

# DIY STYLUS PEN

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## ABSTRACT

One of the characteristics of 21st Century Learning is student-centered learning. This feature is also suitable with the new norm environment as a result to Covid-19 transmission. In this situation, digital platforms such as Google Classroom (GC) become an intermediary medium between teachers and students. Through this platform, students are required to write answers from the questions given on paper and upload them to GC. However, during the Movement Control Order (MCO) season, many shops stopped operating, causing students to be unable to purchase stationery to complete their assigned tasks. Through this study a tool called DIY Stylus Pen has been produced to help students to continue to answer the questions given through their smartphones without having to write on paper. DIY Stylus Pen is produced using only pens that have run out of ink, cotton buds, and chrome wire. This method is more economical than stylus pens sold in the market. The development of this product has undergone 3 phases of improvement, starting with the use of chrome-plated aluminum paper in the first phase, then refinement by providing water containers and the third phase of aluminum paper has been replaced with chrome wire whose product quality is more durable. Feedback from students after use of DIY Stylus Pen, almost 90% of students stated that the use of this tool is easier and saves their time.

**Keywords:** PAK-21, online learning, google classroom, stylus pen

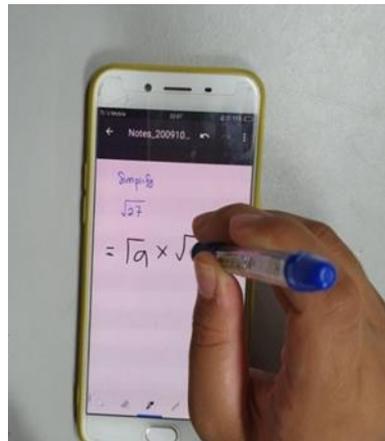
## 1. INTRODUCTION

Do It Yourself (DIY) Stylus Pen has been created to enable students to be able to apply digital learning. It has been implemented since the second semester of the 2019/2020 session and had been used rapidly after Covid-19 erupted. During the Movement Control Order (MCO) season, many shops stopped operating, causing students to be unable to purchase stationery to complete their assigned tasks. While during that time, educators still run classes online using all provided platforms such as Google Meet and Google Classroom. The main objectives for this innovation are to offer a better engagement between students and digital education. DIY Stylus Pen replace pen and paper style to stylus pen and your gadget style. The students can answer directly on the worksheet provided by lecturers onto their screen. Secondly, to provide a minimal budget tool to fill the needs of the students during this digital era.

## 2. INNOVATION

DIY Stylus Pen is produced using only pens that have run out of ink, cotton buds, and chrome wire. This method is more economical than stylus pens sold in the market. The development of this product has undergone 3 phases of improvement, starting with the use of chrome-plated aluminum paper in the first phase, then refinement by providing water containers and the third phase of aluminum paper has been

replaced with chrome wire whose product quality is more durable. The DIY Stylus Pen has been used to write directly onto smartphones as a replacement for the current Stylus Pen at the store. It helps the student as it uses cheap items and easy to get.



**Figure 1.** DIY Stylus Pen

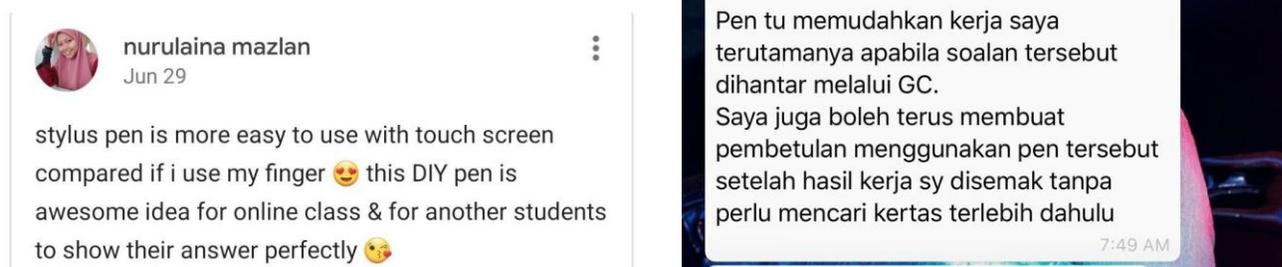
### 3. REFLECTION

#### 3.1 Focus Group

At first, DIY Stylus Pen targeting the students of Kolej Matrikulasi Kelantan only, but with the advent of MCO and since digital learning applied in education, the need among lecturers increased.

#### 3.2 Findings

We collect student's feedback after DIY Stylus Pen is implemented. Here are a few comments made by the students:



**Figure 2.** Student's Feedback

From above feedback, we conclude that most of the students enjoy using DIY Stylus Pen as a response to digital learning.



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Kelulusan daripada pihak YBhg. Profesor dalam perkara ini amat dihargai.

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