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Data Literacy for Teachers: The New Catalyst at Sekolah Kebangsaan Kampong Gelam (SKKG), Port Dickson

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EXECUTIVE SUMMARY

At Sekolah Kebangsaan Kampong Gelam (SKKG), teachers often faced overwhelming amounts of student information, from grades and attendance to extracurricular participation, which remained underutilised until converted into visual insights. A specialised training program was implemented to equip young educators with the skills to transform raw data into interactive dashboards using Microsoft Excel and Google Looker Studio. Through this program, teachers progressed from basic data entry to advanced analytical competencies, including automated data categorisation, pivot tables, and dynamic reporting. The hands-on training enabled the creation of "living" dashboards that update automatically. This improved teachers' ability to make instructional decision-making, made it easier for teachers to communicate with parents based on evidence, and allowing teachers to monitor student progress more efficiently. Beyond technical proficiency, the initiative cultivated digital competency, enabling educators to shift from mere data collectors to strategic, data-driven professionals. As a result, SKKG has positioned itself as a future-ready school, where data visualisation not only streamlines administrative tasks but also drives personalised learning, early identification of learning gaps, and informed pedagogical interventions. This transition underscores a broader educational paradigm shift, demonstrating that data literacy is a catalyst for improved teaching outcomes, professional growth, and student success.

INTRODUCTION

In contemporary educational settings, teachers are frequently confronted with vast amounts of information, ranging from formative assessment results and attendance records to extracurricular participation and standardized test scores. In their raw form, such data often constitute mere "noise" until they are transformed into coherent visual representations. In this context, data visualisation emerges as a critical tool for educators (Masiello et al., 2024).

Data visualisation is more than just "making charts look pretty" among teachers. It is a vital cognitive tool that allows for instant pattern recognition. Instead of scrolling through hundreds of cells in a spreadsheet, a well-designed dashboard lets a teacher see at a glance which students are plateauing, which teaching strategies are effective, and where urgent intervention is needed.

By converting complex numbers into intuitive visuals such as heat maps, trend lines, and progress dials, teachers can identify equity gaps, enhance communication with parents, and personalise instruction. Ultimately, data visualisation empowers teachers to move from being "data collectors" to data-driven strategists, turning cold numbers into a roadmap for student success (Possaghi et al., 2025).

THE SKKG, PORT DICKSON EXPERIENCE

Recognising this shift, a specialised training program was recently conducted for the young teachers of SKKG, Port Dickson. The primary objective was to transition from manual record-keeping to the proficient creation of interactive reporting dashboards. The impact of this training on participants extended beyond technical skills; it sparked a fundamental shift in how they perceive their administrative roles.

1. Grasping the Analytical Skills

The journey began with Microsoft Excel (Figure 1), transforming it from a simple digital ledger into a powerful analytical engine. Participants moved past basic data entry to explore features that automate the heavy lifting. By mastering formulas and pivot tables, these teachers can now instantly categorise student grades without the risk of manual calculation errors.

Figure 1: Training on Microsoft Excel features for data analysis.

2. The Leap to Live Dashboards

The highlight of the program was the transition to Google Looker Studio as depicted in Figure 2. This hands-on phase allowed teachers to build "living" reports visual hubs were data updates automatically. The impact of this shift is threefold:

- **Time Reclaimed:** Automation means less time spent on "data crunching" and more time spent on actual teaching and student mentorship.
- **Professionalism in Communication:** During parent-teacher conferences, educators can now present clear, jargon-free evidence of a child's growth trajectory.
- **Evidence-Based Teaching:** Teachers can now validate their "gut feelings" with hard evidence, ensuring that no student is left behind in the data fog.

Figure 2: Example of interactive dashboards developed using Google Looker Studio, produced by the teachers.

A FUTURE-READY SCHOOL

This training extended beyond the mere acquisition of software skills; it was fundamentally aimed at cultivating digital competency. By providing these tools to the young educators at SKKG Port Dickson (Figure 3), the program ensures the school remains technologically aligned for "Generation Alpha" students who have grown up with digital technology. The dashboard has transformed from a basic administrative task into a powerful analytical tool. It now allows teachers to visualise and interpret data to better support each student's unique growth and progress.

Figure 3: Group of SKKG teachers participating in the data literacy training program.

CONCLUSION

Ultimately, the transition from manual Microsoft Excel to interactive dashboards marks a pivotal step in modernising the educational landscape at SKKG, Port Dickson. By bridging the gap between raw numbers and actionable insights, these young educators are doing more than merely updating their reporting methods; they are reclaiming their time and refining their pedagogical focus.

As these teachers return to their classrooms equipped with Microsoft Excel and Google Looker Studio, they carry with them a renewed sense of clarity. The "data fog" has lifted, replaced by a clear, visual roadmap that ensures every student's progress is tracked, every struggle is identified early, and every success is celebrated with evidence. In this new era of digital competency, the school isn't just keeping up with the times; they are setting a new standard for excellence in data-driven education.

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