



Development of Subal Sunggar on the Yogyakarta Traditional Ukel Tekuk Bun for Various Face Shapes

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ABSTRACT

The traditional Yogyakarta ukel tekuk hairpin is an important part of traditional makeup, with the hairpin supported by a subal to maintain its stability and shape. However, the materials and techniques used to make traditional subals are considered impractical and uncomfortable, so innovation is needed to create a more modern subal without losing its traditional essence. This study aims to (1) identify the stages of subal ukel tekuk hairpin development for the traditional Yogyakarta, and (2) evaluate the feasibility of the subal based on expert validation and user assessment. The research method uses a Research and Development (R&D) approach with a PPE (Planning, Production, Evaluation) model. Data collection instruments involved expert validation and user assessment using a 4-point Likert scale. The results of the study showed several main findings: (1) Problems faced by makeup artists and users included a lack of skill in making hairpieces, discomfort, shapes that did not suit the face, and a time-consuming process. Therefore, a practical subal was developed using materials such as hair, combs, needles, sewing thread, and other supporting tools. (2) The development process included design, production, and evaluation. (3) Expert validation results showed a feasibility percentage of 95.16% (average 3.81), and user assessment reached 98.02% (average 3.92), both of which were in the feasible category.

ABSTRAK

Sanggul ukel tekuk adat Yogyakarta merupakan bagian penting dalam tata rias tradisional, dengan sunggar yang ditopang oleh subal untuk menjaga stabilitas dan bentuknya. Namun, bahan dan teknik pembuatan subal tradisional dianggap kurang praktis dan nyaman, sehingga diperlukan inovasi untuk menciptakan subal yang lebih modern tanpa menghilangkan esensi tradisional. Penelitian ini bertujuan untuk (1) mengidentifikasi tahapan pengembangan subal untuk sunggar sanggul ukel tekuk adat Yogyakarta, dan (2) mengevaluasi kelayakan subal tersebut berdasarkan validasi ahli dan penilaian pengguna. Metode penelitian menggunakan pendekatan *Research and Development* (R&D) dengan model PPE (*Planning, Production, Evaluation*). Instrumen pengumpulan data melibatkan validasi ahli dan penilaian pengguna menggunakan skala Likert

4. Hasil penelitian menunjukkan beberapa temuan utama: (1) Permasalahan yang dihadapi perias dan pengguna meliputi kurangnya keterampilan dalam membuat sunggar, ketidaknyamanan sasakan, bentuk yang tidak sesuai wajah, dan proses yang memakan waktu lama. Oleh karena itu, dikembangkan subal yang praktis dengan bahan seperti rambut, sisir, jarum, benang jahit, dan alat pendukung lainnya. (2) Proses pengembangan meliputi perancangan, produksi, dan evaluasi. (3) Hasil validasi ahli menunjukkan persentase kelayakan 95,16% (rata-rata 3,81), dan penilaian pengguna mencapai 98,02% (rata-rata 3,92), keduanya dalam kategori layak.

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INTRODUCTION

A bun, or chignon, is a wig or natural hairstyle shaped into a round or oval shape and attached to the back or top of the head. Chignon styles have been known since ancient Egypt, where they were made from real hair, animal fur, and palm leaves. A traditional chignon is a bun commonly worn on everyday or special occasions [1]. It has existed since ancient times and has been popularized through generations.

A modified traditional chignon is a modification of the traditional Indonesian chignon, transformed into a simpler yet luxurious and graceful chignon, creating a beautiful, elegant, and attractive chignon suited to the occasion. As part of cultural heritage, the chignon holds both aesthetic and symbolic value, reflecting the social status, nobility, and elegance of Javanese women.

In Yogyakarta, the classic Javanese chignon, known as the ukel tekuk, is well-known. The ukel tekuk represents many types of chignon in Indonesia [2,3]. These bun styles can be learned at non-formal education institutions or courses. These institutions give both theoretical and practical knowledge. They help people master regional bun styling and creation techniques, especially the curved ukel bun. However, many beauticians and the public still struggle to style a bun. The sunggar (traditional Javanese bun) of Yogyakarta is especially challenging.

The Yogyakarta traditional bun is renowned for its diverse range of shapes and styles. One well-known style is the sunggar, which uses a subal (a hairpiece) for support and to keep its shape. The subal maintains the bun's structure, especially in styles needing more volume and height. In the modern era, keeping traditional bun traditions is challenging. This is due to changes in taste and comfort, especially among younger people.

The materials and techniques used in making traditional subals are considered impractical and uncomfortable for prolonged wear, creating a need for innovation in developing more modern subals while maintaining their traditional essence.

