

E-BOOK OF EXTENDED ABSTRACT

THE 14TH INTERNATIONAL INVENTION, INNOVATION & DESIGN COMPETITION 2025



14TH **INDES** 2025

ENVIRONMENTAL • SOCIAL • GOVERNANCE



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THE 14th INTERNATIONAL
INVENTION, INNOVATION &
DESIGN COMPETITION 2025

Organized by:

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SUSTAINABLE ANTHOTYPE PHOTOGRAPHY EDUCATION KIT

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ABSTRACT

The Sustainable Anthotype Photography Education Kit is a sustainable and accessible environmental resource aimed at familiarizing students, educators, and photography enthusiasts with the sustainable and historically significant technique of anthotype photography. The kit simplifies conventional anthotype techniques to produce photographic images using light-sensitive emulsions derived from organic materials such as fruits, flowers, and vegetables. This kit makes exploring this unconventional method easy. It includes materials, detailed instructions, and reusable tools. The kit does not require complex apparatus or hazardous chemicals. The kit consists of paper, frames, tools, and detailed instructions. The kit aligns with contemporary STEAM (science, technology, engineering, art, and mathematics) by encouraging environmentally responsible behaviour, fostering creativity, and increasing understanding of historical photography techniques through creativity, and increases understanding of historical photography techniques by making anthotype photography attractive and accessible. The concept is suitable for innovation competitions due to its innovative and large-scale integration of sustainability, creativity, and education.

Keywords: Sustainable, Kit, Anthotype, Photography

1. INTRODUCTION

Environmental awareness and sustainable practices are becoming increasingly important to us today. Therefore, education plays an important role in fostering a responsible attitude among the younger generation (Xiong, 2014). In this context, alternative photography techniques such as anthotype, a historical method that uses organic materials such as fruits, flowers, and vegetables as a light-sensitive emulsion, are being introduced. It offers a sustainable and creative approach to learning in both the visual arts and sciences. (Inwood, 2008)

The Sustainable Anthotype Photography Education Kit was developed as an innovative and environmentally friendly educational resource designed to introduce anthotype techniques in an effortless, safe, and interactive way to students, educators, and photography enthusiasts. The kit includes basic materials such as reusable tools and comprehensive step-by-step instructions that guide users through the image-making process without the need for hazardous chemicals or complex equipment.

Integrated with the interdisciplinary principles of the STEAM education program (science, technology, engineering, art, and mathematics), the kit encourages creativity, environmental responsibility, and a deeper understanding of historical photography methods. Its accessible and practical nature makes it ideal not only for classroom use but also as a strong contender in innovation competitions that value sustainability, creativity, and educational impact.

2. METHODOLOGY

The development and implementation of the Sustainable Antitype Photography Education Kit follow a structured process based on educational innovation, sustainability, and practical experimentation. The methodology can be divided into four main phases, as shown in Figure 1 below.



3. FINDINGS

The Sustainable Anthotype Photography Education Kit can impact education, raise awareness of sustainability, and influence users' feelings about using it. First, the kit made the pupils more creative and interested in what they were doing. During hands-on anthotype exercises, students were very interested and excited. (Burton, Horowitz, & Abeles, 2000) The technique was tactile and exploratory, which sparked creativity, especially when it came to making and designing photographic prints using natural materials. The second finding was that students learned more about historical and alternative photography. The kit was a wonderful way to start learning about early alternative photographing techniques (Wells, 2009). The kit helped students understand more about non-digital photography transferring techniques and the history behind them, which is something that is often not taught in modern photography classes. Third, raise awareness of environmental issues. The package taught people about sustainable ways to make art by using plant-based emulsions and staying away from toxic chemicals. Using natural materials for art projects is beneficial for the earth. Fourth, it's easy to get to and use the tools. The kit was easy for anyone to use, even those who had never used a camera before. Simple to understand and didn't need many tools, so it could be used in schools, classes, and community events. Last but not least, it fits with the goals of STEAM education. The kit was a valuable STEAM learning tool because it taught science (how to detect light), technology (how to use exposure), art (how to put together a picture), and environmental awareness. We were able to learn a wide variety of things and improve our critical thinking skills thanks to the kit.

4. CONCLUSION

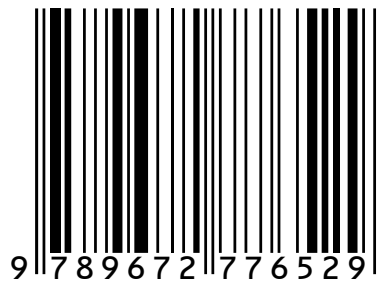
In conclusion, the Sustainable Anthotype Photography Education Kit is a hands-on, eco-friendly approach to historical photography. It combines sustainability, creativity, and education. The kit includes tools and supplies. Hence, it is encouraging to try out different ways of producing images without having to use dangerous chemicals or complicated equipment. On the other hand, the kit was developed in line with the STEAM educational program. Consequently, it promotes creative expression, environmental stewardship, and enhanced creativity. (Yakman & Lee, 2012) The kit features an easy-to-use design and has the potential to be widely used as a valuable resource. It can be used as a tool in schools, community activities, and innovation projects.

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