

# Innovation of a Sliding Whiteboard for Teaching and Learning process

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## ABSTRACT

The innovation was done at Kenya Medical Training College, Nyeri. The main objectives were to come up with a whiteboard with increased writing surface area to avoid frequent & disruptive rubbing of the written part of a whiteboard during a lecture session and to use a sliding whiteboard as a teaching aid in a classroom setup. The design innovation method was used. The idea was to stack two or three whiteboards and then slide the first board to reveal the second board underneath. Followed by sliding, the second board to reveal the third board underneath. A dummy was developed, followed by the development of the final product. A sliding whiteboard (i.e. Kimwetich sliding board) with increased writing/illustration surface area was developed in March 2022 at a cost of Ksh 35,000 (350 USD). After putting up the first whiteboard ever on campus, students and lecturers were very excited to use it. The lecturers reported that the writing surface area on the whiteboard has surprisingly increased and is very convenient to use a sliding whiteboard. The students said that teaching and learning were more exciting than before. The use of a sliding whiteboard (i.e. Kimwetich sliding board) can easily be replicated in other learning facilities and institutions. The same concept can be used in a blackboard, smart board, 3D screens, and computer PowerPoint slides. Since it offers an opportunity for stimulus variation, teaching and learning was made more enjoyable. Value for money was realized, in that, the normal whiteboard with only two (2) writing surfaces was replaced by the sliding whiteboard with seven (7) writing surfaces. The space for putting up a whiteboard in the classroom walls was reduced hence maximizing space. The whiteboard is simple to use and doesn't require any training.

**Keywords:** Teaching, Learning, Training, Whiteboard, Sliding, Illustration, Classroom, Teaching aid, Innovation, Development.

## 1. INTRODUCTION

Due to the current demand of faster, easier and captivating ways of learning, the sliding whiteboard provides an opportunity for illustration, brainstorming and questioning technique. It also provides stimulus variation necessary for a captivating teaching and learning session. The sliding whiteboard can as well be used as a projector screen. John Spacey (2017) stated that a continuous innovative idea requires individuals and organizations with new ideas, creativity and expertise.

The whiteboard requires minimal maintenance once fixed onto a classroom wall. The consumables (e.g. whiteboard markers and erasers) can be purchased through the annual college budget. Harris, R.I.D.(1988) stated that growth of innovation should consider past, present and future use of the product being developed.

## 2. OBJECTIVE OF INNOVATION

- i. To come up with a whiteboard with increased writing surface area
- ii. Use a sliding whiteboard as teaching aid in a classroom setup.

### 2.1 RESEARCH METHODOLOGY

Design innovation method was used. John (2017) stated that Design innovation is the process of innovating in an area that is considered to be of design e.g. Graphic design, product design and user experience design, it begun with figuring out how to increase the writing / illustration surface area of a whiteboard in February 2020 [1].

The best imagination that came out was to stack two or three whiteboards and then sliding the first board to reveal the second board underneath, followed by sliding the second board to reveal the third board underneath. A dummy model (prototype) was developed. Rectifications were made to ensure that the final product was user friendly. Innovation encourages use of new ideas to come up with a new product for use [2].

## 2.2 Design Innovation Model

**Inspiration:** The need should follow a certain conviction.

**Need:** The idea should solve an existing problem

**Creativity:** The innovation should be original.

**Challenge:** The Innovation should almost replace existing use.

**Prototype:** Make dummy model of the innovated idea. Prototype success is innovation success.

**Test:** Use the prototype and correct errors.

**Develop:** Come up with a usable item.

**Evaluate:** Review to improve on the innovation.

**Announce:** Announce success.

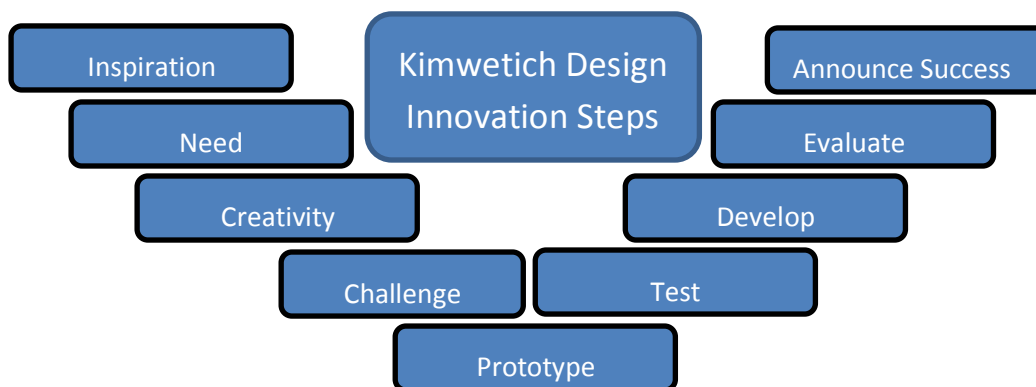


Figure 1: Kimwetich nine step model for Design Innovation

## 3. EXPECTED OUTPUTS

A sliding whiteboard (i.e. Kimwetich sliding board) with increased writing/illustration surface area was developed in March 2022 (Figure 2). A Capital of Ksh 35,000 (350 USD) was used to purchase the materials and pay the carpenter. Currently, the sliding whiteboard is being used in class at KMTC Nyeri campus. Innovation output, in so far as it is considered at all, is assumed to be a function of the amount of resources spent (Smits, 1993).

The use of sliding whiteboard (i.e. Kimwetich sliding board) can easily be replicated in other learning facilities and institutions. The same concept can be used in a blackboard, smart board, 3D screens and computer power point slides. Since it offers an opportunity for stimulus variation, teaching and learning is made more enjoyable. Mairesse (1998) reiterated that innovation and production should go beyond prior work in an area or field of study or organization.



Figure 2: Kimwetich Sliding whiteboard picture

#### 4. CONCLUSION

After putting up the first whiteboard ever in the campus, students and lecturers were very excited to use it. The lecturers reported that the writing surface area on the whiteboard has surprisingly increased and is very convenient to use a sliding whiteboard. The students said that teaching and learning became more exciting than before. Value for money was realized, in that, the normal whiteboard with only two 2 writing surfaces was replaced by the sliding whiteboard with seven 7 writing surfaces. The space for putting up a whiteboard in the classroom walls was reduced hence maximizing on space. The whiteboard was simple to use and doesn't require any training. John Spacey (2017) stated that innovation can be a key component in raising productivity and fostering competitive businesses in an organization [1].

#### ABBREVIATIONS AND ACRONYMS

<b>KMTC</b>	Kenya Medical Training College
<b>INSSN</b>	International Standard Serial Number
<b>3D</b>	Three Dimensions
<b>USD</b>	United States dollars
<b>OECD</b>	Organization for Economic Co-operation and Development

#### OTHER RECOMMENDATIONS

The same concept can be used in a blackboard, smart board, 3D screens and computer power point slides.

#### ACKNOWLEDGMENT

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