Incorporating modern materials into traditional accessories can enhance comfort and ease of use; however, one must also consider the cultural aspects inherent in the accessory. On the other hand, aesthetics in Javanese culture not only reflects physical beauty but also has deep philosophical meaning [4,5]. Therefore, the development of subal for the *sunggar sanggul* (head bun) of Yogyakarta must consider the balance between technological innovation and the preservation of traditional values.

Given these problems, this study examines the subal for *sunggar* in Yogyakarta's traditional *sanggul* (head bun). It examines function, aesthetics, comfort, and public acceptance of new changes. The research is titled *Development of Subal Sunggar in the Yogyakarta Traditional Ukel Tekuk Sanggul for All Face Shapes*.

LITERATURE REVIEW

The bun in Javanese culture, particularly in Yogyakarta, holds strong aesthetic and symbolic value. The bun is not merely a hairstyle but also reflects the personality and social status of the wearer. In Javanese culture, the bun is often used as a symbol of elegance and dignity for women, particularly during formal occasions and traditional rituals. Furthermore, the bun also serves to enhance the appearance of Javanese women by showcasing the beauty and neatness of the hair gathered in the bun.

In developing the subal for the Javanese bun, aesthetics are not only seen in terms of physical beauty, but also in how the product can express the noble values of Javanese culture. Javanese aesthetics are rooted in a philosophy of beauty that encompasses not only visual aspects but also the spiritual and symbolic values underlying each cultural element. Javanese aesthetics are always closely linked to profound philosophical meaning [6,7].

Cultural forms, such as the bun or traditional hairstyles, are valued not only for their beauty but also for their meanings, including purity, nobility, and honor. Yogyakarta-style buns come in various shapes and sizes depending on the event attended. *Sunggar* [8], a

traditional bun, requires sturdy support to keep the bun in place and prevent it from changing shape.

The subal serves as the main support, maintaining the stability of the bun. The subal's primary function in bun styling is to strengthen the structure of the bun and ensure its stability while being worn [9]. Subal is an important element in bun styling, especially large and tall ones like the *sunggar*. Subal are typically made from traditional materials such as bamboo or wood, which, while strong, are often uncomfortable to wear for extended periods. Based on a literature, innovations in subal design can help improve comfort without compromising its aesthetic and structural functions [10]. The study demonstrated that the use of modern materials, such as plastic or synthetic fibers, can reduce the weight of the bun and increase wearer comfort; however, adjustments are necessary to maintain compliance with traditional cultural standards.

In the modern era, the need for comfort and efficiency is increasing. Therefore, the development of subal (traditional headpieces) focuses not only on traditional aspects but also on innovations in materials and manufacturing techniques. The use of modern technology in the manufacture of traditional accessories has become a topic of concern raised by several experts. Developing traditional accessories using lighter and more durable materials can increase their popularity among modern society, especially the younger generation. Javanese cultural identity in the context of modernization is an important topic in the study of traditional cultural products.

Cultural identity is defined as a reflection of the values, norms, and traditions passed down from one generation to the next [11–13]. Modernization can pose a threat to cultural preservation if not balanced with thoughtful adaptation. The development of subal, which is part of the traditional Yogyakarta bun, must consider how innovation can be accepted by society without losing the inherent value of cultural identity.

Cultural elements such as traditional makeup and clothing must always contain elements of identity preservation, even though they undergo changes to adapt to the times [14,15]. However, this innovation must be carried out carefully to avoid eliminating the traditional values inherent in that culture. Every form of innovation in traditional culture must undergo an evaluation process that considers the balance between function, aesthetics, and the philosophy within it.

Public acceptance of cultural innovation, especially for accessories like the subal, depends on how well the innovation keeps the tradition's essence. The public prefers innovations that do not change the original form and main function of a cultural element [16,17]. Innovations that improve comfort and efficiency while maintaining aesthetics and symbolism are more popular [18].

This research also supports the findings who stated that acceptance of cultural innovation depends on the level of public participation in the innovation's development process [19–21]. This participation ensures that any changes made align with cherished cultural values.

METHOD

This research uses the Research and Development (R&D) method, which aims to design, produce, develop, and test the validity of a product. Research involves a series of analyses, data collection, and interpretation to achieve research objectives [22]. The development model applied is the PPE (Planning, Production, and Evaluation) model, as proposed by Richey and Klein [23]. This model focuses on a comprehensive analysis from the planning stage to evaluation, consisting of three main stages: Planning, Production, and Evaluation.

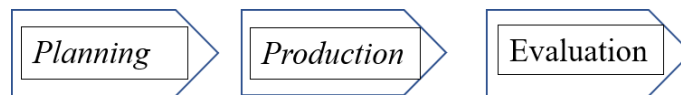


Figure 1. PPE Model Flow

In the planning stage, user needs are identified, functional and aesthetic analyses are conducted, and information is gathered from cultural experts and traditional product designers through observation, interviews, and literature reviews. The emphasis on cultural values and modernization needs is a primary concern, such as comfort, lightness, and aesthetics in accordance with Yogyakarta customs [24]. The production stage involves creating a sub-prototype, considering ergonomics, aesthetics, and sustainability, while incorporating modern technologies such as 3D printing.

