). Some students had more time to reflect, or problem-solve. Other students continued to work in the

community under extraordinary circumstances.

At Detroit Mercy, faculty remain committed to the university mission. The evidence shows we can help students cope by shifting their focus to the positive aspects of their peri-pandemic learning experiences (Strauss, 2020).

One important intervention faculty may use to support students is to provide evidence-based study methods to them. See Table 1 for evidence-based study methods that will encourage students to utilize active reading and recall methods to augment their academic performance. Evidence-based study methods will help students study more effectively and achieve higher academic performance in their educational programs. Improved study habits will build their confidence, and self-esteem and help them grow professionally. At Detroit Mercy, we are preparing graduates to be scholars for life.

Table One: Evidence-Based Study Methods

Method	Author(s)/citation	Link to resources/descriptions
Active reading	Frank, T. (2014, Nov 20). <i>How to read your textbooks more efficiently</i> . College Info Geek. YouTube	https://www.youtube.com/watch?v=tgVjmFSx7rg
Active reading, Pseudo-skimming	Frank, T. (2014, Dec 4). <i>Five active reading strategies for textbook assignments</i> . College Info Geek. YouTube	https://www.youtube.com/watch?v=JL0pqJeE4_w
Create effective study habits with 9 best scientific study tips	AsapSCIENCE. (2015, Sept 3). <i>The 9 best scientific study tips</i> . AsapSCIENCE. YouTube	https://www.youtube.com/watch?v=p60rN9JEapg
Flashcards	Frank, T. (2016, Jul 26). <i>How to study effectively with flash cards</i> . College Info Geek. YouTube	https://www.youtube.com/watch?v=mzCEJVtED0U



Spaced repetition	Osmosis. (2016, Aug 11). <i>Spaced repetition in learning theory</i> . Osmosis. YouTube	https://www.youtube.com/watch?v=cVf38y07cfk
Active recall and spaced repetition	Abdaal, A. (2018, Apr 4). <i>How to study for exams - evidence-based revision tips</i> . YouTube	https://www.youtube.com/watch?v=ukLnPbIffxE

Note: Faculty could copy the table above and share it with students. Faculty can provide space in each row under “Link to Resources/descriptions” for students and faculty to make their own notes as they follow along with the scholarly video content.

References

Abdaal, A. (2018, Apr 4). *How to study for exams - evidence-based revision tips*

[Video]. YouTube. <https://www.youtube.com/watch?v=ukLnPbIffxE>

AsapSCIENCE. (2015, Sept 3). *The 9 best scientific study tips* [Video]. YouTube.

Donnelly, R. & Patrinos, H. (2021, Nov 10). Learning loss during COVID-19: An early systematic review. *Prospects*. <https://doi.org/10.1007/s11125-021-09582-6>

Frank, T. (2016, Jul 26). *How to study effectively with flash cards* [Video]. College Info Geek. YouTube. <https://www.youtube.com/watch?v=mzCEJvED0U>

Frank, T. (2014, Dec 4). *Five active reading strategies for textbook assignments* [Video]. College Info Geek. YouTube. https://www.youtube.com/watch?v=JL0pgJeE4_w

Frank, T. (2014, Nov 20). *How to read your textbooks more efficiently* [Video]. College Info Geek. YouTube. <https://www.youtube.com/watch?v=tgVjmFSx7rg>

Gonzalez, T., de la Rubia, M. A., Hincz K. P., Comas-Lopez, M., Subirats, L., Fort, S.,



Sacha, G. M. (2020, Oct 9). Influence of COVID-19 confinement on students' performance in higher education. *PLoS One*;15(10):e0239490. doi: 10.1371/journal.pone.0239490.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7546684/>

Great Schools Partnership. (2013, Aug 29). *Learning loss*. Glossary of Education

Reform. <https://www.edglossary.org/learning-loss/>

Gutierrez, K. (2015, Jan 27). Managing cognitive load is a delicate act of balance.

SHIFT eLearning Blog.

<https://www.shiftelearning.com/blog/design-elearning-to-protect-the-learner-from-overload>

Law Insider. (n.d.). *Learning loss definition*.

<https://www.lawinsider.com/dictionary/learning-loss>

Osmosis. (2016, Aug 11). *Spaced repetition in learning theory* [Video]. YouTube.

Strauss, V. (2020, May 19). *Can we stop telling the 'corona kids' how little they are learning?* The Washington Post.

<https://www.washingtonpost.com/education/2020/05/19/can-we-stop-telling-corona-kids-how-little-they-are-learning>

Wittman, J. (n.d.). *The forgetting curve*. California State University Stanislaus.

<https://www.eng.auburn.edu/current-students/documents/forgetting-curve.pdf>