Topic 1: Recent Developments in AI Integration in Education:

A Resource Generation Perspective

PDF: https://go.gov.sg/sst2025table1

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SCAN ME

Abstract

1. AI-Generated Educational Content

- AI-powered tools are now capable of generating high-quality educational materials tailored to specific curricula and learning objectives. For example, the SLS ACP Authoring Co-Pilot leverages AI to assist educators in creating engaging and curriculum-aligned resources efficiently. This tool automates content generation, suggests instructional improvements, and enhances accessibility by adapting materials to diverse student needs. Additionally, AI can generate interactive response questions for SLS by coding xAPI-compatible assessments. Using AI-generated JavaScript, interactive questions can dynamically capture student responses and send scores through sendScore(), ensuring seamless integration with SLS analytics for real-time performance tracking and feedback.

2. AI in Lesson Planning

- AI-powered tools are now capable of generating high-quality educational materials tailored to specific curricula and learning objectives. For example, the SLS ACP Authoring Co-Pilot leverages AI to assist educators in creating engaging and curriculum-aligned resources efficiently. This tool automates content generation, suggests instructional improvements, and enhances accessibility by adapting materials to diverse student needs.

3. AI-Powered Tutoring and Student Assistance

- SLS Short Answer Feedback Assistant leverages AI to analyze student responses, offering personalized feedback and guiding learners towards improved understanding. By using natural language processing, this tool can provide instant, context-aware feedback, helping students refine their answers and deepen their comprehension of key concepts.

Table 1

Please capture the main points of discussion below

Table 2

Please capture the main points of discussion below

Table 3

Please capture the main points of discussion below

References for 1: AI Generated Educational Content

1. [ACP generates SLS Module, Section, Activity](#) & [Quiz](#)
2. [DOC/PDF to SLS - Physics 8867 Paper 1 Best Practice for Using AI Tools to Copy Physics Papers into SLS](#)
3. [Gemini 2.5 Pro generates HTML5 games / interactive](#)
4. [ChatGPT o4 generates step-by step solution to complex questions](#)
5. [CapCut generates AI story video](#) for engagement
6. [Riffusion generates songs](#) for learning and professional learning.
7. [Trae.AI to develop HTML5](#)with xAPI to send Scores and Teachers' Feedback back to SLS

1.1a ACP generates SLS Module, Section, Activity

1.1b ACP Quiz

1.2 DOC/PDF to SLS - Physics 8867 Paper 1 Best Practice for Using AI Tools to Copy Physics Papers into SLS

1.3 Gemini 2.5 Pro generate HTML5 games / interactive

1.4 ChatGPT o4 generates step-by step solution to complex questions

You're in the **Module View mode**

Expand All | Collapse All

OPEN MODULE PLAN

Introduction
Section A - A

Using Deepseek and ACP to create copy of...

1 (to delete before giving to students) Description

2 PHYSICS Paper 1 Multiple Choice SPECIMEN...

3 (to delete before giving to students) PHYSICS Paper ...

Section Completion

Module End

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2 PHYSICS Paper 1 Multiple Choice SPECIMEN...

Page

1 2 3 4 5 6 7 8 9 10 11

Feedback

Let's denote the components of vector **P** as (P_x, P_y) and those of vector **Q** as (Q_x, Q_y). We know:

1. $P_x = Q_x$ (equal x-components).

2. $|\mathbf{P}| < |\mathbf{Q}|$ (the magnitude of **P** is smaller than the magnitude of **Q**).

Comparing the y-components

- The magnitude of a vector $\mathbf{R} = (R_x, R_y)$ is given by $|\mathbf{R}| = \sqrt{R_x^2 + R_y^2}$.

- Since $|\mathbf{P}| < |\mathbf{Q}|$ but $P_x = Q_x$, the only way for **Q** to have a larger overall magnitude is for Q_y^2 to be larger than P_y^2.

- Therefore, $|Q_y| > |P_y|$.

  (In most textbook examples, we assume both vectors lie in the first quadrant or have positive y-components, but the conclusion about the magnitudes holds regardless.)

Comparing the angles with the y-axis

- Let θ_P be the angle **P** makes with the positive y-axis, and θ_Q be the angle **Q** makes with the positive y-axis.

- If we measure θ from the y-axis, we can write $\theta = \tan^{-1}\left(\dfrac{x}{y}\right)$.

