UNIVERSITI TEKNOLOGI MARA

Public Interest Centre of Excellence

International Teaching Aid Competition 2023

Reconnoitering Innovative Ideas in Postnormal Times

iTAC 2023

iTAC 2023
INTERNATIONAL TEACHING AID COMPETITION
E-PROCEEDINGS

Copy Editors*: Syazliyati Ibrahim, Azni Syafena Andin Salamat, Berlian Nur Morat (Dr.), Najah Mokhtar, Noor 'Izzati Ahmad Shafiai, Muhamad Khairul Anuar Bin Zulkepli (Dr.)*
Cover Design : *Asrol Hasan*
Layout : *Nurina Anis Mohd Zamri*
eISBN : 978-967-2948-51-3

Published by : Universiti Teknologi MARA Cawangan Kedah,
08400 Merbok,
Kedah,
Malaysia.

PREFACE

iTAC or International Teaching Aid Competition 2023 was a venue for academicians, researchers, industries, junior and young inventors to showcase their innovative ideas not only in the teaching and learning sphere but also in other numerous disciplines of study. This competition was organised by the Special Interest Group, Public Interest Centre of Excellence (SIG PICE) UiTM Kedah Branch, Malaysia. Its main aim was to promote the production of innovative ideas among academicians, students and also the public at large.

In accordance with the theme "Reconnoitering Innovative Ideas in Post-normal Times", the development of novel ideas from the perspectives of interdisciplinary innovations is more compelling today, especially in the post-covid 19 times. Post-pandemic initiatives are the most relevant in the current world to adapt to new ways of doing things and all these surely require networking and collaboration. Rising to the occasion, iTAC 2023 has managed to attract more than 267 participations for all categories. The staggering number of submissions has proven the relevance of this competition to the academic world and beyond in urging the culture of innovating ideas.

iTAC 2023 committee would like to thank all creative participants for showcasing their innovative ideas with us. As expected in any competition, there will be those who win and those who lose. Congratulations to all the award recipients (Diamond, Gold, Silver and Bronze) for their winning entries. Those who did not make the cut this year can always improve and join us again later.

It is hoped that iTAC 2023 has been a worthy platform for all participating innovators who have shown ingenious efforts in their products and ideas. This compilation of extended abstracts published as iTAC 2023 E-Proceedings contains insights into what current researchers, both experienced and novice, find important and relevant in the post-normal times.

Best regards,

iTAC 2023 Committee
Special Interest Group, Public Interest Centre of Excellence (SIG PICE)
UiTM Kedah Branch
Malaysia

TABLE OF CONTENTS:-
iTAC 2023 e-Proceedings

MOBILE ENERGY SAVER

Md Nasser Bin Samsudin
Sekolah Menengah Teknik Tunku Abdul Rahman Putra.
kasimanzen@yahoo.com

Nur Azni Binti Mat Nawi
Sekolah Menengah Teknik Tunku Abdul Rahman Putra
izninawi@gmail.com

Noor Zanariah Binti Md Zain,
Methodist Boys' School, Pulau Pinang,
noorzanariahmdzain@gmail.com

ABSTRACT
With the kettle, the time allotted for cooking water can be reduced compared to using other containers such as pots. The kettle is easy to operate and safer. The kettle has weaknesses especially in the use of high heat energy especially to heat and boil water in certain quantities. To generate high heat energy, it requires a large amount of fuel like cooking gas. This will burden consumers in addition to increasing the cost of living. By using an energetic energy saver, it accelerates the water boiling period. In addition, it can increase the water temperature by helping to quickly transfer heat. The boiling test was conducted by observing the duration of boiling and water temperature in the kettle. As a result of the observation, it was found that it had been objective and the scope. The kettle that uses the Easy Energy Saver achieves a faster boiling point than those who do not use it. This energetic energy saver can be used in any water cooking container. Saving time for cooking and boiling water can save or minimize the consumption of cooking gas due to rising gas prices based on petroleum prices in the world market.

