

## GUIDE TO DELIVERING THE APPLE TREE EXPERIENCE USING THE SINGAPORE STUDENT LEARNING SPACE

This document serves as a guide for teachers on using the Singapore Student Learning Space (SLS) to replicate and deliver the AppleTree learning experience in the form of Computer-Supported Collaborative Argumentation (CSCA).

The SLS is MOE's core platform for teaching and learning and one of its key initiatives to transform the learning experiences of Singaporean students through the purposeful use of technology. SLS is continually being developed in response to the needs of students and teachers and features collaborative, analytical, and monitoring tools that can deliver the majority of AppleTree's features to replicate the learning experience (see Table 1). While SLS currently cannot visualise the density and interdependency of student contributions in a discussion, its agile development process may incorporate such features in future releases.

**Table 1: Executing AppleTree's features using SLS features**

No	AppleTree	SLS
1	<p><i>Create Class</i></p> <p>Teacher users can create classes by uploading a spreadsheet containing student information.</p>	<p><i>Class Groups</i></p> <p>SLS Class Groups are automatically created using subject class and teaching group information imported from the School Cockpit.</p> <p>For added flexibility, teacher users can create their own custom Class Groups on SLS, such as groups for banded classes or supplementary lessons.</p> <p>Student users can send a request to join a Class Group, by accessing a Class Group URL shared by a teacher or student.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/student-user-guide/organise/about-class-groups/">https://www.learning.moe.edu.sg/student-user-guide/organise/about-class-groups/</a> </p>
2	<p><i>Create groups</i></p> <p>Teacher users can create groups for an activity after creating a class.</p>	<p><i>Subgroups</i></p> <p>Teacher users can organise students into subgroups to assign modules to smaller groups of students or grant access to specific sections and activities only.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/teacher-user-guide/differentiate/create-subgroups/">https://www.learning.moe.edu.sg/teacher-user-guide/differentiate/create-subgroups/</a> </p>
3	<p><i>Create Activity</i></p> <p>Teacher users can create activities and switch phases within each activity.</p>	<p><i>Create modules</i></p> <p>Teacher users can create modules and organise them into sections, activities, and components. They can also freely navigate between these elements to suit their lesson design.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/teacher-user-guide/author/create-new-modules/">https://www.learning.moe.edu.sg/teacher-user-guide/author/create-new-modules/</a> </p>

No	AppleTree	SLS
4	<p><i>Create individual post</i></p> <p>AppleTree supports <u>SMCKI Phase 1</u> by allowing student users to individually contribute their ideas through post creation.</p>	<p><i>Discussion</i></p> <p>Teacher users can create a Discussion component within a module, allowing student users to individually contribute their ideas by creating posts in response to the discussion topic.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/teacher-user-guide/collaborate/add-a-discussion/">https://www.learning.moe.edu.sg/teacher-user-guide/collaborate/add-a-discussion/</a></p> <p><i>Learning Assistant</i></p> <p>Teacher users can activate and customise the Learning Assistant to guide students as they develop their ideas independently.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/teacher-user-guide/author/activate-learning-assistant-in-interactive-component/">https://www.learning.moe.edu.sg/teacher-user-guide/author/activate-learning-assistant-in-interactive-component/</a></p>
5	<p><i>Refine posts in groups</i></p> <p>AppleTree supports <u>SMCKI Phase 2</u> by allowing Group members to discuss and synergise ideas, refine published posts.</p>	<p><i>Discussion</i></p> <p>Student users within a subgroup can view each other's posts, upvote and leave comments. They can also edit and refine their own posts after receiving peer feedback.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/student-user-guide/collaborate/posting-on-a-discussion-topic/">https://www.learning.moe.edu.sg/student-user-guide/collaborate/posting-on-a-discussion-topic/</a></p>
6	<p><i>Create synthesised post and provide/receive feedback</i></p> <p>AppleTree supports <u>SMCKI Phase 3</u> by allowing student users to submit synthesised posts, give and receive feedback to and from other groups.</p>	<p><i>Discussion</i></p> <p>Teacher users can create a Discussion component that is accessible to all members of a Class.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/teacher-user-guide/collaborate/add-a-discussion/">https://www.learning.moe.edu.sg/teacher-user-guide/collaborate/add-a-discussion/</a></p> <p>Students can submit a synthesised post on behalf of their subgroup. All students can view, upvote, and comment on each other's posts.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/student-user-guide/collaborate/posting-on-a-discussion-topic/">https://www.learning.moe.edu.sg/student-user-guide/collaborate/posting-on-a-discussion-topic/</a></p>

No	AppleTree	SLS
7	<p><i>Refine synthesised posts</i></p> <p>AppleTree supports <u>SMCKI Phase 4</u> by allowing student users to evaluate comments on their synthesised posts and refine ideas.</p>	<p><i>Discussion</i></p> <p>Student users can view and evaluate comments, and refine their synthesised posts based on peer feedback.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/student-user-guide/collaborate/posting-on-a-discussion-topic/">https://www.learning.moe.edu.sg/student-user-guide/collaborate/posting-on-a-discussion-topic/</a> </p>
8	<p><i>Complete task individually</i></p> <p>AppleTree supports <u>SMCKI Phase 5</u> by providing student users the opportunity to apply their learning through individual work completion and reflection.</p>	<p><i>Assessment</i></p> <p>Teacher users can utilise the various assessment components on SLS to design and assign assessment tasks.</p> <p>They can choose to activate Feedback Assistants such as the Annotated Feedback Assistant, Short Answer Feedback Assistant, and Mathematics Feedback Assistant to provide guided support and immediate feedback to students.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/teacher-user-guide/assess/index/">https://www.learning.moe.edu.sg/teacher-user-guide/assess/index/</a> </p>
9	<p><i>Real Time Learning Analytics</i></p> <p>AppleTree enables teacher users to track the number of posts contributed by students and visualise the density of their contributions, and the level of interdependence among students and groups through a social network map, and the level of structural completeness of argumentation elements.</p>	<p><i>Monitoring</i></p> <p>Teacher users can monitor the completion status of a student across all components such as Discussion, Poll and questions. Teachers may also download student responses for further analysis.</p> <p><a href="https://www.learning.moe.edu.sg/teacher-user-guide/assess/monitor-students-responses-in-an-assignment/">https://www.learning.moe.edu.sg/teacher-user-guide/assess/monitor-students-responses-in-an-assignment/</a></p> <p><i>Data Assistant</i></p> <p>Teachers can also activate the Data Assistant for Discussion and question components supported by the Short Answer Feedback Assistant. For Discussions, the Data Assistant groups student posts into themes, enabling teachers to provide quick, targeted feedback. For question components supported by the Short Answer Feedback Assistant, the Data Assistant identifies common student errors, helping teachers address them effectively.</p> <p>For more information:  <a href="https://www.learning.moe.edu.sg/teacher-user-guide/assess/analyse-students-responses-with-data-assistant/">https://www.learning.moe.edu.sg/teacher-user-guide/assess/analyse-students-responses-with-data-assistant/</a> </p> <p>SLS is not able to visualise the density of student contributions in the form of a social network map.</p>