  (Assuming $y > 0$.)

- Since $P_x = Q_x$ but $|Q_y| > |P_y|$, the ratio $\dfrac{Q_x}{Q_y}$ is smaller than $\dfrac{P_x}{P_y}$.

- A smaller ratio $\dfrac{x}{y}$ means a smaller angle θ. Thus,

Help us improve 😊

1.5 CapCut generate AI story video for engagement

Screenshot showing SLS Community Gallery module view. Header reads: "Songs on Multiples remade using Gemini 2.5 Pro, Flash, Cline Bot, Trae with Flash, music by Riffusion and Suno."

Module plan sidebar:
- Introduction — Section A - A
- 1. Multiples of 2, 3, 4 and 5
- 2. Multiples of 6, 7, 8 and 9
- 3. Check Out Quiz using ACP to generate
- Module End

Introduction created using CapCut Ai Story

Video thumbnail: "Multiples Songs 2 to 9 | Fun Multiplication Music f..." with caption "the multiples of numbers from 2 all the way up to 9!"

© Content in the frame is from an external source

1.6 Riffusion generate song for learning and professional learning

1.7 Trae.AI to develop HTML5 with xAPI to send Scores and Teachers' Feedback back to SLS

tes Recordings - OneDr... Instruction Manuals... Instruction Manuals... Personal Data Prote... https://docs.google.... MOE-21CCWG-M

(A3,9) Insert Links to Sections

(A3,10) Insert Tooltips

(A3,11) HTML5 Content Development (Enhanced)

(A3,12) Text-to-Speech

(A3,13) Speech Evaluation Tool

(A3,14) Localisation and E-Dictionary
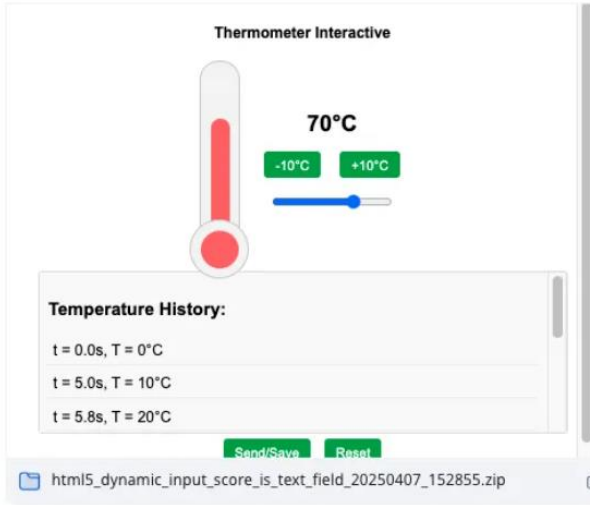
About Templates

(B1,i) Manage

Q1

Wee Loo Kang submitted on 07 Apr 2025 05:06 PM

Thermometer Interactive

70°C

-10°C +10°C

Temperature History:

t = 0.0s, T = 0°C

t = 5.0s, T = 10°C

t = 5.8s, T = 20°C

Send/Save Reset

html5_dynamic_input_score_is_text_field_20250407_152855.zip

Read Less

Suggested Answer | Feedback | Teacher Comments

Teacher Comments

Interactive Response Assistant
07 Apr 2025 05:06 PM

t = 0.0s, T = 0°C t = 5.0s, T = 10°C t = 5.8s, T = 20°C t = 6.5s, T = 30°C t = 9.3s, T = 40°C t = 9.8s, T = 50°C t = 10.2s, T = 60°C t = 10.7s, T = 70°C

+ ADD

MARKS 70/99

Reference for 2: AI in Lesson Planning

1. **Authoring Copilot**: ACP is an AI-enabled feature in SLS that supports lesson planning for all subjects and levels by generating a module and its corresponding sections, activities and components based on a teacher's inputs.

2. **ACP generates SLS Module, Section, Activity** & **Quiz**

3. **AIBots**: It has lesson planning bots.

2.2 AIBots: Lesson Collaborator Chatbot

References for 3: AI-Powered Tutoring and Student Assistance

1. **Adaptive Learning System**: ALS provides a personalised learning pathway for each student. It is currently available for Mathematics (Upper Primary and Lower Secondary) and Geography (Upper Secondary).

