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WHAT'S HAT FSKM

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LEVERAGING ONLINE REVIEWS FOR SERVICE IMPROVEMENT: SENTIMENT ANALYSIS OF SUKI-YA PAVILION

TIME SERIES FORECASTING USING THE PROPHET MODEL

MEDIA SOSIAL DAN KESIHATAN MENTAL PELAJAR

SMALL CHANGES, BIG IMPACT: THE ROLE OF THRESHOLD SELECTION IN EXTREME RISK ASSESSMENT

VISUALIZING CORRELATION STRUCTURES IN DATA USING R: METHODS AND APPLICATIONS

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WHAT'S WHAT FSKM

EDITOR'S NOTE

Welcome to this edition of What What's FSKM edition 1/2026 ! As we dive into the latest updates and stories, I want to extend a special thank you to all authors for their brilliant contribution to this issue. Your insights truly elevate our publication.

As we celebrate the festive season, I also want to wish all our readers and contributors Selamat Hari Raya Aidilfitri, Maaf Zahir dan Batin. May this season bring you and your loved ones immense joy and harmony.

Enjoy the read, and we'll see you in the next edition!

Dr Farizuwana Akma Zulkifle

Chief Editor,
What's What FSKM

EVOLUSI DEKAD 7

UNIVERSITI TEKNOLOGI MARA

Salam Aidilfitri

Maaf Zahir & Batin

Ikhlas daripada
Fakulti Sains Komputer dan Matematik
UiTM Cawangan Negeri Sembilan
Kampus Kuala Pilah

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Time Series Forecasting Using the Prophet Model

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EXECUTIVE SUMMARY

Forecasting helps organisations plan and make better decisions. The Prophet model is a modern forecasting tool that breaks down past data into patterns such as trends and seasonality. This makes the results easy to understand. It is widely used because it is fast, automated, and does not require advanced statistical knowledge. While it may not always be the most accurate method, its simplicity and clarity make it highly practical for real-world use.

INTRODUCTION

Accurate forecasting plays a crucial role in planning and evaluation, supporting informed decision-making across many disciplines such as business, education, healthcare, environment and population and demography. The most common approach is the extrapolative method which focuses on identifying regular patterns and trends in historical data and extending these patterns into the future using techniques such as moving averages and exponential smoothing. Recently, one of the extrapolative models used in time-series forecasting is the Prophet model, developed by Facebook and introduced by Taylor and Letham in 2018.

OVERVIEW OF TIME SERIES FORECASTING

Over the past few years, numerous studies have applied the Prophet model for time-series forecasting in diverse applications, such as air pollution analysis, COVID-19 infection trends, business forecasting, and public health surveillance (Navratil & Kolkova, 2019; Mishra et al., 2021; Hasnain et al., 2022; Zhang et al., 2023). This increasing use of the Prophet model is largely driven by its practical advantages, which make time-series forecasting more accessible and efficient for both analysts and decision-makers.

THE PROPHET MODEL

The Prophet model decomposes time-series data into trend, seasonality, and holiday components. It is suitable for practical forecasting applications involving complex temporal patterns. The model can be expressed as follows:

$$y(t) = g(t) + s(t) + h(t) + \varepsilon_t$$

where $g(t)$ is the trend function, $s(t)$ describes the various seasonal patterns, $h(t)$ is the effects of holidays and ε_t is a white noise error term. Figure 1 summarises the key advantages of the Prophet model. These include its interpretability, automation, and practical applicability in forecasting.

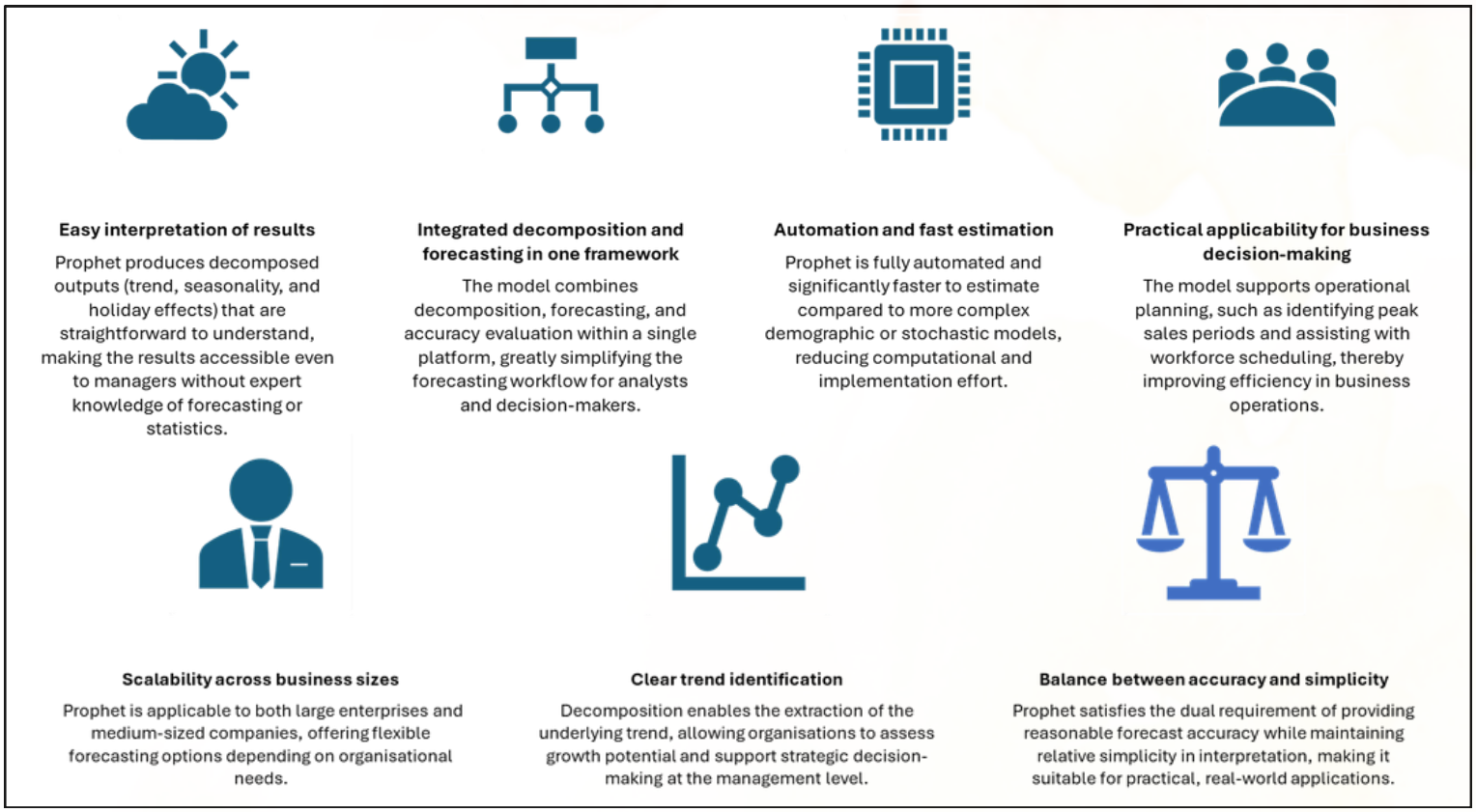

Figure 1: Advantages of the Prophet Model in Forecasting

Despite these advantages, the Prophet model may not always achieve the highest forecasting accuracy. It also has limited capability for multivariate modelling and may struggle with complex or rapidly changing data patterns.

CONCLUSION

In conclusion, Prophet is a practical alternative for time-series forecasting. Although it is fast and easy to use, it may not always be the most accurate method. Its strengths lie in usability, transparency, and automation.

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Leveraging Online Reviews for Service Improvement: Sentiment Analysis of Suki-Ya Pavilion

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INTRODUCTION

In today's digital era, businesses are no longer evaluated solely by revenue figures or quarterly sales reports, but also by how customers feel. Online reviews have become more powerful signals of brand reputation, service quality, and customer satisfaction. A single online review can influence public perception, including brand trust, and determine the customer's loyalty. In competitive environments, understanding customer sentiment can provide deeper strategic value when making decisions. Sentiment analysis is the process of examining the words written or spoken by a person to determine the emotions they're most likely feeling at the time (Fairlie, 2024). Rather than focusing purely on sales performance, sentiment analysis enables businesses to transform the unstructured textual feedback into actionable insights. It helps management identify strengths, detect recurring issues, protect brand reputation, and enhance the overall customer experience (Zahoor et al., 2020). In a high-end dining environment, customer perception is often more important than promotion. Thus, understanding sentiment is not only helpful but also essential for strategic decision-making.

The sentiment analytical approach is particularly relevant to Suki-Ya, a well-known Japanese restaurant brand that has significantly influenced Malaysian dining culture, especially through its popular outlet in Pavilion Kuala Lumpur. Suki-Ya has made a significant impact on Malaysian dining culture, introducing the concept of "all-you-can-eat" Shabu-Shabu and Sukiyaki, emphasising premium ingredients and authentic Japanese cuisine. For businesses like Suki-Ya, online reviews are not just feedback; they are a real-time reflection of brand health. This study utilises customer reviews from the Google Review platform to examine the practical implications of sentiment surrounding Suki-Ya Pavilion's branch. Through sentiment analysis, the study aims to find out the customers' online reviews to uncover customer sentiment, satisfaction drivers, and trends that can provide actionable insights for improving service.

DATA COLLECTION AND PREPROCESSING

This study gathered a total of 1396 reviews for Suki-Ya Pavilion, as shown in Figure 1. Each review captures four key pieces of information: the *reviewer's* name, the *review text* detailing their thoughts and opinions; the *publish date*, indicating when the feedback was posted; and the *stars given*, the rating each customer assigned.

