

# E-BOOK OF EXTENDED ABSTRACT

## THE 14<sup>TH</sup> INTERNATIONAL INVENTION, INNOVATION & DESIGN COMPETITION 2025



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# PENDOPO LAMP: EDUCATIONAL DIY LAMP KIT

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## ABSTRACT

Globalisation has changed the way society sees everything, including the convenience of educating others. For parents, they tend to choose the Pendopo way to educate their children about lessons at school or basic knowledge, which leads to a massive use of screen time by underage children. On the other hand, the fast growth of technology could damage the quality of mankind by degrading the children of future generations. The tools they use for learning are not as effective as the traditional way. It turns out that digital education could not reach the full potential of the best learning experience for children. Pendopo Lamp has a vision that is also a solution for the issue, which is to accompany the children in unleashing their curiosity to discover and create. The product will help in growing their abilities and educating them about various topics. This extended abstract describes how Pendopo Lamp was designed by analysing the issue and translating insights into a meaningful product outcome.

**Keyword:** Educational toy, Children, Child Development

## 1. INTRODUCTION

The vast and rapid development of technology has influenced how people shape generational behaviour and personality. It offers countless benefits that can help society educate people of their generation through various digital means. Smartphones and tablets are the most convenient tools that parents are most likely to use for giving their children education from a very young age. However, the popular way to educate children digitally is not entirely effective. Digital education cannot give a fulfilling experience of sensory experience and stimulation that are essential for child development. Not to mention all the disadvantages of the excessive use of gadgets when addiction has occurred, which can interfere with children's physical, psychological, and emotional health (Ardiyani et al., 2021). Future generations should be encouraged to seek experiences that stimulate curiosity, discovery, and creativity while simultaneously growing their ability to create things. Therefore, we present a solution to the issue by creating an educational toy that is not only interactive but also sparks curiosity in children to explore more about creating innovations and solving problems.

## 2. METHODOLOGY

### 2.1 Survey

We use the method of survey to gather information directly from experienced parents. Our respondents consist of parents between the ages of 25 to 50 years old. We asked them about their experience using educational toys to teach and raise their children, and the pros and cons of the toys they used.

### 2.2 Observation

For the method of observation, it is used to gather data on the types of educational toys that are available on the market, and as the objects of our observation, we chose bookstores and toy stores. We listed all the types of educational toys that we could find, and then analysed each of the products for their pros and cons.

### 2.3 Literature

To further refine our product, we reviewed academic literature including journals, articles, and books. We conducted a literature review to maximise our product benefits and to determine the educational topics that we would use for our educational toy.

## 3. FINDINGS

According to the survey data we have gathered, most parents prefer physical toys over digital toys, although both have their pros and cons. Most of them pick physical toys because of the lower negative effect on their children compared to their digital counterparts. After analysing all the types of educational toys for their pros and cons, we found that DIY Kit educational toys are the most suitable type of educational toy for our goals. The most suitable educational topic for our product is culture and heritage. With the rapid spread of mass media on the internet, foreign cultural influences can easily enter and dominate. This can cause local cultural heritage to be overlooked and forgotten. Therefore, focusing on cultural and heritage education makes our product both relevant and meaningful.

## 4. CONCLUSION

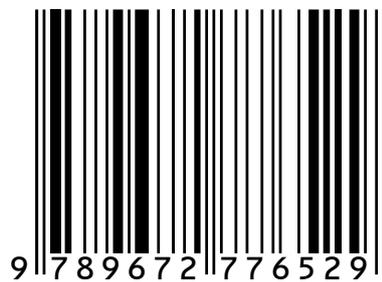
The swift movement of technology is inevitable. It impacts how education works, including the one for children. Our future generation needs the ground-breaking ability of critical thinking and finding solutions to figure out every single problem that is yet to be faced, from the tiniest ones to the huge ones. Pendopo Lamp was created as a product to guide the future generation to unlock their potential at their prime age of curiosity. It would enhance their ability to create things, make innovations, solve problems, and develop critical thinking skills. Although a child can memorise a lot of information, true understanding and retention are best achieved through hands-on experience, which allows them to know and understand how things work (Qizi, 2023). Pendopo Lamp will hopefully trigger their willingness to face their upcoming struggles and problems that will eventually lead them to be a better and more innovative generation.

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