Keywords: weaknesses, generate, an energetic, boiling, saving

INTRODUCTION

This innovation is to accelerate the duration of water boiling in the kettle (non electric kettle) with an energetic energy saver. Energy Saver is appropriate to speed up the water boiling period in a normal kettle where it will be placed on the inside of the normal kettle. Tests using the Energy Saver that has been designed to observe the effect of energetic energy saver on the water boiling period on the kettle.

MATERIALS AND METHODS

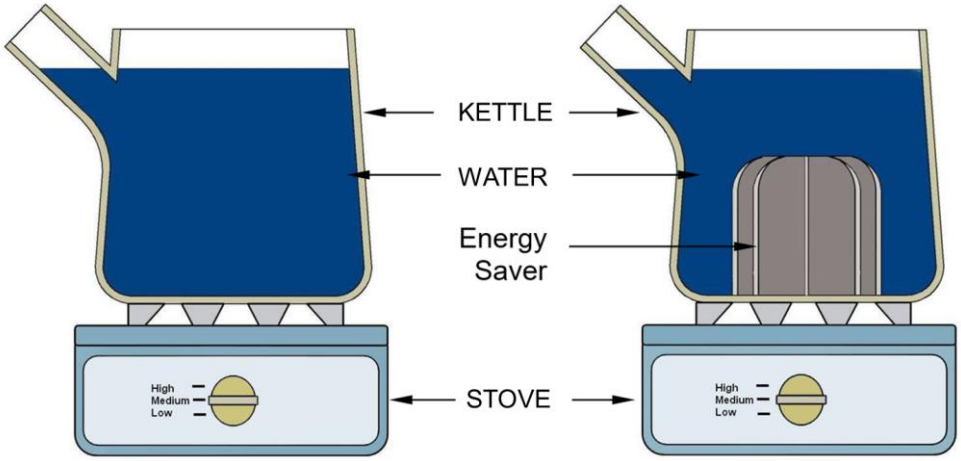


Figure 1. Place the water kettle on the stove and the Energy Saver on the kettle floor

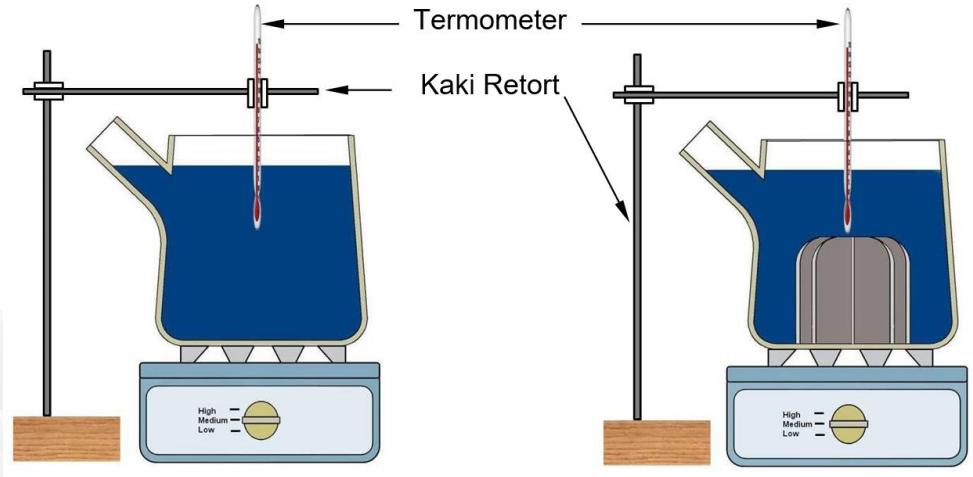


Figure 2. Put the thermometer in the middle of the water using a handle and retort leg