reviewer name	Review Text	Publish Date	Stars Given
Aman Explorer	its a cozy and enjoyable japanese style dining experience with good food, friendly service, and a relaxing atmosphere. highly recommended just try to come	2025-11-08T03:02:11.055Z	5
ERNZ	my second time here. both visits I had to queue but the wait was less than thirthy minutes. staff took my order while waiting and served it once I was seate	2025-12-04T08:31:29.832Z	5
Alifia Miraza	came here during weekday lunch hour. at first, there was no queue just two people in front of me. but suddenly, people started lining up behind me. luckily, tl	2025-10-02T18:05:57.914Z	5
Suzie Chew	a cozy spot for affordable and satisfying japanese gyudon, ramen, and hot pot. the beef bowls are flavorful and tender, with just the right balance of sweetn	2025-08-09T07:19:48.772Z	5
Jas Goran	an exceptional choice for Japanese hotpot. while I can't speak to the hygiene standards of japanese restaurants overall, the food and meat here were absc	2024-12-20T07:43:42.120Z	5
Alyssa	I love the staffs here they are always ready to serve you I went with my boyfriend and had a great experience. they even gave us the big table although we	2025-09-18T06:23:41.590Z	5
Our_Discoveries5	sukiya at pavilion Kuala Lumpur is a great spot for shabu shabu lovers! they offer a nice variety of meats, vegetables, and sauces, and the place is clean v	2025-11-17T17:07:11.585Z	5
mj mas	great food and friendly staff, price is reasonable, halal food as per the staff	2025-10-28T13:38:16.947Z	5
BN _TBN	the beef was amazing, I ate a lot of it, the matcha ice cream was delicious, the sushi was great, the sauces was great, literally almost everything here was	2025-05-06T05:22:33.370Z	5
im dini 125	first time try eat sukiya, and you eat at here pavillion bukit bintang. overall im satifsying, i like the sukiya ice cream! so yummy, the service also good. the s	2024-12-17T15:20:58.317Z	5
Moh Agus Salim	one of the best place for japanese hot pot food in pavilion bukit bintang area. due to their reasonable price and you should waiting and queuing before havir	2025-01-16T01:12:09.516Z	5
Chef Jo	overall was good, first time trying the sukiya signature soup, was really delicious staff was friendly and helpful, they make me the ice cream because I requ	2025-12-03T17:27:17.694Z	5
Miralalalol	you have to choose two type of soups. they have variety of choices, no actual seafood and no grill. the taste is good. to me it is a bit pricey queue for abo	2022-11-22T08:47:29.149Z	5
Peico Aiman	sukiya is the spot if you're craving some serious japanese hot pot vibes. the brother are fire, especially if you like mixing things up. the meats are super fre	2024-08-10T11:12:27.383Z	5
Mithi Akanksha	great value for money. decent unlimited meat. lots of options in the health bar section. comfortable for solo dining too. avoid on weekends as there could be	2025-03-18T14:38:46.980Z	5
Mika Dela Pena	if you're a fan of hot pot dining, sukiya is one of those places that immediately makes it to your must-try list. one of the things I love about Sukiya is the var	2025-09-03T12:54:38.433Z	5
Okaylaaa J	the staffs were approachable.	2024-12-12T12:38:42.241Z	5
Insyirah Amirul	unlimited supply of good quality meat! it was so satisfying to eat here after a good workout although it took us about twenty five minutes to get seats. no ch	2019-08-18T04:39:24.324Z	5
MOHD SYAFIQ	plenty of food to choose from. the food are quickly replaced once finished. even the drinks and the soap are quickly refilled. good job to the waiters. I love t	2024-07-02T14:56:48.641Z	5
Carl Lie	overall satisfied the dine in. I chose kimchi and japanese style soap. slices meats are nice quality. beef, chicken and lamb served as your needs unlimited.	2021-12-07T06:12:33.604Z	5
Man Kin	came here for lunch with a friend tried the eat all you can hotpot promotion. there are plenty of vege to choose from and also unlimited trays of beef, lamb a	2019-11-27T11:14:10.579Z	5
Nurul Asyikin	first time eating here the staff is so friendly they carefully explain and serve us. I remember their name were ros and imran if i'm not mistaken. The food is g	2021-04-06T05:30:58.938Z	5
Mustafa Tuma	waited for thirty minutes in the long line and the wait was worth it the food was top quality and good and the servers were friendly. after the first visit i came	2025-07-27T09:58:11.226Z	5
Fateeha Ar	worth to wait from a long queue, it take fourty minutes to get in but i do not mind at all. the taste so good. If you all do not know how to choose or do the rigl	2024-02-11T16:26:09.805Z	5
Nora Ahmad	enough variety of buffet choices of veggies tofus seafood fresh chicken beef and lamb brought to your table watermelon so fresh and juicy plenty selection	2024-02-23T05:22:14.386Z	5
Angelina Bae	so many people, im with my three other friends got there during weekdays, we had to queue a little bit longer but it was worth it. the food is super delicious,	2023-07-28T15:01:41.262Z	5
Lemon T.	I love beef but my friend loves lamb at sukiya. meat texture is very nice and shabu soap is also delicious. but always long queue. staffs are polite and frien	2023-08-22T15:29:51.397Z	5
N Marriott	amazing value for money for what you get. unlimited meat, vegetable, soup, sushi, green tea and ice cream	2023-09-12T09:51:04.421Z	5
Kenny Kerry	the soups was good. meat and the buffet line was be refill fast. like them a lot. but the free orange juice was bad. it was too plain. good place for hotpot one	2023-04-26T07:27:32.166Z	5
Nurul J	food was amazing. we had sukiyaki and kimchi for our steamboat and it was delicious! buthe outlet need to be refurbish as ventilation is not good. they nee	2024-04-09T00:19:48.876Z	5
rouaa al mounir	nice restaurant it is crowded but the food is great, the service is very good not really expensive	2022-03-18T00:19:35.932Z	5
Syahirah Fadhil	the vibe is just there and the service just keeps on getting better!	2023-10-24T07:52:32.951Z	5
Zaina	nice experience, my first time to try this hotpot and it was incredibly delicious! they have weird ice cream flavor but its so good, you must try it.	2022-10-24T16:38:00.730Z	5
Muhammad Hazman Mail	really like this place the price here is relatively cheap compared to other restaurants that serves buffet. it is reasonable for you to queue a long line to eat	2022-04-09T03:01:59.033Z	5

Figure 1: Dataset for Suki-Ya Pavilion Reviews

Together, these four elements show how diners view Suki-Ya, giving the raw material to analyse trends, uncover insights, and identify the key factors behind customer sentiment. All datasets were gathered using a web-scraping approach through *Apify*, capturing data directly from the source. Raw data underwent careful preprocessing to ensure quality and usability. Data transformation converts unstructured information into a clean and organised format suitable for analysis. Data cleansing removed duplicates, incomplete entries, and irrelevant information, thereby improving overall accuracy (Singgalen, 2022). Data tagging assigned descriptive labels to each data point, enabling easy categorisation and exploration. Polarity analysis evaluated sentiment, classifying textual content as positive, negative, or neutral to reveal underlying trends. The result is a structured, reliable dataset ready for in-depth analysis, offering clear insights and meaningful patterns.

RESULTS AND DISCUSSION

This section presents the findings of the sentiment analysis of the Suki-Ya restaurant. This highlights customer satisfaction, trends by years, star ratings and the factors behind the reviews. These analyses enable a deeper understanding of customer perceptions and identify areas of strength and improvement for enhancing service quality and overall dining experience. Figure 2 below shows the results after the polarity process to identify customer satisfaction using the sentiment dictionary. Positive Sentiment with 1156 reviews, which shows the highest sentiment, reflects a high level of customer satisfaction and commonly includes positive expressions such as "delicious", “worth it" or "refill". Meanwhile, Neutral Sentiment with 161 reviews often has "mixed" reviews where a customer might say, "The food was good, but the queue was too long". The Negative Sentiment (69 reviews), which has the lowest sentiment, focuses on "pain points". In the context of Suki-Ya, this usually points to long wait times, crowded seating, or service delays during peak hours.

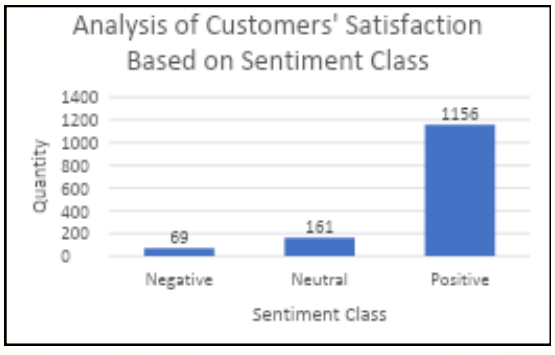

Figure 2: Analysis of Customers Satisfaction

The reviews trend, as shown in Figure 3, shows Suki-Ya reviews have gone up and down over the years, peaking in 2019 and 2023 but dipping in 2021 and slightly in 2025. The Suki-Ya business should identify the factors contributing to these drops. Understanding these drops is important to protect the restaurant’s reputation, as buzz tracking is crucial to the business.

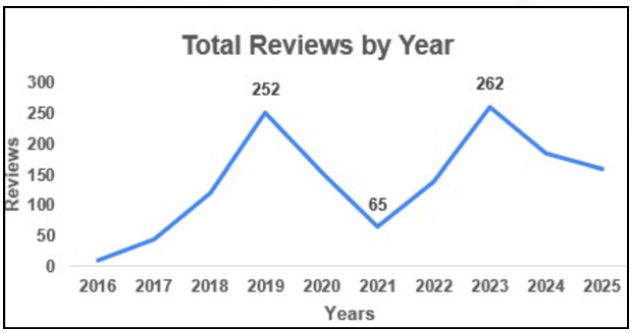

Figure 3: Reviews Trend of Suki-Ya by Years

Figure 4 below shows the percentage of star ratings given by their customers. The analysis of customer reviews shows that most customers are satisfied with Suki-Ya. The majority of reviews are 5 stars, 52% (726), followed by 4 stars, 30% (419), which indicates a high level of customer satisfaction. Lower ratings are much fewer, with 3-star 11% (153), 2-star 3% (42), and 1-star 4% (52) reviews making up only a small portion of the total.

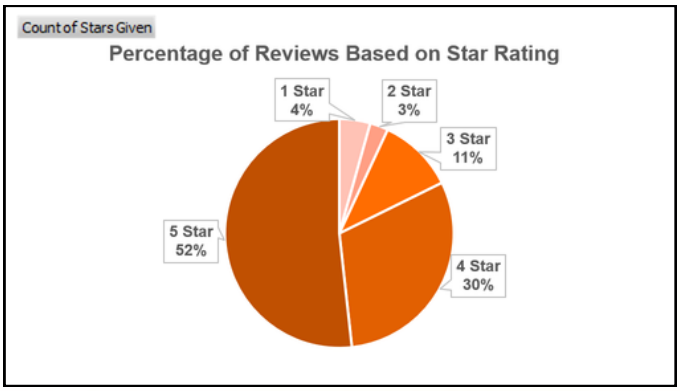

Figure 4: Percentage of Reviews by Star Rating

This result suggests that most customers are highly satisfied with their dining experience, particularly in terms of food quality. The relatively low number of negative ratings indicates limited dissatisfaction, although these reviews may still highlight specific areas for improvement.

Based on the sentiment analysis, the ten most frequently mentioned words in the reviews are food, meat, shabu-shabu, price, staff, place, service, queue, soup, and fresh. Most positive reviews commonly mention food, shabu-shabu, place, staff, soup, and fresh, indicating that customers are satisfied with the menu, quality of ingredients, dining environment, and overall experience. In contrast, the words "meat", "price", "service" and "queue" appear frequently in negative reviews, suggesting concerns related to consistency, cost, wait times and service efficiency. From the review observations, the Sukiya Pavilion branch faces several operational and perception challenges reflected in customer reviews:

- Operational Efficiency & Long Wait Times – High customer volumes during peak hours cause long waits and inconsistent service.
- Consistency & Perceived Value – Fluctuating meat quality and limited side-dish/dessert options affect the "all-you-can-eat" experience.
- Hidden Costs & Customer Satisfaction – The final net price (10% service charge + 6% tax) may not match the customer's expectations of value.

Based on the sentiment analysis findings, the Suki-Ya Pavilion can make some changes to resolve the problem and make a good and valuable decision for the business and customers. Suki-Ya Pavilion can boost customer satisfaction by speeding up service during peak hours, keeping consistent food quality, and expanding side dishes and desserts. Suki-Ya should clarify its pricing and ensure attentive staff. Combined with regular feedback it will help the restaurant meet expectations and enhance the overall dining experience."

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MEDIA SOSIAL DAN KESIHATAN MENTAL PELAJAR

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PENGENALAN

Pada masa kini, media sosial telah menjadi sebahagian daripada rutin kehidupan harian manusia, khususnya di kalangan pelajar institusi pengajian tinggi. Penggunaan telefon pintar dan capaian Internet yang mudah diakses menyebabkan media sosial digunakan hampir sepanjang masa, bermula seawal waktu pagi sebaik sahaja bangun tidur sehingga ke waktu malam sebelum tidur. Pelajar lazimnya menggunakan platform media sosial sebagai medium komunikasi, memperolehl maklumat, mengikuti perkembangan semasa dan sebagai sumber hiburan.

