



Facilitating Digital Literacy through Implementing AI Tool Notebook LM with KWL Technique: A Case Study

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Abstract:

With the advent of Artificial Intelligence in the education field revolutionized teaching learning process. AI based application Notebook LM is best tool for summarizing, analyzing, converting content into podcasts, video. Notebook LM is AI powered knowledge organization tool. Once students understand the function of this AI tool, they can effectively use this AI tool for the learning purpose. This study investigates using KWL Know, W-Want to Know L- Learned technique for understanding Notebook LM among B.Ed. students of Chembur Sarvankash Shikshanshastra Mahavidyalaya. Structured workshop was organised by the investigator to understand the level of students with respect to before and after application of KWL in comprehension of NotebookLM the AI tool. The study is undertaken to study effectiveness of KWL technique in view of student's engagement, interest of student's in learning AI tools and reflective learning. KWL technique is used to activate prior knowledge and review on outcome of NotebookLM, the AI tool. Sample of 50 students participated in the workshop, where investigator distributed KWL charts to students. Pre and post sheets were collected to check reflections and analyse data using descriptive statistics and qualitative feedback. Findings indicate that Notebook LM is useful tool for the B.Ed. students to acquire 21st century teaching competencies.

Keywords: KWL Technique, Teacher Education, Notebook LM, AI In Education

Introduction:

Landscape of education has changed due to Artificial Intelligence. In the teacher education colleges digital literacy workshops are organized for exploring innovative approaches. Notebook LM is Google developed AI tool offers features such as automated summarisation, concept maps, question generation, ready to use podcasts and creation of videos thereby it is potential resource for academic source. Ogle, 1986 developed KWL technique which is metacognitive in nature. This technique connects student's prior knowledge sets learning objectives and reflects on acquired

knowledge and effectively apply the tool in academic framework. This study matters on organizing workshops for students to help them get mastery over AI tools so learning experience of the students shall enhance.

Objectives of the Study:

1. To study the prior knowledge of the students on Notebook LM.
2. To recognise the expectations of the students on Notebook LM through 'Want to know' phase.
3. To analyse the learning outcome after the workshop through 'Learned' phase.

4. To scrutinize the effectiveness of KWL technique in enhancing learning outcome on Notebook LM.

Review of Literature:

KWL Technique – The technique KWL was developed by Donna Ogle(1986). It is widely used in classroom to promote self-directed learning and reflection. KWL strategy used in classroom to activating prior knowledge and improving comprehension.

Google (2023) Introducing Notebook LM: an Ai powered note-taking tool. Retrieved from Google AI website.

Methodology:

1. Research Methodology: The investigator used KWL technique to assess the prior knowledge of the students, what they want to know and what they learnt from the workshop. An experimental study was undertaken to assess student learning with Notebook LM.

2. Sample: The participants consist of 50 B.Ed. students of I year and II year of Chembur Sarvankash Shikshanshastra Mahavidyalaya, Mumbai 71.

3. Tools and Techniques: The investigator prepared KWL chart of both Pre and Posttest for workshop documentation.

The investigator provided hands-on training on Notebook LM to the students. To collect the reflection of the student's feedback questionnaire was prepared for the student.

4. Procedure:

K and W stages – Pre workshop:

KWL sheets were prepared and distributed among students at K and W stages for listing what they already knew about AI tool Notebook LM and what they want to learn about Notebook LM that is W

Workshop activity – The investigator undertaken training programme use demonstration method for explaining Notebook LM benefits for their study. Guided exercises like uploading notes, summarizing chapters, generating questions were demonstrated through this workshop.

Post workshop (L stage) Students completed the 'Learned' section of the KWL chart and provided feedback.

Data Analysis:

- Quantitative analysis of chart done using frequency and percentage analysis.
- Qualitative analysis of chart done using thematic analysis of reflections received.

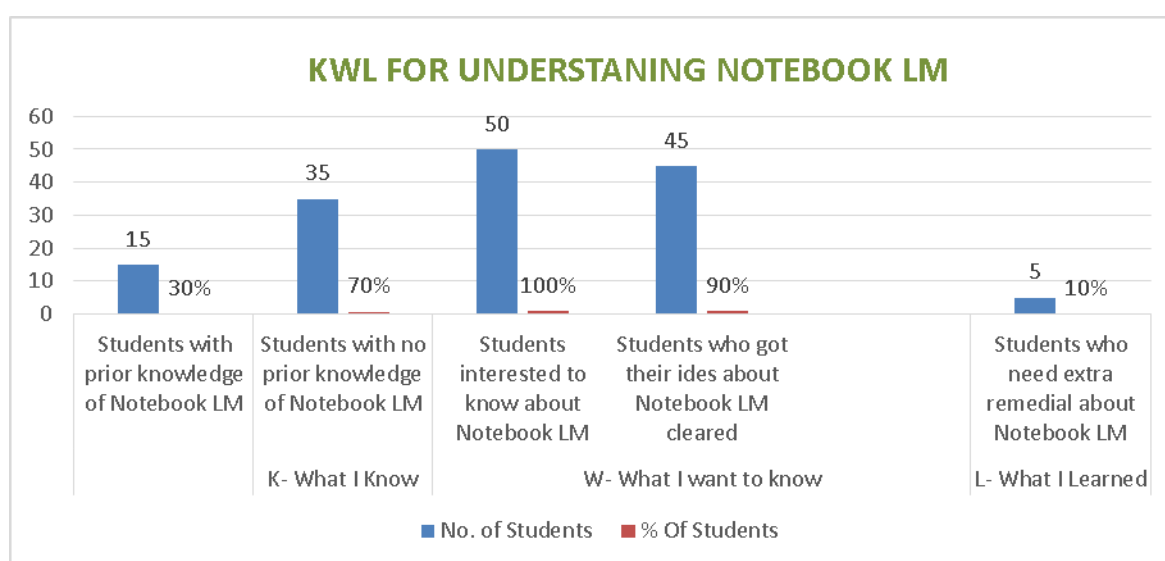
Results and Analysis:

1. KWL Chart Analysis:

- K Stage – Only 15% of the students reported prior familiarity with KWL techniques and awareness of different AI tools including Notebook LM.
- W Stage- Almost all students reported in the chart they wanted to know in depth the usefulness and practicality of Notebook LM in their B.Ed. studies.
- L Stage – Post workshop 90% of students reported confidence in using Notebook LM for summarization, note making, creating podcasts and video making.

2. KWL Chart Analysis of Notebook LM Workshop (N= 50 students):

Stage (KWL)	Theme	No. of Students	% Of Students
K- What I Know	Students with prior knowledge of Notebook LM	15	30%
	Students with no prior knowledge of Notebook LM	35	70%
W- What I want to know	Students interested to know about Notebook LM	50	100%
L- What I Learned	Students who got their ideas about Notebook LM cleared	45	90%
	Students who need extra remedial about Notebook LM	5	10%



3. Interpretation of the KWL Chart:

- Just 30% of the students were familiar with knowledge of Notebook LM.
- All students 100% expressed their interest in learning about AI tool Notebook LM.
- Post workshop, 90% of students, reported that their understanding was clear, showing the effectiveness of the training.

Discussion:

The study confirms that students have learnt AI tool Notebook LM through KWL technique in more organized way. Students move forward from vague awareness to clear understanding of using AI tools through interactive workshop. They perceived that Notebook LM is useful in making notes, summarizing, crating podcasts and AI video's

and easy to use. At the same time some students raised the worries on too much dependency on AI tools, ethical use of tools for academic purpose and emphasis on digital literacy programmes for students at larger scale.

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