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Title                    Making bite-sized revision painless through the SymphoNIE app  
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This is the published version of the following article:

Kee, Y. H., & Swarup Mukherjee. (2022). Making bite-sized revision painless through the SymphoNIE app. *Learning@NIE*, 6, 10-11. <https://in-learning.nie.edu.sg/static/LearningatNIEIssue6/index.html>

# Making bite-sized revision painless THROUGH THE SymphoNIE APP

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Do you recall what you had for dinner two days ago? Most people will have some problem remembering what they ate. In short, humans are normally forgetful and do not commit to memory most things that happen. So, how confident are we that a student can recall the lesson contents days or weeks after attending a lecture if they do not make an effort to remember the content learned. Clearly, for most students, remembering what they learned in class is going to be harder as time passes without revision. It is perhaps natural to succumb to forgetting given that the modern life is one that is constantly bombarded with information and ongoing activities. However, if content knowledge retention is important, forgetting in this sense is not a trivial matter to be ignored.

As teachers, we all know the importance of revising frequently after a class because they are important for retention and knowledge consolidation. For one, we want the knowledge we had painstakingly imparted to our students to stick! Most of us would like our students to revise diligently after class. However, given the time constraints and other distractions confronting many students today, the majority of them would find it challenging to make efforts to revise timely amidst a typical week packed with lessons and other commitments. Consequently, this lack of revision could negate the efforts made by instructors in teaching the concepts in class. On the students' part, if they had attended the lessons and yet allow the knowledge gained momentarily in class to be forgotten over time, their attendance in the class had been in vain too.

Given this backdrop, there is a need to devise approaches to help students revise more readily and effortlessly, such as by facilitating learners' revision seamlessly in small pockets of time after class so that deeper learning can ensue naturally. Fortunately, the mobile phone we are carrying is a great tool, packed with functionalities for interaction that can be used to aid revision effort if used right. The idea we had was whether "revisions" can be infused into a learner's life seamlessly and effortlessly using a mobile-based app and simply letting the recollection of what was covered in class resurface multiple times in the students' minds within a week as they perform some tasks with the app.

To explore the feasibility of this concept further, we, A/P Kee Ying Hwa and A/P Swarup Mukherjee, developed a proof-of-concept mobile-based web-app with the support of the I<sup>3</sup>G grant called SymphoNIE. The aim is to explore the feasibility of using a web app for promoting learners' frequency of revision of concepts after attending each class.

In a nutshell, the use of the app first involves students providing a reflection point for the class he/she just attended, typically as an exit ticket activity at the end of class. This is the first time the students revisit the content taught.

Next, the class's responses are collated and sorted at the backend. On the next day, between 5 to 12 posts are assigned to each student for rating. It is intended that revision can be achieved simply by them reading the posts made by their classmates and interacting with them. It is likely that a small cue related to what contents were covered, presented through other students' posts, is enough to help students recall what was transpired in class. Further mental engagement with the contents can also help the student recall prior learning, thus assimilating new information to become part of long term memory which can be easily recalled later. After students rated the given posts over a day or two, the collective responses were then processed as a report and shared with every student and the lecturer via email by the end of the week.

Through this process, each student interacted with the content at least twice during the week. This strategy, facilitated by the SymphoNIE web app, is thought to enable revision on the move beyond the lesson.

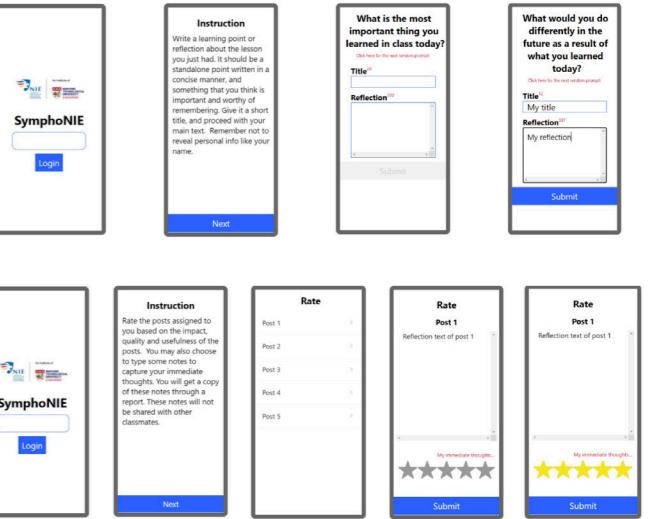


Figure 1: Screen capture of SymphoNIE app.

We tested the SymphoNIE app over a few courses and observed that students were interacting with the lesson contents via the app over the week as expected. However, there remains much to learn from this proof-of-concept exercise, and further development work is currently ongoing. More interestingly, an unexpected spin-off from this tool is that the collected posts were also deemed valuable for course instructors. Not only do they get a record of what students learned after their class as feedback to them, but course instructors also reported that they used the collated responses to briefly revisit the previous weeks' content at the start of the next class. New interpretations of the contents were discussed as a result of this added layer of interactions. That is another round of revision of content a week after the initial lesson!

Given that content knowledge retention is central to learning, and learners today carry a mobile phone, the use of mobile technology to aid revision in a bite-sized and painless fashion may further enhance the quality of learning. Currently, a URECA student is doing a study on the usefulness of this approach, to better finetune the app for the future. Other tutors who are keen to have their students use it and be part of the study can also contact A/P Adrian Kee Ying Hwa.