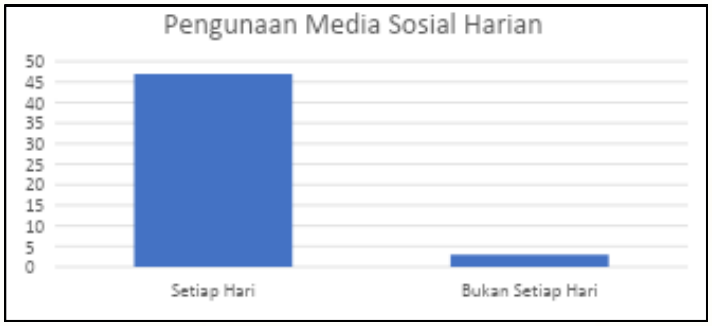
Fenomena ini menjadikan media sosial sebagai satu keperluan, dan bukan lagi sebagai pilihan dalam kehidupan pelajar masa kini, terutamanya generasi Z. Media sosial mempengaruhi cara pelajar berinteraksi, berfikir, menilai diri sendiri dan melihat kejayaan orang lain. Walaupun ia menawarkan pelbagai manfaat seperti akses maklumat yang pantas dan peluang pembelajaran kendiri, penggunaannya tanpa kawalan boleh memberi kesan psikologi yang serius terhadap pelajar.

HASIL KAJIAN RINGKAS

Satu kajian ringkas melibatkan 50 orang pelajar diploma semester satu di UiTM Kampus Seremban telah dijalankan menggunakan Google Form bagi menilai kesan penggunaan media sosial terhadap pelajar. Kajian ini merangkumi aspek penggunaan media sosial dalam rutin harian, emosi, dan impak terhadap kesihatan pelajar. Berikut merupakan hasil kajian terhadap penggunaan media sosial pelajar yang telah menjadi sebahagian daripada rutin harian mereka.

KEKERAPAN PENGGUNAAN MEDIA SOSIAL DALAM RUTIN HARIAN PELAJAR

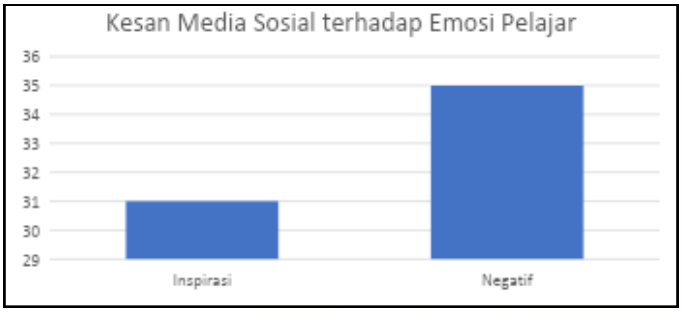
Rajah 1 menunjukkan bahawa 94% pelajar menggunakan media sosial setiap hari, sekali gus membuktikan bahawa platform tersebut telah menjadi sebahagian daripada rutin harian pelajar. Tahap kekerapan penggunaan yang tinggi ini mencerminkan pengaruh besar media sosial terhadap gaya hidup serta rutin harian pelajar di institusi pengajian tinggi.



Rajah 1: Kekerapan Penggunaan Media Sosial dalam Rutin Harian Pelajar

KESAN MEDIA SOSIAL TERHADAP EMOSI PELAJAR

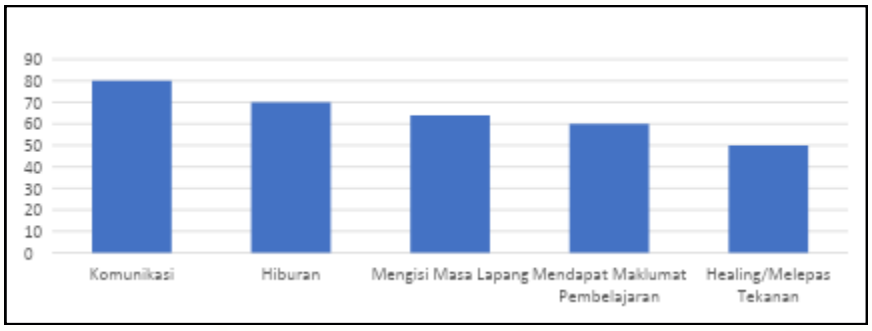
Rajah 2 menunjukkan kesan penggunaan media sosial terhadap emosi pelajar. Sebanyak 62% pelajar melaporkan bahawa mereka berasa terinspirasi dan termotivasi melalui media sosial, manakala 70% mengakui mengalami tekanan emosi akibat perbandingan sosial serta penggunaan media sosial yang berlebihan. Dapatan ini jelas menunjukkan bahawa media sosial boleh memberi manfaat, namun pada masa yang sama turut memberi tekanan kepada pelajar.



Rajah 2: Kesan Media Sosial terhadap Emosi Pelajar

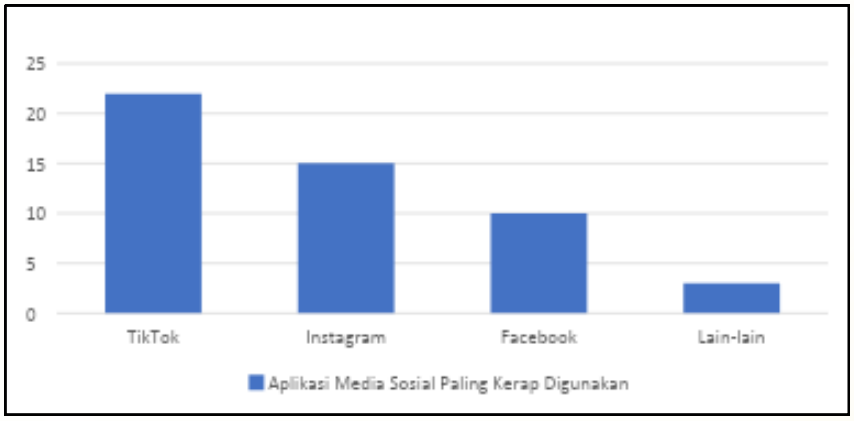
TUJUAN PENGGUNAAN MEDIAL SOSIAL

Berdasarkan graf dalam Rajah 3, tujuan utama penggunaan media sosial adalah untuk komunikasi dan hiburan. Selain itu, sebahagian pelajar turut memanfaatkannya untuk tujuan pembelajaran dan mengisi masa lapang. Dapatan ini menunjukkan media sosial mempunyai pelbagai peranan dalam kehidupan pelajar.



Rajah 3: Tujuan Pelajar Menggunakan Media Sosial

Aplikasi media sosial paling kerap digunakan ialah TikTok, yang mendominasi penggunaan dalam kalangan pelajar, diikuti oleh platform media sosial lain seperti yang ditunjukkan di Rajah 4. Corak ini mencerminkan kecenderungan pelajar terhadap kandungan visual yang ringkas, pantas dan mudah difahami.



Rajah 4: Aplikasi Media Sosial Paling Kerap Digunakan dalam Kalangan Pelajar

IMPAK MEDIA SOSIAL TERHADAP MOTIVASI, KREATIVITI, DAN KESIHATAN MENTAL PELAJAR

Hasil kajian ini menunjukkan bahawa media sosial memainkan peranan berganda dalam kehidupan pelajar. Sekiranya digunakan secara bijak, ia dapat berfungsi sebagai teman belajar dan sumber motivasi, kerana pelajar dapat mengakses nota pembelajaran, video penerangan konsep akademik, dan perkongsian pengalaman rakan sebaya. Selain itu, kandungan berkaitan pengurusan stres, motivasi diri, dan pembangunan sahsiah turut membantu pelajar menangani tekanan pembelajaran dan membina daya tahan mental. Platform ini membuka ruang untuk mengekspresikan kreativiti melalui penulisan, penghasilan video, grafik, dan projek digital, seterusnya meningkatkan kemahiran komunikasi digital serta pemikiran kreatif.

Namun begitu, penggunaan berlebihan boleh menimbulkan kesan negatif terhadap kesihatan mental. Perbandingan sosial, budaya mengejar tontonan, pengumpulan likes, kandungan viral, serta pendedahan kepada komen negatif dan buli siber berpotensi menimbulkan tekanan psikologi, mengganggu pola tidur, meningkatkan keletihan mental, dan menjejaskan kestabilan emosi pelajar. Oleh itu, pengurusan penggunaan media sosial secara seimbang adalah amat penting. Pelajar perlu memilih kandungan positif, mengurus masa dengan bijak, dan mengamalkan konsep rehat digital melalui aktiviti fizikal seperti bersukan, hobi, atau interaksi bersemuka. Media sosial seharusnya menjadi medium yang menyokong pembelajaran, kesejahteraan mental dan pembangunan diri pelajar, bukannya sebagai punca tekanan kepada pelajar.

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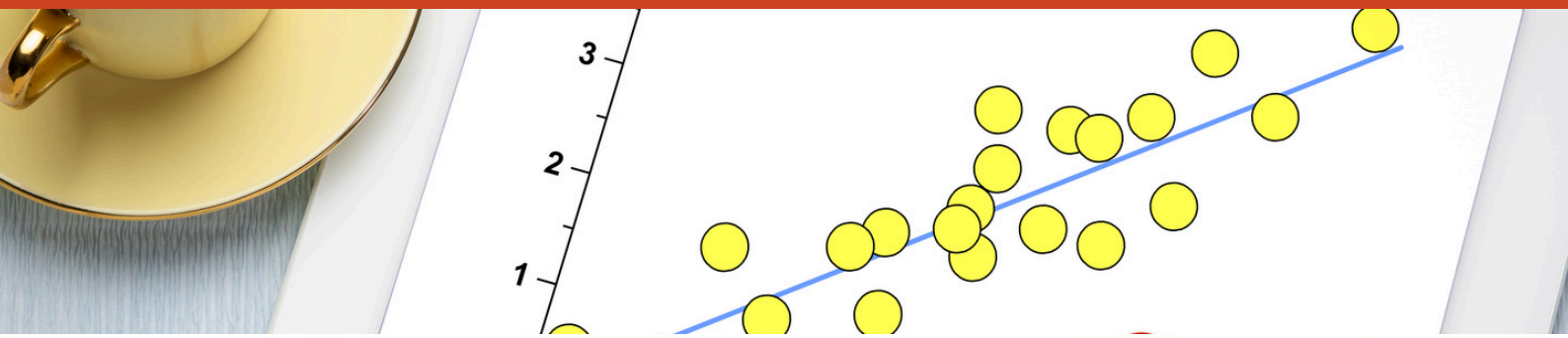

VISUALIZING CORRELATION STRUCTURES IN DATA USING R: METHODS AND APPLICATIONS

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EXECUTIVE SUMMARY

Correlation analysis is commonly used to examine relationships among variables in multivariate datasets. However, traditional correlation matrices presented as numerical tables often limit interpretability, especially when dealing with large numbers of variables. This article demonstrates how correlation plots can enhance data visualization and support exploratory data analysis using the R programming language. Several visualization approaches, including heatmaps, hierarchical clustering correlation plots, and scatterplot matrices are illustrated. The paper highlights interpretation strategies, common pitfalls and practical considerations when applying correlation visualization in research and teaching. The proposed workflow aims to assist researchers, analysts and educators in transforming correlation analysis into a more intuitive and insightful visual process

INTRODUCTION

Data visualization plays a crucial role in exploratory data analysis (EDA), allowing researchers to identify trends, clusters, redundancies, and potential multicollinearity before model development (Castellano-Escuder, et al. 2021). Among various visualization methods, correlation plots provide a compact and intuitive representation of pairwise relationships (Koo et al., 2018). With the rapid growth of open-source statistical computing tools, the R programming language offers several packages that support flexible and informative correlation visualization. This article presents a practical guide for constructing and interpreting correlation plots in R.