Masa (minit)	Suhu ^{o}C

0.0	
1.0	
2.0	

Figure 3. Use a table like Table 2 to record temperature readings

RESULTS AND DISCUSSION

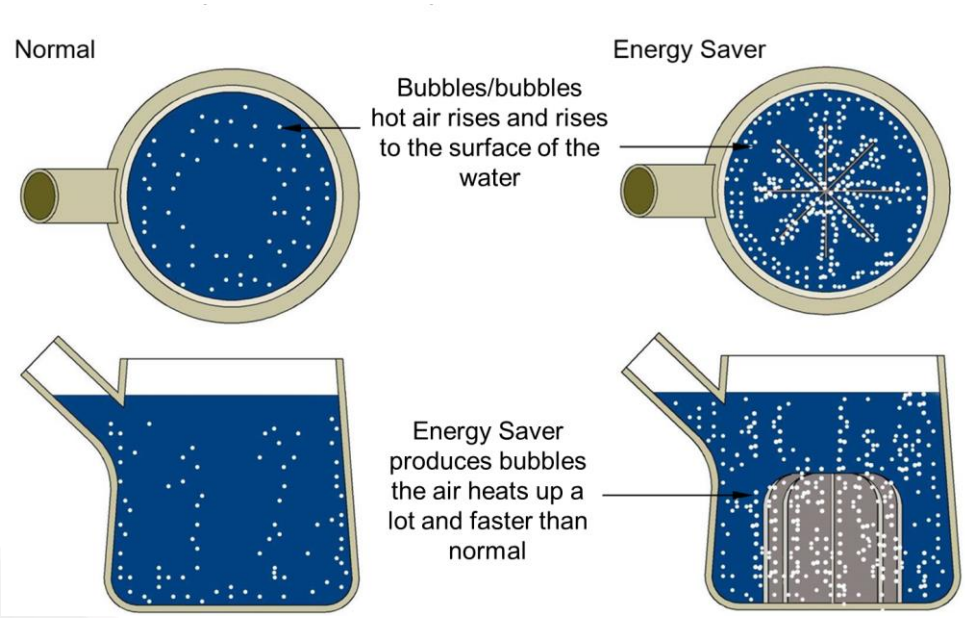


Figure 4. While the kettle is heated on the stove

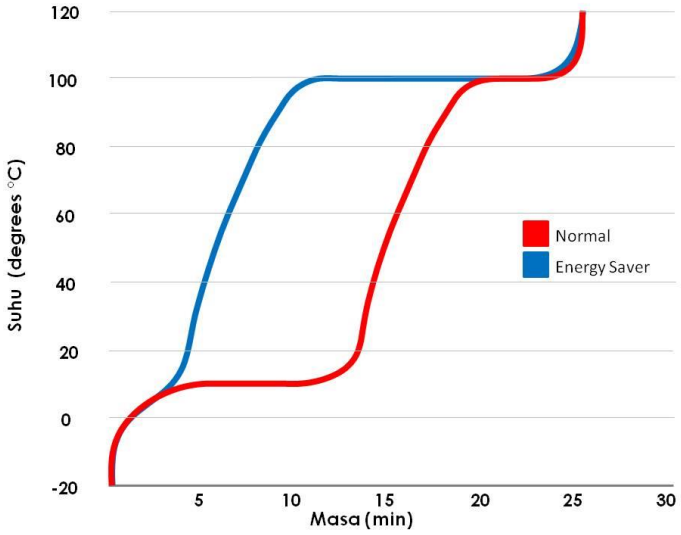


Figure 5. Temperature Graph – Boiling Time (Comparison between normal and Energy Saver)

ACKNOWLEDGEMENTS

This paper and the research behind it would not have been possible without the exceptional support of my supervisor, Noor Zanariah. Her enthusiasm, knowledge and exacting attention to detail have been an inspiration and kept my work on track from my first encounter with the log books to the final draft of this paper.