The materials used are sourced locally and are environmentally friendly. Furthermore, the evaluation phase involved small and large group trials to obtain feedback and assess user responses. A purposive sampling technique was used to select participants who had experience using chignons at formal events [25,26]. This study, conducted over four months, from September to December 2024, in Yogyakarta, focused on comfort, community acceptance, and product feasibility. Data were obtained through observation, interviews, questionnaires, and literature review, then analyzed using a Likert scale to assess the product's feasibility [27].

RESULTS AND DISCUSSION

The development of this research resulted in a product in the form of a Yogyakarta traditional sunggar bun (subal) for all face shapes. The results of this study also have practical implications for the world of bridal makeup, especially for makeup artists who prioritize speed, comfort, and the suitability of the bun shape to suit the various faces of prospective brides.

This innovative development of a more ergonomic and aesthetically pleasing subal can serve as an alternative solution to traditional makeup practices, thereby enhancing service quality and minimizing the technical obstacles often faced by makeup artists. The following are the implementation stages of this research.

Planning (Needs Analysis)











Planning and problem analysis were conducted to identify problems encountered during the observation. Based on the problem analysis conducted by the researcher, the following problems were identified:

Table 1. Need Analysis

a. Lack of makeup artist skills in making sunggar.
b. Javanese sunggar buns are too heavy to use.
c. Sunggar is not strong enough and does not suit the face shape.
d. Making sunggar for the Yogyakarta traditional Javanese sunggar takes too long.
e. Excessive backcombing of hair can cause headaches and pain.

The requirements and equipment needed to produce the subal product in this study are listed in Table 2.

Table 2. Materials and Equipment Requirements

Materials and Tools	Image	Materials and Tools	Image
Cemara		Hair Scissors	
Hairnet		Hairdryer	
Sewing Thread and Needle		Towel	
Hairspray		Comb	
Shampo		Bucket of Water	

Production (Design and Manufacturing)

The design for making the subal for the traditional Yogyakarta ukel tekuk bun is simple but easy for researchers to understand. The design is illustrated in Figure 2.

Figure 2. Subal Design
 Desain Subal Tampak atas






Desain Subal Tampak bawah



The researchers carried out the subal manufacturing process meticulously and carefully to achieve optimal results. The following steps in the subal manufacturing process for the traditional Yogyakarta ukel tekuk bun are shown in Table 3.

Table 3. Subal Manufacturing Process

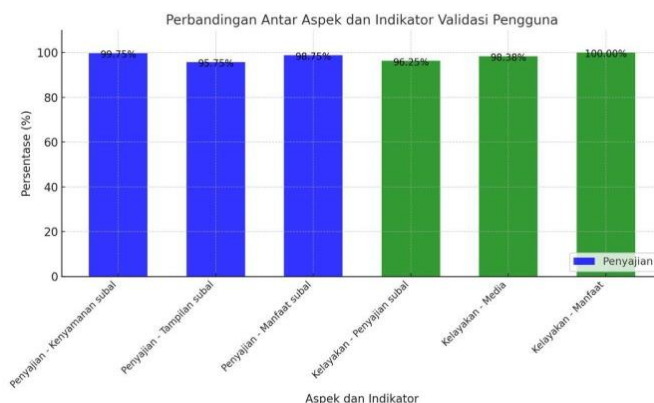
Subal Manufacturing Process	
Raw Material Sorting Process	The initial process involves sorting raw materials, including Hair, which is separated and styled according to the shape and length of the hair.
Hair Washing and Drying	Hair washing is done to remove dirt and odor from the hair to achieve the desired results. Hair is washed with water and shampoo until clean, then dried in the sun under a towel or with a hairdryer. <div style="text-align: center;">  </div>
Shaping the hair with a hairnet	Once dry, the hair is shaped according to the design using a hairnet and then sewn with thread. <div style="text-align: center;">  </div>
Final Sumbal Result	After the product is made and sewn with thread, it is sprayed with hairspray and allowed to dry or dried with a hairdryer. <div style="text-align: center;">  </div>

Evaluation (Product Evaluation)

The final step in developing a subal is the testing phase. Testing of the subal includes validation testing by experts and users. Validation conducted by media experts assessed two aspects: presentation, comprising 13 sub-indicators, and feasibility, comprising 18 sub-indicators, resulting in a total of 31 sub-indicators.