CORRELATION VISUALIZATION IN R USING SPECIALIZED PACKAGES

R has become one of the most widely used platforms for statistical computing due to its flexibility, reproducibility, and strong visualization capabilities. Several packages have been developed specifically for correlation visualization, including corrplot, ggcorrplot, GGally, and PerformanceAnalytics.

CORRELATION ANALYSIS OF THE MTCARS DATASET USING R

The mtcars dataset, which contains technical specifications and fuel consumption measurements for 32 automobiles, was used to demonstrate correlation techniques. All variables are numerical, hence the dataset suitable for correlation analysis.

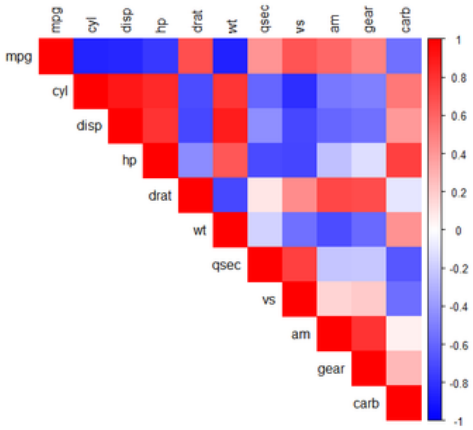
Load Data and Required Packages

```
# Install packages (run once if needed)
install.packages(c("corrplot", "GGally", "ggcorrplot", PerformanceAnalytics"))

# Load libraries
library(corrplot)
library(GGally)
library(ggcorrplot)

# Compute correlation matrix
cor_matrix <- cor(mtcars)
```

Heatmap Correlation Plot

```
corrplot(cor_matrix, method = "color", type = "upper",
col = colorRampPalette(c("blue", "white", "red"))(200),tl.col = "black")
```

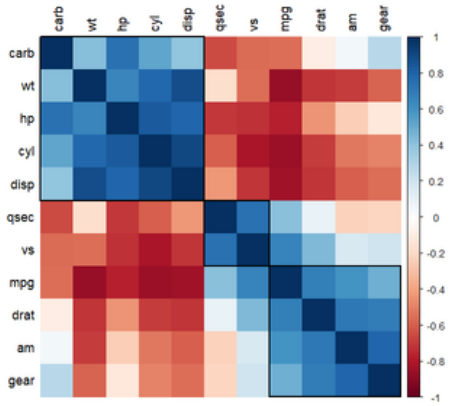
Heatmap visualization emphasizes correlation strength using color gradients. Positive correlations appear in warm tones, whereas negative correlations are displayed in cooler tones, facilitating quick identification of association patterns.



Hierarchical Clustering Correlation Plot

Hierarchical clustering reorders variables based on similarity, grouping highly correlated variables together. This helps reveal hidden structures and clusters that may guide variable selection or dimensionality reduction.

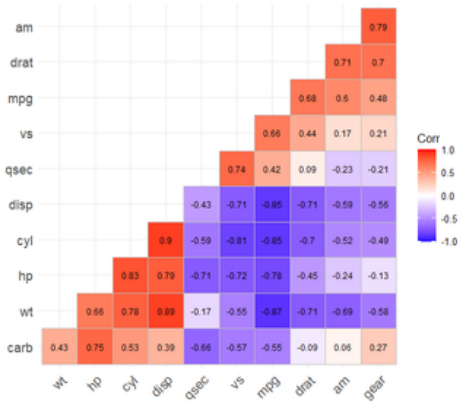
```
corrplot(cor_matrix,method = "color", order = "hclust",addrect = 3,tl.col = "black")
```



Publication-Style Correlation Plot (ggcorrplot)

The ggcorrplot package provides enhanced aesthetics and coefficient labels, improving readability and suitability for publication figures.

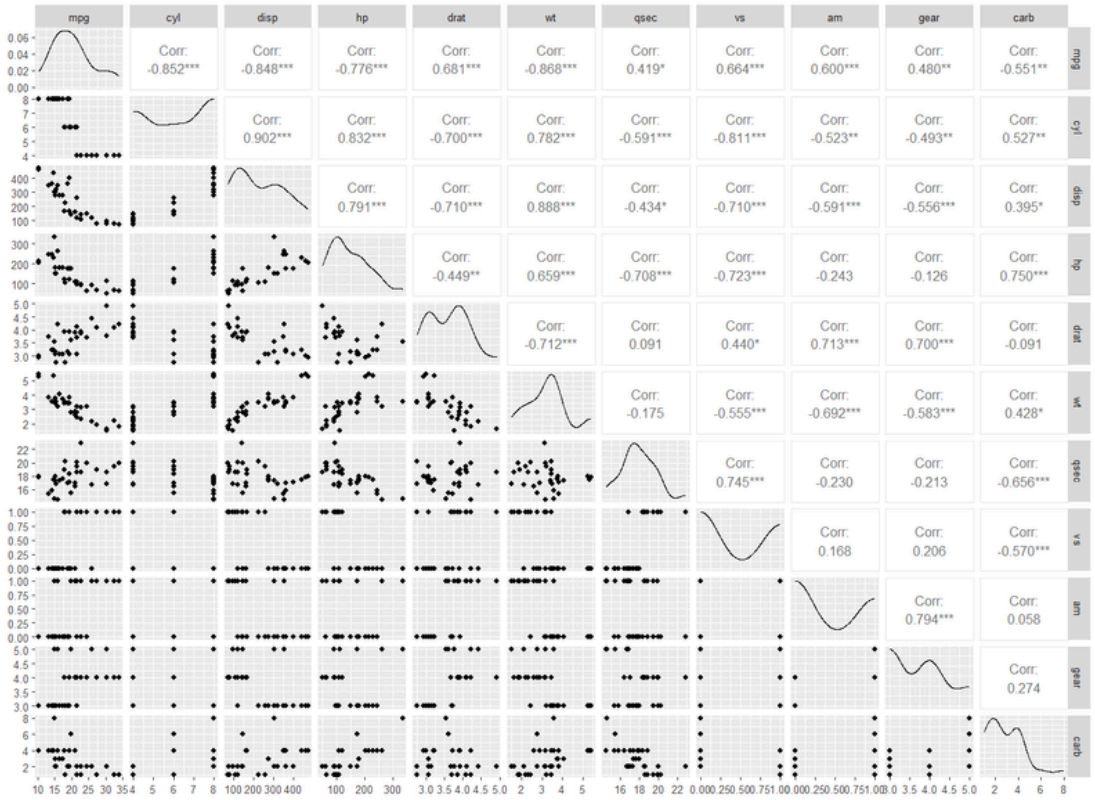
```
ggcorrplot(cor_matrix, hc.order = TRUE, type = "lower", lab = TRUE, lab_size = 3,
colors = c("blue", "white", "red"))
```



Correlation with Significance Testing

Scatterplot matrices complement correlation plots by displaying pairwise scatterplots, marginal distributions, and correlation coefficients simultaneously. This visualization helps identify linearity, outliers, and distributional characteristics.

```
ggpairs(mtcars)
```



CONCLUSION

Correlation plots transform numerical association measures into intuitive visual representations that enhance exploratory data analysis. Through R-based visualization techniques, researchers and educators can better understand variable relationships, identify structural patterns and support more informed modelling decisions. As data complexity continues to grow, integrating correlation visualization into analytical workflows provides an effective strategy for improving statistical interpretation and communication.

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SMALL CHANGES, BIG IMPACT: THE ROLE OF THRESHOLD SELECTION IN EXTREME RISK ASSESSMENT

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In recent years, extreme events have become an increasing concern across many sectors. Heavy precipitation, disease outbreaks, and huge financial losses have raised the need for better planning for such situations, which requires an understanding of worst-case scenarios. To overcome this issue, analysts use Extreme Value Theory (EVT), which can help evaluate the likelihood of rare and severe events.

One commonly used method in EVT is the Peaks Over Threshold (POT) approach, a critical step in selecting a threshold that separates normal observations from extreme ones. However, an important question arises: If the threshold changes, will the estimated risk also change? The answer is yes, and the impact can be major.

Choosing this threshold is important as it determines the number of exceedances and directly influences the reliability of the results. If the threshold is set too low, the model may include observations that are not truly extreme, leading to underestimated or biased risk estimates. On the other hand, if the threshold is set too high, the number of extreme observations becomes too small, resulting in unstable estimates. Previous studies show that different threshold values can result in significantly different risk estimates, due to the analysis's sensitivity to threshold selection. This affects the reliability of decisions based on EVT (Northrop et al., 2022). As shown in Figure 1, the threshold of 375 mm clearly separates extreme rainfall events from normal observations.

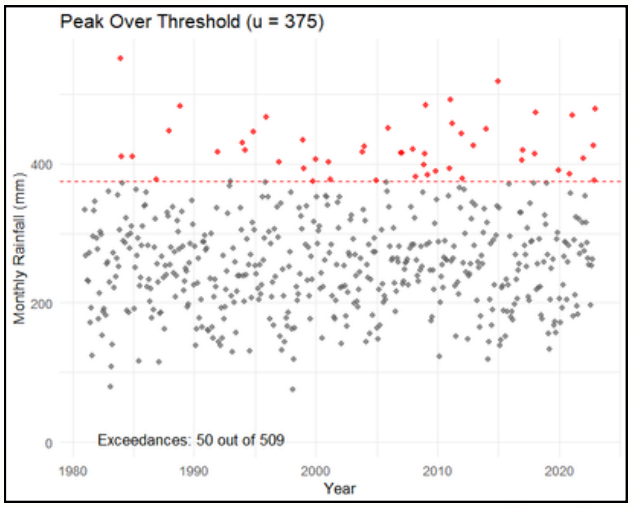

Figure 1: Illustration of the Peaks Over Threshold (POT) approach

EVT is commonly used to estimate extreme rainfall levels, especially during the monsoon season, to support the design of drainage systems, dams, and other flood-control infrastructure. If the threshold is not chosen carefully, flood risk may be underestimated or the design may become unnecessarily costly. In addition, using different threshold values can lead to different model results and levels of uncertainty. For this reason, the choice of threshold should be carefully considered when assessing extreme rainfall risk and planning flood mitigation measures (Alif et al., 2025).

In public health, EVT is used to study extreme spikes in seasonal diseases and their implications on healthcare systems. During periods of high transmission, the number of cases can increase sharply, resulting in sudden spikes in hospital admissions. If the threshold is set too low, normal fluctuations may be treated as critical events, while a threshold that is too high could delay early response and affect hospital preparedness. Extreme value models help estimate the risk of unusually high patient numbers, allowing healthcare providers to anticipate potential congestion and plan resources more effectively (Ranjbar et al., 2022).