REFERENCES

Bowers, Russel, Sutter (1984), Mechanics Of Engineering Materials. John Wiley and Sons

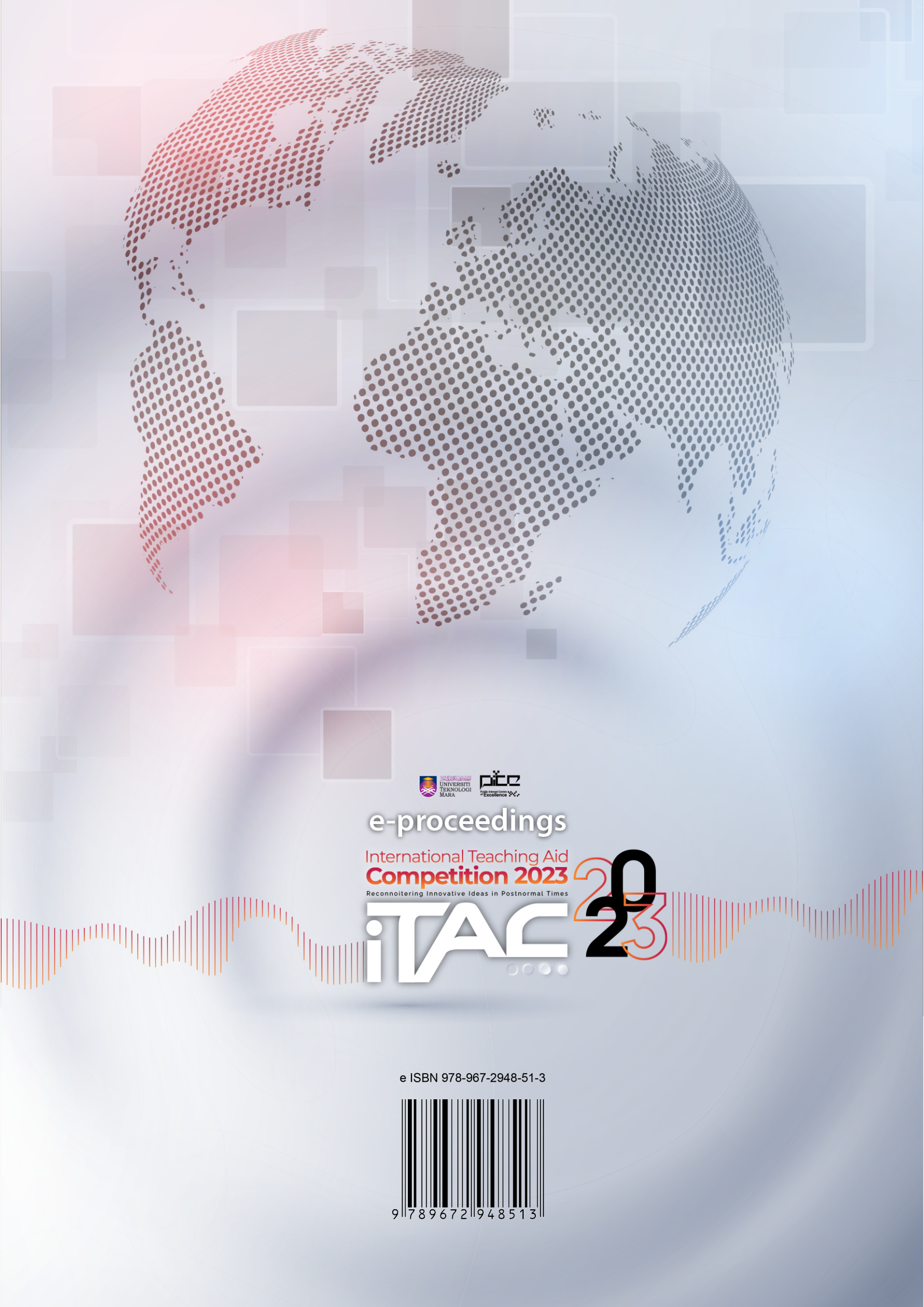
Sally, Adrian Morgan Penterjemah: Noreidah Othman. (2003), Reka Bentuk Dalam Sains: Menggunakan Tenaga, DBP

Colin Carborn, Ian Mould, John Cave. (1980) Design and Technology. England. ELBS with Nelson

Harry Ogden (1995) Workshop Science and Materials. Pitman Books. 128 Long Acre. London

George Omura, Mastering AutoCAD 2000 Singapore Tech Publications. Pte Ltd.

Timing.R.L. (1990), Introduction of Engineering Materials. United Kingdom: The Mac Millan Pres Ltd.



e ISBN 978-967-2948-51-3