2. **Data Assistant**: It allows teachers to use natural language to query and speed up the process of qualitative analysis of students' responses.

3. **Learning Assistant**: LEA is a student-facing dialogic agent on SLS.

4. **Short Answer Feedback Assistant – Quiz**: It provides suggested marks and auto-generated feedback for free-response questions for any subject and level.

5. **Speech Evaluation Tool**: It provides feedback on students' spoken responses.

3.1 Adaptive Learning System

3.2 Data Assistant

71/119 participants

Question	Strongly Disagree	Disagree	Agree	Strongly Agree
Q1: The learning objectives were clearly stated and easy to understand.	0	0	39	32
Q2: The lesson content was relevant to my work.	0	0	26	45
Q3: The pedagogy and teaching methods helped me understand the topic better.	0	0	38	33
Q4: I had enough opportunities to participate and ask questions.	0	6	40	25
Q5: The teacher(s) explained concepts clearly and effectively.	0	0	35	36
Q6: The learning materials were helpful in understanding the topic.	0	1	29	41
Q7: The lesson was well-paced, giving me time to understand the material.	0	13	35	23
Q8: I feel more confident in my understanding of the topic after this lesson.	0	2	45	24

🧠 In-Depth Q9 Feedback Summary
🔑 Key Positive Themes

Theme	Description	Sample Phrases
✅ **Appreciation & Usefulness**	Many participants found the workshop "useful," "interesting," and "enriching."	"Thank you for sharing", "Very interesting workshop!", "This was a good workshop."
💻 **Hands-on Learning**	Participants strongly appreciated the interactive, experiential approach.	"Very hands-on session", "Appreciate the hands-on session", "I hope to have more hands-on interactive games workshops."
✂️ **Practical AI Tool Application**	The exposure to tools like ChatGPT, Claude, Gemini, and SLS gamification was valued.	"Useful for my lessons", "Easy to create activities", "Good exposure to AI"
👥 **Collaboration & Sharing**	Participants liked the sharing format and requested access to materials and shared folders.	"Keep the Google Drive available", "Please keep the sharing folder open", "Upload the lesson to the Community Gallery."

⚠️ Areas for Improvement & Suggestions

Concern	Description	Suggestions Made
🐢 **Pacing Too Fast**	Many mentioned that the session felt rushed, especially after a full day of work.	"Session a bit too short", "Too much to absorb in 3 hrs", "Can be slower in pace."
🧩 **Technical Challenges**		...e different from what yours look like."

1. Quiz End   ‹   D 2

3.3 Learning Assistant: (LEA) is a student-facing dialogic agent

Discussion Post / Live Chat Room (Group 1)

Live Chat Room (Group 1)
ONLINE MEMBERS 2 VIEW MEMBERS

12 : 19
20 : 00

Pauline
I cannot remember but I think that is correct - do you remember what the other two are?

07 May 2025 10:37 AM

I only remember the development of transportation

07 May 2025 10:47 AM

Pauline
Hmm I can't remember the other two. Could it be something to do with the idea of travel?

07 May 2025 10:48 AM

Allen is typing...

All conversations are viewable by your teacher

3.4 Short Answer Feedback Assistant – Quiz

3.5 Speech Evaluation Tool

ⓘ INSTRUCTIONS
You may record an audio clip of up to 5 minutes

I want all of you to remember that your job is to showcase to our students, our family, our country what we can achieve. You have been the pride of our nation and

Read More

ⓘ **The Speech Evaluation Tool has graded this submission**

▶ ━━━━○━━━━━━━━━━━━━━━━ 00:40 🔊 ━━━● ⚙

🎤 recording.mp3 ⬇

i want all of you to remember that your job is to so showcase to our students our family our country what we can achieve long come you have been the pride of our nation and i have faith that you will continue to do all this for many many many many many more years to come so long as we understand and never be complacent so long as we understand that it is no longer enough just to have yesterday's answers for yesterday's questions and that everyone is a creator so long as we understand that our valueadd value-add comes from our ability to connect and that everyone can be a contributor regardless of our station in life

Read Less

English Language Sp... 💬
Annotation · 💬 0
valueadd

OMISSION

English Language Sp... 💬
Annotation · 💬 0
value-add

INSERTION

English Language Sp... 💬
Annotation · 💬 0
connect

MISPRONUNCIATION