In the financial sector, EVT is applied to estimate extreme losses in markets such as the FTSE Bursa Malaysia KLCI. Threshold selection directly influences measures like Value-at-Risk (VaR), which guide capital allocation and risk management. Studies show that threshold uncertainty can significantly affect financial risk estimates, especially during periods of market volatility (Gkillas & Katsiampa, 2021).

Overall, choosing the right threshold is not just a technical issue. It plays an important role in how extreme risks are interpreted and managed. As environmental challenges, public health pressures, and economic uncertainties continue to grow, proper threshold selection is necessary to ensure that risk estimates remain reliable and useful for decision-making.

Beyond statistics, the concept of a threshold reminds us of the importance of limits in everyday life. Knowing where the boundary lies helps us recognise when a situation is becoming excessive and when action is needed. Just as EVT uses thresholds to detect extreme conditions, setting limits in our work, resources, and decisions helps us maintain balance and prevent problems before they escalate.

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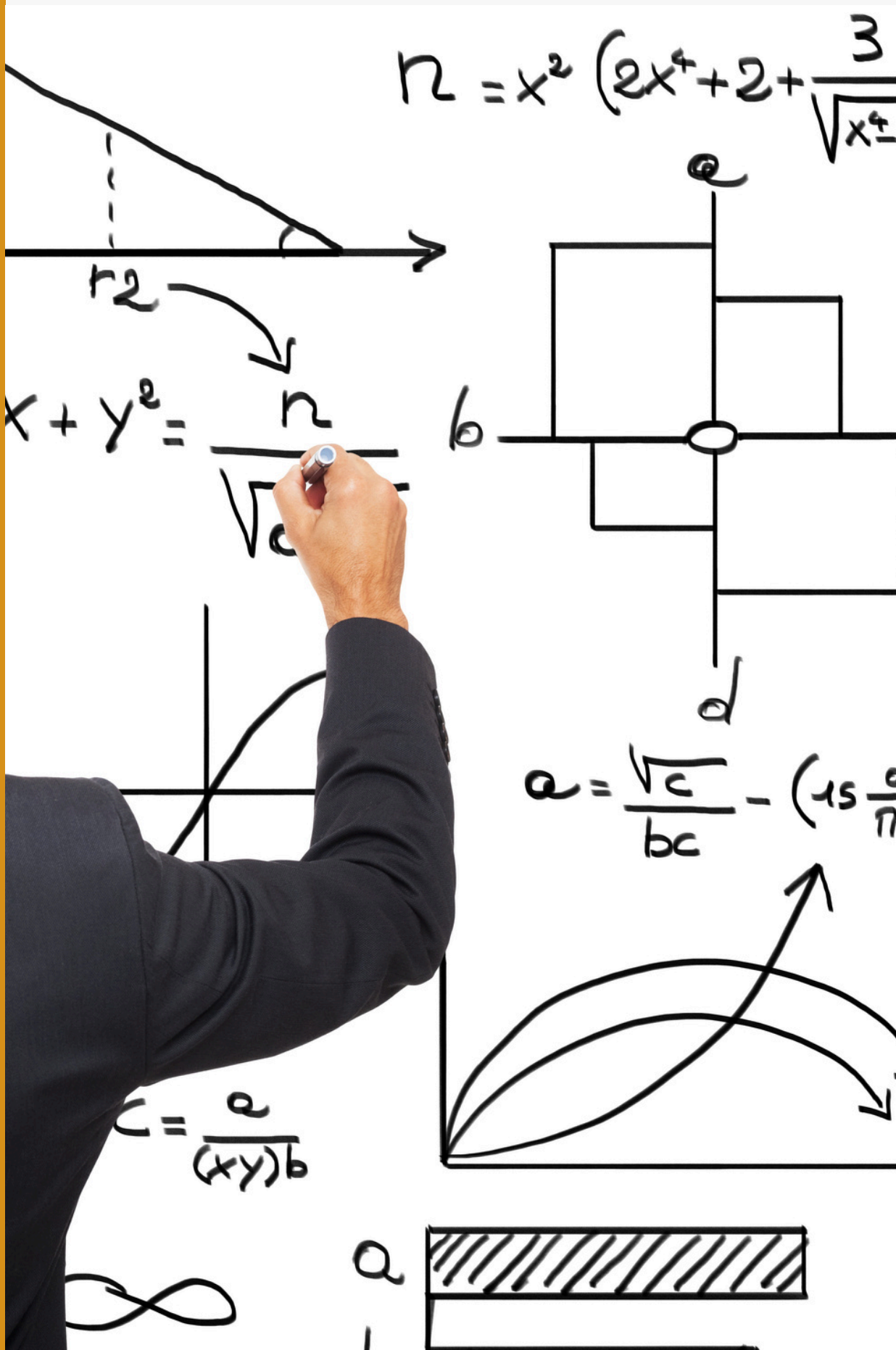
FSKM ACTIVITIES

FSKM ACTIVITIES



THINK.PRESS.SOLVE.CHECKMATE YOUR CALCULATIONS!

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EXECUTIVE SUMMARY

Solving mathematical problems has always become a challenge to students. Lack of problem-solving skills and thinking strategically often causes them to rush through steps and make careless mistakes. In addition, having low self-confidence in using scientific calculators also can affect their accuracy and efficiency. Thus, inspired by the game of chess, **Think.Press.Solve.Checkmate Your Calculations!** workshop was initiated to help students increase their analytical and strategical thinking through their scientific calculator. Therefore, by incorporating the element in a chess game, this workshop focuses on the importance of thinking logically and strategically before performing calculations, which is like how chess players plan each of their moves. Overall, at the end of this workshop it was found out that students managed to strengthen their critical thinking, accuracy and confidence level in using their scientific calculators.

INTRODUCTION

This workshop was held on 7th November 2025 in Dewan Kuliah 200 UiTM Cawangan Negeri Sembilan (UiTMCNS) Kampus Kuala Pilah. The participants were pre-diploma and diploma students of UiTMCNS Kampus Kuala Pilah. It was jointly organized by Kelab Catur UiTMCNS and Faculty of Computer Science and Mathematics UiTMCNS Kampus Kuala Pilah. The main objective of this workshop was not just to teach calculator functions, but to reshape how students approach solving mathematical problems.

EVERY BUTTON HAS A PURPOSE

From the idea of **Think.Press.Solve**, participants learned how to structure their thinking skills, anticipate potential errors and ability to verify their answers systematically using scientific calculators. On the other hand, by adopting the **Checkmate Your Calculations!** purpose, chess elements were also implemented in this workshop.

In chess, every move is calculated. One sloppy movement can cause the change of the entire game outcome. Similarly, this also applies with solving calculations in mathematics. Instead of simply pressing the buttons on their scientific calculator, the students were guided to think critically before they press any button. By learning to pause, analyse and plan before executing each step, this ensures accuracy, efficiency and increase of the student's confidence in every calculation.

Besides that, students were shown demonstrations on the advanced features available in their scientific calculators as well as practical shortcuts for calculations. Both demonstrations can assist them to significantly improve their speed and accuracy in solving mathematical problems whether in class or during examinations (Figure 1). From the practical activities and problem-solving attempts from the students, they become more confidence and aware of the smarter ways to tackle mathematical questions using scientific calculators. Thus, by knowing the purpose of each button and strategically plan for their movement, this chess-inspired approach managed to foster the analytical and critical thinking skills of students.

Figure 1: Checkmating Calculations: A Speaker-to-Students Guidance of Think.Press.Solve workflow

RESULTS AND ACHIEVEMENTS

The workshop was attended by 38 participants from various diploma programmes in UiTMCNS Kampus Kuala Pilah. In Figure 2, there were 42.1% from Diploma in Microbiology, 28.9% from Diploma in Halal Management, 15.8% from Diploma in Food Technology and 10.5% from Diploma in Textile Technology. The rest of the participants were from the pre-diploma. Most of them enrolled in MAT133 Precalculus (71.1%) followed by MAT112 Business Mathematics (26.3%) as presented in Figure 2.

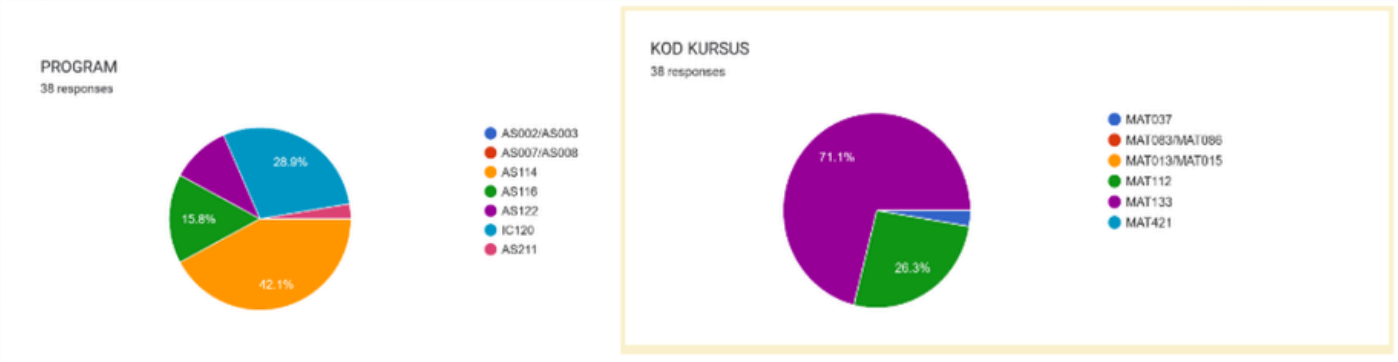

Figure 2: Percentage of Participant Programme and Course Code

The positive impact of the workshop reflected clearly from the response received which was measured through a 5-point-Likert Scale. More that 84% of the participants strongly agreed that this workshop has enhanced their understanding of the main functions of the scientific calculator. Moreover, they also agreed that it has improved their overall proficiency. There were 81.6% strongly agreed that they felt increase confident in getting accurate answers after completing the practical exercises. However, no neutral or negative feedback was acquired from the participants.

A change of students' mindset was observed as they began to approach the questions more calmly and strategically. They manage to evaluate their steps, applied correct functions and checked their results using scientific calculator. Thus, reflecting the skills of a chess player in any chess games.

CONCLUSION AND RECOMMENDATIONS

By the end of the workshop, not only they have improved calculator skills, but the participants become more confident and analytical in solving mathematical problems. This workshop also successfully demonstrated one needs to think carefully before calculating, just like chess players in their games. Thus, when strategy meets calculation, mathematics problems will not be too difficult to solve. It is hoped that this chess approach will continue in the future as it can help students build their analytical, logical and strategic thinking as well as increasing their confidence level.

FSKM Colloquium Series 2/2025: Briefing on UiTM Course Passing Requirements

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EXECUTIVE SUMMARY

The FSKM Colloquium Series 2/2025 was held on 28 May 2025 as a platform for knowledge sharing and the exchange of experiences among lecturers from the Faculty of Computer and Mathematical Sciences (FSKM). The programme was attended by 14 lecturers who were interested in gaining a better understanding of the UiTM course passing requirements for FSKM lecturers at the Kuala Pilah Campus. The sharing session was delivered by Nor Aishah Binti Md Noh, who explained the methods used to determine the passing requirements for both continuous assessment and the final examination. Through this session, the lecturers gained a clearer understanding of how to determine whether students meet the requirements to pass a course before the examination results are released. In addition, the lecturers are able to provide students with an early overview at the beginning of the semester to help them better prepare throughout the semester.