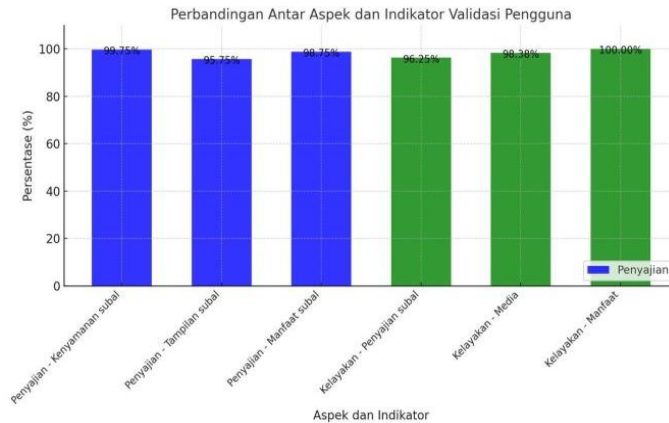
This presentation evaluated three metrics: comfort, appearance, and usability. The feasibility test evaluated three aspects: presentation, media, and usability. The development of the sub-indicator for the Yogyakarta sunggar sanggul ukel tekuk was evaluated by three experts: Mrs. Christine Ulina Tarigan, S.Pd., M.Pd., a lecturer in the Undergraduate Program in Applied Makeup and Beauty, Faculty of Vocational Studies, Yogyakarta State University; Mrs. Dra. B. Sri Hanjati, M.Sn., a lecturer in the Dance Department, Faculty of Performing Arts, ISI Yogyakarta; and Mrs. Raras Sunarto, S.E. (Nyi RL Lukitaningrumsumekto), a makeup artist and courtier of the Yogyakarta Palace. The scores obtained from the expert validation process were then calculated to compare them with the maximum score for each sub-indicator item. A comparison of sub-indicator and inter-aspect assessment scores is shown in Figure 3.

Figure 3. Comparison of Expert Validation Between Aspects



Analysis of expert validation research data conducted on the development of subal for the Yogyakarta traditional ukel tekuk bun revealed that, based on the score conversion table, the subal was categorized as "Feasible." Users assessed two aspects: presentation, comprising 13 sub-indicator items, and feasibility, comprising 18 sub-indicator items, resulting in a total of 31 sub-indicator assessments.



Figure 4. Comparison Between User Aspects.



This presentation evaluates three metrics, user experience metrics and feasibility metrics. User experience metrics include user convenience, which refers to ease of interaction; user appearance, which concerns visual design; and user benefits, which focus on tangible advantages to the user. Feasibility metrics assess user presentation (how user data or information is displayed), media (the delivery channels used), and usability (the system’s effectiveness and efficiency). The scores from user assessments are then calculated and compared to the maximum scores for each sub-indicator item.

Figure 4. Comparison Between User Aspects

Initial Product Expert	Before	Product Revision
Christine Ulina Tarigan, S.Pd., M.Pd	 <p>The hair fibers are tidied up and the hairpiece is scented.</p>	
Dra. B. Sri Hanjati, M.Sn (Kinting Handoko)		

	The hairpiece is added to the volume and smoothed further.	
Raras Sunarto, S.E. (Nyi RL Lukitaningrumsumekto)	 <p>The hairpiece is filled and made neater.</p>	

Based on the analysis of research data by users conducted on the development of subal for the Yogyakarta traditional ukel tekuk bun, according to the score conversion table, the results fell into the “Decent” category. Product revisions were conducted following expert assessments. The following product revisions, carried out by three experts, are presented in Table 4.

Through the expert validation testing stage and user assessment [28, 29] for the development of subal for the Yogyakarta traditional sunggar sanggul ukel tekuk, researchers can find out the feasibility results of each aspect. Based on the data analysis at this stage, the results showed that the development of subal for the Yogyakarta traditional sunggar sanggul ukel tekuk can meet the feasibility criteria for both product, media, and user assessment.

CONCLUSIONS AND SUGGESTIONS

Based on research using the PPE method, the subal for the Yogyakarta sunggar sanggul ukel tekuk was developed through needs analysis, design planning, and feasibility testing. The resulting subal is lighter, softer, more comfortable, and easier to use. A needs analysis revealed issues, including heavy subals, poor facial fit, and headaches. So, innovations in materials and design were needed. The new subal uses hair, hairnets, sewing thread, hairspray, and other support equipment.

Functional and usability tests demonstrated that the design is both aesthetically pleasing and practical, particularly for Javanese Yogyakarta bridal buns. Expert validation results achieved a feasibility percentage of 95.16% and a user assessment of 98.02%, both

of which fall into the very feasible category, making them well-received by the community, particularly in the context of traditional ceremonies.

Although this research has limitations in terms of time for expert involvement and the availability of raw materials, overall, the development of this study has proven to make a real contribution to preserving and adapting the tradition of Yogyakarta's traditional bun to meet the needs of today's society.

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