INTRODUCTION

The FSKM Colloquium Series 2/2025 was organised as part of the faculty's continuous effort to promote knowledge sharing and professional development among lecturers. The session focused on clarifying the course passing requirements at UiTM, particularly regarding continuous assessment and final examinations. This initiative aimed to provide lecturers with a clearer understanding of the guidelines used in determining students' eligibility to pass a course. By sharing practical insights and experiences, the colloquium also served as a useful platform for lecturers to strengthen their academic practices and ensure that students receive appropriate guidance throughout the semester.

RESULTS /ACHIEVEMENTS

Figure 1 illustrates the participants' level of satisfaction with several aspects of the programme. Overall, the feedback received was very positive, with the majority of respondents rating most aspects as excellent. These aspects include the programme's duration, achievement of the programme objectives, course content, clarity and effectiveness of the information presented, as well as the suitability of the topic to the participants' needs. Regarding the delivery of the talk, most participants rated the speaker's presentation as excellent, while a small number rated it as very good. The findings indicate that the session was well received and that the programme's objectives were successfully achieved. Figure 2 shows several moments captured during the programme, highlighting the sharing session and the lecturers' active participation.

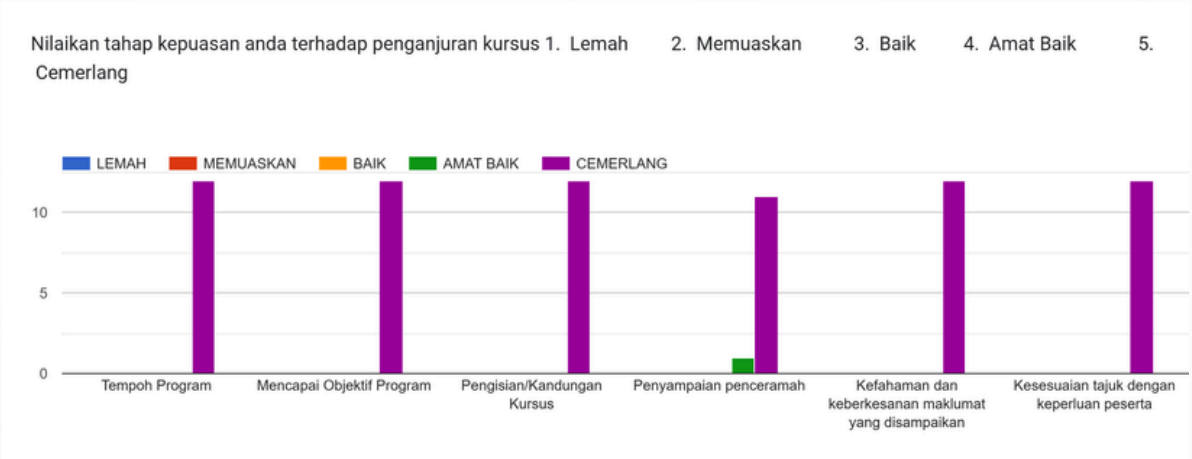

Figure 1: Participants' Satisfaction Levels Towards the Programme

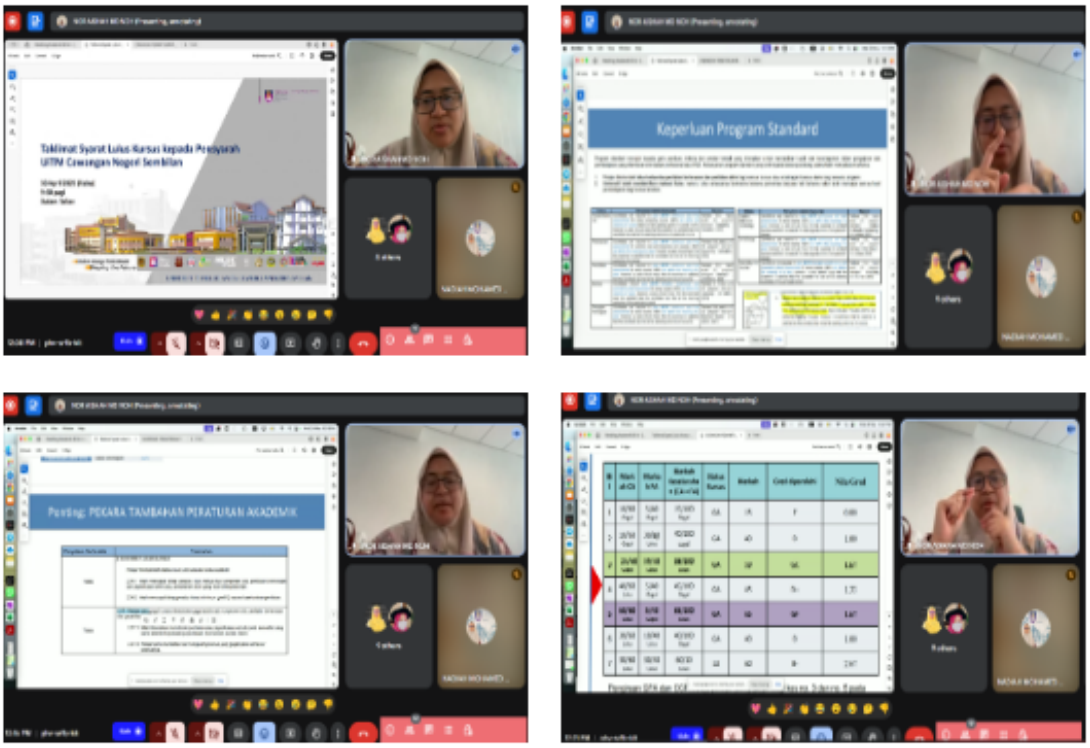

Figure 2: Images from the Programme

CONCLUSION

In conclusion, the FSKM Colloquium Series 2/2025 served as a meaningful platform for lecturers to gain clearer insights into the UiTM course passing requirements. The sharing session helped clarify the approaches used to determine students' eligibility to pass a course based on both continuous assessment and final examination components. The information shared during the session is expected to assist lecturers in making more informed academic decisions and to enable them to guide students more effectively from the beginning of the semester. Overall, the programme contributed positively to strengthening academic understanding and supporting continuous improvement in teaching and learning practices within the faculty.

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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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MATHMARVEL 5.0

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EXECUTIVE SUMMARY

The MathMarvel 5.0 program was held on 5 December 2025 at UiTM Negeri Sembilan, Kuala Pilah Campus. The program involved 155 students and 9 facilitators from various academic backgrounds, collaborating to enhance students' understanding of mathematics and supporting to assist in their academic achievement. This initiative focused on strengthening peer tutoring practices while helping students in preparing more effectively for their examinations by utilizing various approaches for tackling mathematical problems. The program was particularly designed to address the high failure rates in subject associated with mathematics.

Throughout the program, students demonstrated a strong engagement in the learning activities, while facilitators successfully enhanced their mentoring and guidance skills. Many participants also showed increased confidence and motivation when dealing with mathematical problems and tasks. Despite the successful implementation of the program, several challenges were encountered. Among the main difficulties were the allocation of facilitators according to specific subjects and ensuring consistent student attendance during the sessions. These challenges indicate a the need for better planning, clearer coordination, and more effective monitoring strategies in future programs. To ensure the sustainability of its positive impact and to continuously address the factors contributing to poor performance in mathematics, it is proposed that the MathMarvel program be conducted on a semesterly basis. By implementing the program regularly, the Department of Mathematical Sciences Studies will be able to further support student learning and gradually reduce failure rates in key mathematics courses.

INTRODUCTION

The MathMarvel 5.0 program is an academic support initiative organized by the Faculty of Computer and Mathematical Sciences at UiTM Negeri Sembilan, Kuala Pilah Campus. Regarding the positive outcomes of previous editions, the program for this semester continued its focus on strengthening students' mathematical thinking skills while encouraging collaborative learning and peer tutoring among students from several science-based diploma programs. The program specifically involved students from IC120, AS116, AS114, AS122, AS007, and AS002. These programs were selected because their students are regularly exposed to mathematics-related subjects and require strong foundational skills, particularly in preparation for their final examinations. Through this initiative, the faculty aimed to provide additional academic support while tackling the ongoing concern of high failure rates in mathematics courses. To achieve this goal, MathMarvel 5.0 incorporated collaborative problem-solving activities together with facilitator-led guidance. This approach created a supportive learning atmosphere where students could actively engage with mathematical concepts, exchange ideas with their peers, and receive guidance from facilitators. Overall, the program was designed to offer a more interactive and meaningful learning experience that could help improve students' understanding and confidence in mathematics.

RESULTS /ACHIEVEMENTS

The implementation of the MathMarvel 5.0 program yielded positive outcomes based on feedback from students and observations from the facilitators. Many participants indicated that the program helped them gain a clearer understanding of various mathematical concepts. They also expressed an increase in their confidence when tackling mathematical problems and felt more ready for their upcoming examinations. From the facilitators' perspective, the session demonstrated strong peer interaction, effective teamwork, and active involvement from the students during the activities. The structured guidance provided throughout the program allowed students to explore different methods of solving problems and gradually apply these techniques independently. Furthermore, the program helped cultivate a supportive academic environment where students motivated one another and benefited from peer learning. This was particularly evident among participants from mathematics-intensive diploma programs such as IC120, AS116, AS114, AS122, AS007, and AS002. Overall, these positive outcomes highlight the potential of the MathMarvel initiative to improved academic performance and reduce the failure rate in mathematics-related courses within the department. Figure 1 presents several activities conducted during the program.

Figure 1: Students worked collaboratively in small groups, engaging in discussions while attempting various problem-solving tasks.

CONCLUSION

The implementation of MathMarvel 5.0 has demonstrated that the program is a valuable initiative in helping students overcome difficulties in mathematics-related subjects. Through structured peer tutoring sessions, interactive problem-solving activities, and the support of committed facilitators, the program provided students with opportunities to strengthen their understanding while improving their confidence in tackling mathematical questions. Overall, the program encouraged increased student engagement and made them feel more prepared for their academic assessments. Although a few minor logistical issues were encountered during the implementation, the overall outcomes of the program were positive and beneficial for participants. Given these encouraging results, it is recommended that the MathMarvel program continue to be organized in future semesters. With further improvements in planning and coordination, the program has strong potential to serve as a sustainable academic support initiative within the Faculty of Computer and Mathematical Sciences, helping students improve their performance in mathematics-related courses.

MATH IS EASY 6.0

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EXECUTIVE SUMMARY

The *Math is Easy 6.0*, held on 9 January 2026, involved Pre-Diploma and Diploma students enrolled in mathematics courses at UiTM Cawangan Negeri Sembilan, Kampus Kuala Pilah. The program was designed to enhance students' preparedness for their final examinations by providing structured and guided practice sessions using past-year examination papers aligned with their respective course codes. Through these sessions, students were able to reinforce their understanding of key mathematical concepts while gaining greater exposure to the format and expectations of final examination questions. In addition, the program provided clear guides on how to solve math problems more effectively. With targeted practice and extra support, students entered their exams feeling ready and confident, which really showed in their improved grades.

INTRODUCTION

Mathematics is a fundamental subject that plays a crucial role in developing students' analytical thinking, problem-solving abilities, and logical reasoning skills. However, many students encounter difficulties in mastering mathematical concepts and applying them effectively during examinations. This challenge often affects their confidence and overall academic performance, particularly when preparing for final examinations. In response to this issue, the *Math is Easy 6.0* program is organised as an academic support initiative aimed at assisting students in strengthening their understanding of key mathematical concepts and improving their examination readiness. The program focused on providing guided practice through past-year examination questions, allowing students to familiarize themselves with the structure, level of difficulty, and expectations of final examination papers.

PROGRAM DESCRIPTION

Math is Easy 6.0 is a continuation of an academic support program conducted every semester for students enrolled in mathematics courses offered during that semester. The program is designed to strengthen students' understanding of key mathematical concepts and their preparation for final examinations. Initially, the program was introduced to provide targeted support for mathematics courses with historically challenging pass rates. At this stage, the program focused on providing targeted academic support and guidance to help students master fundamental mathematical concepts and improve their assessment scores. However, following positive feedback and the program's demonstrated success in boosting student comprehension and confidence, the initiative has since been expanded to include broader examination readiness. Currently, the Math is Easy series is implemented for all mathematics courses offered in the respective semester. This broader implementation provides more students with access to structured revision, guided problem-solving, and practical exam strategies to enhance their performance. Consequently, the program continues to serve as an important academic platform in supporting students' learning development and improving their readiness for final examinations.

RESULTS AND ACHIEVEMENTS

The implementation of *Math is Easy 6.0* produced several positive outcomes among participating students. The program has seen impressive participation from Pre-Diploma and Diploma students, reflecting a strong demand for specialised mathematics support. This high level of interest underscores the value of our focused revision activities in building student confidence for upcoming exams. Throughout the guided practice sessions, students actively engaged in solving past-year examination questions and discussing problem-solving strategies with facilitators. The program also strengthened students' understanding of key mathematical concepts and improved their familiarity with the format and structure of final examination questions. Through exposure to effective answering techniques and systematic approaches to solving problems, students were able to enhance their confidence in tackling examination questions.

In addition, the interactive nature of the program encouraged students to seek clarification on topics they found challenging, thereby promoting a more supportive learning environment. Overall, the program achieved its objective of providing meaningful academic support and helping students better prepare for their final examinations. It is expected that the knowledge and strategies gained from the program will contribute positively to students' performance in their respective mathematics courses.

CONCLUSION

In conclusion, *Math is Easy 6.0* has successfully served as an effective academic support initiative for students enrolled in mathematics courses at UiTM Cawangan Negeri Sembilan, Kampus Kuala Pilah. The program provided students with valuable opportunities to reinforce their understanding of key mathematical concepts through guided practice using past-year examination questions. In addition, Students also gained practical problem-solving methods and exam strategies, helping them tackle even the toughest mathematical questions with a more systematic and confident mindset. The positive participation and engagement confirm that our targeted support is both relevant and highly valued by students as they prepare for their academic challenges. Ultimately, the program has helped students bridge the gap between theory and practice, building both their academic readiness and their confidence in tackling mathematics. Overall, the continuation of the Math is Easy series reflects its significance as an academic support platform for mathematics students. Moving forward, the continued implementation of similar initiatives will be essential to sustain student progress and further optimize academic outcomes in mathematics across the faculty.

Figures 1-5 illustrate the student's attendance in the workshop, categorised according to their subject codes.

Figure 1: Students that participated in the workshop for the course MAT083

Figure 2: Students that participated in the workshop for the course MAT037

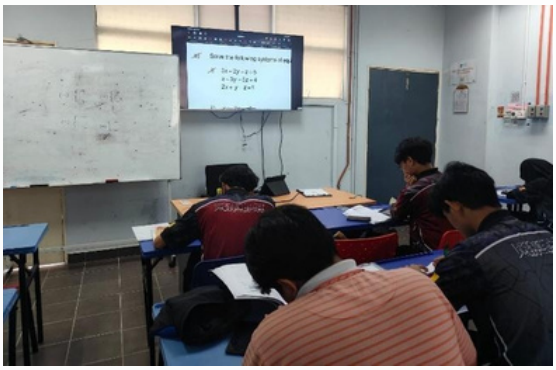

Figure 3: Students that participated in the workshop for the course MAT133

Figure 4: Students that participated in the workshop for the course MAT014

Figure 5: Students that participated in the workshop for the course MAT112

Beyond the Chessboard: Building Strategy, Talent, and Community at the Kejohanan Catur Minangkabau UiTM Cawangan Negeri Sembilan

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EXECUTIVE SUMMARY

Kejohanan Catur Minangkabau was successfully organized by the Faculty of Computer and Mathematical Sciences (FSKM), Universiti Teknologi MARA (UiTM) Cawangan Negeri Sembilan, at Dewan Anjung, Kuala Pilah Campus, on 11 October 2025. The championship attracted **183 participants** from various age groups, particularly students from schools around Kuala Pilah and nearby districts.

The event aimed to promote strategic thinking, logical reasoning, and discipline through the game of chess, while strengthening collaboration between UiTM, local schools, and the wider community. With the theme **"Warisan Dijaga, Strategi Dibina,"** the program highlighted both intellectual development and cultural appreciation. The positive response from participants and the community demonstrated the effectiveness of the championship in promoting chess as a mind sport and a community engagement activity.

INTRODUCTION

Chess is widely recognized as a strategic board game that enhances **critical thinking, problem-solving skills,** and **decision-making abilities.** In educational environments, chess competitions serve as a valuable platform for intellectual development and healthy competition among students.

The **Kejohanan Catur Minangkabau** was organized by the Faculty of Computer and Mathematical Sciences, UiTM Cawangan Negeri Sembilan, Kuala Pilah Campus, with the objective of promoting chess as a constructive and intellectually stimulating activity. The program also aimed to strengthen community engagement by involving school students, parents, teachers, and the public.

Through this initiative, the organizers hoped to encourage young participants to develop analytical thinking while simultaneously creating opportunities for collaboration between the university and the surrounding community.

PROGRAM DESCRIPTION

The championship was coordinated by an organizing committee consisting of academic staff and supporting members. The program was led by Program Director Siti Zaharah Mohd Ruslan and supported by advisors, technical teams, logistics coordinators, and student facilitators.

The opening ceremony was officiated by Dr. Rashidah Ibrahim, Student Leadership Coordinator, representing the Deputy Rector of Student Affairs of UiTM Cawangan Negeri Sembilan. The event was also supported by the main sponsor, Dr. Amil Abd Latif from Klinik Arafah, along with other sponsors, including Milenia Mortgage Resources; Yang Berhormat Dato' Hj. Adnan bin Hj. Abu Hassan (Member of Parliament for Kuala Pilah); Didik Catur; Budi Luhur Resources; SK Resources Sdn. Bhd.; and Murni Cendol and Coconut Shake.

The event featured several competition categories, including:

1. Under 10
2. Under 12 (Boys and Girls)
3. Under 17 (Boys and Girls)
4. Special categories, such as children of UiTM staff and district-level awards

In addition, five special categories were introduced to provide wider opportunities for participation. The Under 12 category recorded the highest participation, with 131 players, while 52 participants competed in the Under 17 category.

The tournament was conducted over seven rounds using a 10+2 time control, where each player was given 10 minutes with an additional two-second increment per move. Participants competed using official chess boards and clocks under the supervision of arbiters. In addition to the competition, the event also featured family-friendly activities, food trucks, and promotional booths, creating a vibrant and engaging environment for visitors.

RESULTS AND ACHIEVEMENTS

Kejohanan Catur Minangkabau achieved several significant outcomes. First, it successfully attracted 183 participants, demonstrating strong interest in chess among young players and the local community. The winners of each category were awarded cash prizes, medals, and certificates of appreciation in recognition of their achievements. These awards served as motivation for participants to continue developing their chess skills.

Participant feedback indicated a high level of satisfaction, with over 90% of respondents expressing satisfaction with the organization and facilities provided during the event. Notably, more than 70% of the participants were first-time competitors, highlighting the championship's success in attracting new interest in chess. The event also strengthened collaboration between UiTM, local schools, sponsors, and the community, reinforcing the university's role in supporting educational and intellectual development initiatives.

CONCLUSION AND RECOMMENDATIONS

In conclusion, **Kejohanan Catur Minangkabau** successfully achieved its objectives of promoting strategic thinking, identifying young chess talents, and strengthening engagement between UiTM and the community. The enthusiastic participation and positive feedback from participants reflect the program's effectiveness in encouraging intellectual sports and fostering a culture of strategic learning.

The collaboration among faculty members, students, sponsors, and community participants played a crucial role in ensuring the smooth execution of the event. High satisfaction ratings regarding venue suitability, program scheduling, and teamwork further highlight the quality of the event's organization.
Moving forward, the championship has significant potential to grow into a larger annual event that attracts more participants from various regions. Continuous improvements based on participant feedback will further enhance the quality and impact of future tournaments.

GALLERY: CAPTURING THE MOMENTS OF THE PROGRAM

The championship was not only a competitive event but also a vibrant gathering of students, parents, educators, and chess enthusiasts. Throughout the program, numerous memorable moments were captured, reflecting the enthusiasm, concentration, and excitement of the participants.

Figures 1-6 below highlight selected snapshots from the event, including the registration process, intense chess matches, interactions between participants and arbiters, as well as the prize-giving ceremony. These images illustrate the dynamic atmosphere of the championship and the collaborative efforts of the organizing committee, volunteers, and participants in making the event a success.

Each photograph represents the spirit of strategic thinking, sportsmanship, and community engagement that defined the **Kejohanan Catur Minangkabau** UiTM Cawangan Negeri Sembilan.

Figure 1: Participants registering before the start of the competition.

Figure 2: A memorable moment as participants gather for a group photo before the competition starts.

Figure 3: Parents and visitors supporting participants during the tournament.

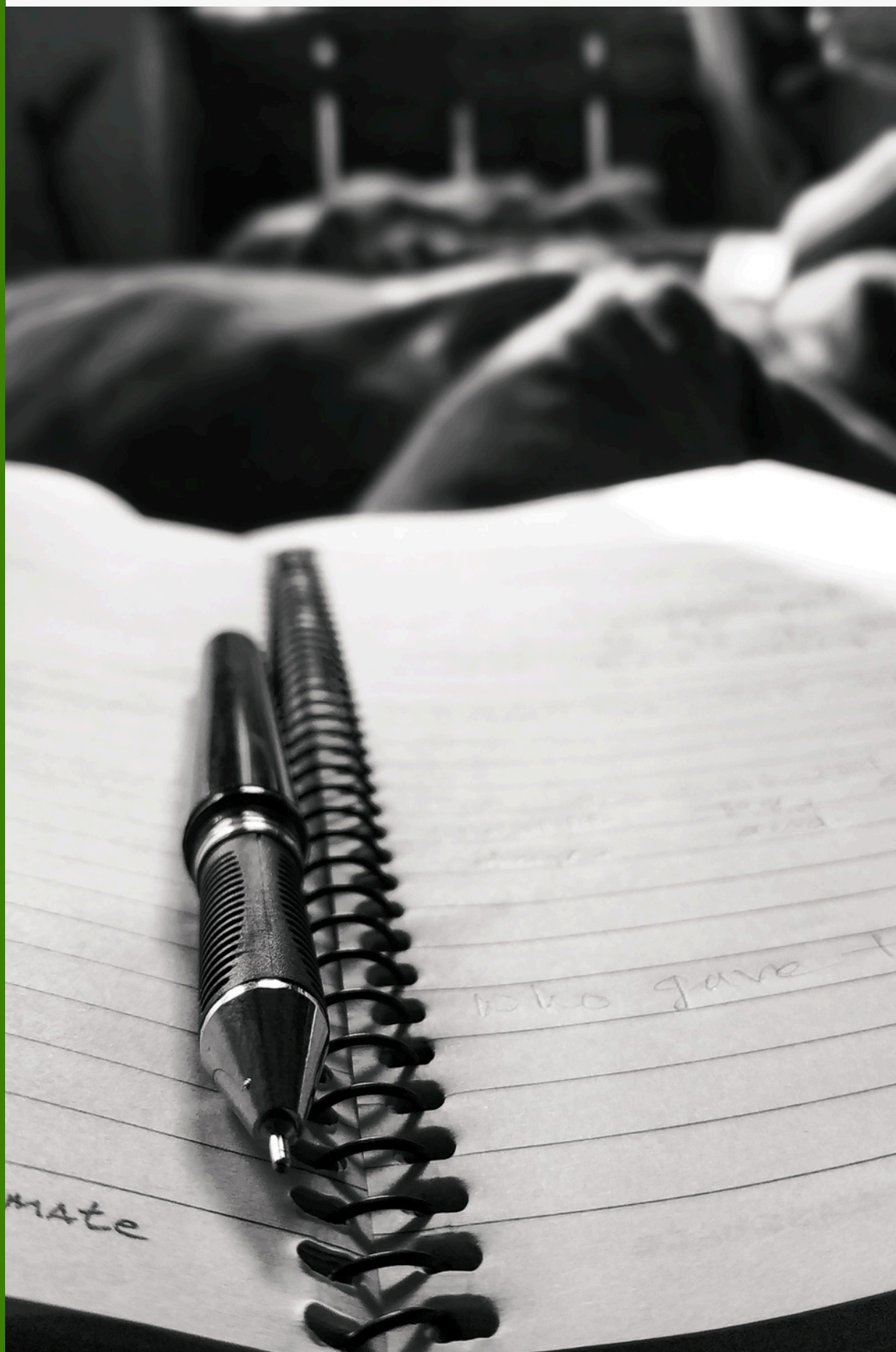
Figure 4: Chess players focusing intensely during the match.

Figure 5: Prize-giving ceremony recognizing the winners of each category.

Figure 6: Organizing committee and volunteers who contributed to the success of the event.

TEACHING & LEARNING

TEACHING & LEARNING



STEM Global Challenge in Malaysia

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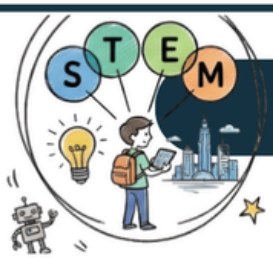
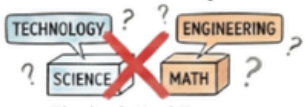


INTRODUCTION

In 2026, STEM in Malaysia is no longer just a set of hard subjects in a textbook, it's our national heartbeat. Over half of Malaysian students ~~now~~ who have chosen this path have moved past simple formulas and into real-world action. STEM can help Malaysians solve problems, whether it's a young coder protecting digital borders, an engineer pioneering green energy, or a farmer using smart technology to grow more crops. By bringing science out of the lab and into our everyday lives are not just preparing for the future, but building a smarter, kinder, and more resilient nation where every student has the power on the global stage

THE PROBLEM - CHALLENGES

- **Teaching in Isolation:** For the most part, STEM subjects have historically been taught separately, with most of the focus on science and math.
- **Neglecting Technology and Engineering**: While Science and Maths help us understand the world, Technology and Engineering are the tools and the creativity ~~use~~ used to fix it, turning a clever idea into a real solution you can hold in your hand.
- **Global Competitiveness**: International assessments such as PISA 2022 showed a decline in Malaysian students' scores in Math and Science, partly due to pandemic-related learning loss.
- **The Local Challenge:** Referring back to Malaysia's vision, the localised challenge is to effectively integrate science from the lab into our daily lives so that students can apply these abilities to solve specific Malaysian problems with a Malaysian heart.

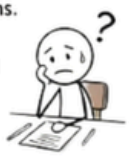


The 'Isolation' Trap

Most education focuses on Science or Math separately, ignoring Technology & Engineering connections.


Global Competitiveness Gap

[STATISTIC] Nations fall behind when students cannot apply classroom learning to innovate & solve complex problems.



References:
[1] Ministry of Education Malaysia (2025). Malaysia Education Blueprint 2026-2035 (Higher Education). Putrajaya: Ministry of Education Malaysia.

HOW TO PROMOTE STEM

To ensure STEM education reaches and benefits every student, schools and communities must shift how these subjects are delivered:

- **The PISA "Wake-up Call":** To ensure that students can outthink and out-innovate their international peers, Malaysia is currently implementing the National Education Plan 2026-2035, which will revamp the curriculum to be more hands-on and digitally focused [1].
- **Use Problem-Based Learning**: Educators should use instructional approaches like problem-based learning and engineering design, which are special kinds of problem-solving, to introduce integrated STEM concepts
- **Develop Higher-Level Skills**: Education should prioritise developing collaboration, communication, research, critical thinking, and creativity. These are the skills students need to be successful regardless of their specific interests or future career goals

- **Connect to the Real World:** STEM must move beyond simple test performance. For example, students can learn about severe environmental issues like air pollution which negatively affects children and outdoor workers by conducting hands-on experiments, such as building simple particle catchers or testing electrostatic energy with balloons to understand how industrial filters work
- **Encourage Out-of-School Learning**: Students need exposure to STEM outside of standard school hours. This can be achieved through museums, science centers, internships, and STEM-focused robotics competitions

SUMMARY

Ultimately, STEM education is absolutely vital for building a thriving economy and a safe, healthy society. By shifting away from traditional, isolated learning and moving toward a connected, problem-solving approach, education systems can effectively train future global innovators and world leaders. By adopting this integrated approach, Malaysia can become the smarter, kinder, and more resilient country it envisions, where each student possesses the creativity and inventiveness to thrive on the international stage.

FROM PERIODIC TABLE TO PLAYGROUND: HOW A CHEMIST AND A CODER CREATED A DIGITAL TEXTBOOK

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Imagine trying to understand the rules of a complex board game, but instead of playing it, you're only allowed to look at a single image of the board. For many students, that's exactly what the Periodic Table feels like: a confusing wall of letters and numbers that seems more like a secret code than a map of our world.

But what happens when you take that static image and turn it into a high-tech, interactive textbook? That is the magic created when science meets the logic.

The "Map of Everything" and Why It's So Hard to Read

To a scientist, the Periodic Table is the ultimate cheat sheet. It explains why some metals explode in water, why some gases glow under electricity, and why gold stays shiny forever. It's organized by "Atomic Numbers," placing elements into families (called Groups) that behave in similar ways.

However, if you aren't a science major, the table is an "Impenetrable Maze." It's Invisible; You can't see atoms pulling on each other, so the definitions stay dry and boring. It's dull; On a printed page, the table doesn't react. It doesn't move. It's just ink on paper.

To bridge this gap, we turned to digital transformation by a collaboration where the Chemist (the brain) and the Designer (the builder) used spreadsheet accessible yet powerful database logic to bring the table to life.

Phase 1: The Rulebook
Before any "cool" buttons are made, the Chemist has to build the Foundation. Think of this as the "Rulebook" for the universe.

- Setting the Laws: The Chemist fills a hidden sheet with the real-world properties of every element. These are not just numbers; they are the "Laws of Physics" that the spreadsheet must follow.
- The "If-Then" Logic: The Chemist defines the families. For example: "If an element is in Group 18, it's a Noble Gas." This gives the computer the instructions it needs to categorize everything correctly later on.

Phase 2: The Logic
Once the science is solid, the Designer steps in to build the Connectivity. They turn a spreadsheet into a User Interface (UI). A spreadsheet (like Microsoft Excel, Google Sheets) can serve as a lightweight educational app because it combines data management, computation, and interactivity, which is why it can act as a simple app for learning.

- Fishing for Data: Using formulas like VLOOKUP, the Designer connects the visible table to the Chemist's hidden database. When a student clicks an element, the spreadsheet "reaches back" and pulls the correct info instantly.
- Student-Proofing: To make sure no one accidentally deletes the math, the Designer adds Security block. They lock important cells and create easy dropdown menus, ensuring the tool is easy to use and impossible to break.

Phase 3: The Final Polish
The last step is Refinement. Both experts come together to double-check that the logic is flawless and the data is perfect. A pilot test where students act as respondents helps identify unclear questions, technical issues, or areas for improvement before the main study is conducted. Feedback from the pilot allows the designer to revise and refine the development for more accurate and reliable results. It's the ultimate quality control.

The Result: A Digital Textbook

The finale product is more than just a file; it's a Digital Textbook. While the Chemist guarantees that every scientific details is 100% accurate, the Designer ensures that navigating through the data is smooth and engaging. As depicted in Figure 1 shows the example of the user interface. In this digital playground, students aren't just memorizing letters, but they are exploring an interactive world where the building blocks of existence finally come to life.

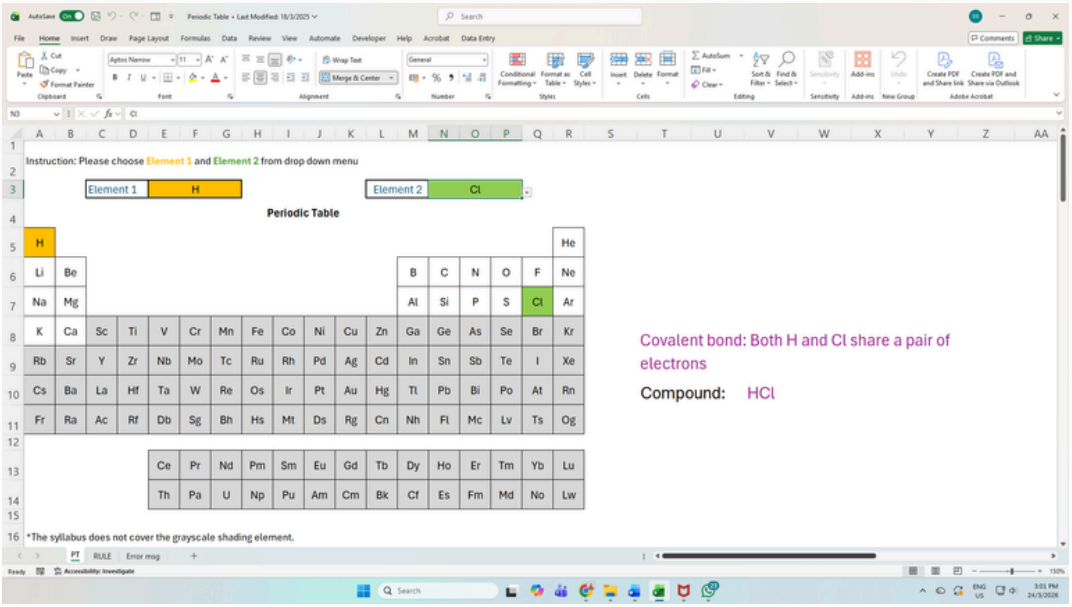

Figure 1: Example of User Interface

ACHIEVEMENTS

ACHIEVEMENTS

Congratulations

PUBLICATION

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