



# Development of a Gender-based Movement Activity Game Model to Stimulate Basic Movement Skills in Early Children

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## Abstract.

This research aims to (1) evaluate the validity of the gender-based early childhood movement activity game model, (2) assess the practicality of the gender-based early childhood movement activity game model, and (3) examine the effectiveness of the gender-based early childhood movement activity game model in achieving learning objectives. The selected development model is. This study synthesizes multiple development research models that have been evaluated (Pramono, 2019), namely the Ploom Model (2007), the Kemp Model (2004), the Hanafin and Pack Model (1998), and the Borg and Gall Model (1989, p. 624) of developmental stages. This research procedure comprises six steps, aligned with the research objectives and scope: (1) performing a needs analysis, (2) identifying a movement activity game model, (3) developing an initial hypothetical model, (4) conducting expert evaluations, (5) executing small-scale trials to test the model, and (6) implementing field trials to assess model application. This study included 15 individuals who submitted questionnaires, all of them were affiliated with the TK-KB Laboratory at the State University of Malang. This research examines the preliminary phase (needs analysis) of game model creation. Data on challenges encountered by preschool educators indicate three primary areas: 1) planning, 2) implementation, 3) assessment. The results also addressed children's responses following their engagement with the proposed gender-based movement activity game model. The children's reaction while practicing the game was exceedingly positive; even during breaks, they expressed a desire to engage in activities.

**Keywords:** Movement activities, gender, basic movements

## 1 Introduction

Early infancy is a crucial phase for a child's future development; thus, it is essential to provide stimulation aligned with developmental needs to ensure optimal growth. Stimulating children's development is essential, as each developmental stage presents additional duties to be accomplished. Given the significance of childhood, it is essential to

create a supportive environment facilitated by educators—parents, teachers, caretakers, or other adults—so that children can realize their full potential.

Engaging in enjoyable physical activities positively influences children's growth and development. Through play activities, children acquire essential skills for their future, as they learn to communicate with others, regulate emotions, and engage in role-playing, which allows parents and educators to anticipate the child's future development. The stimulation provided by physical activity, particularly through play for young children, is not a novel concept in the field of education. This affirms that physical activity, particularly play, significantly contributes to the advancement of early childhood development. Educators are anticipated to facilitate environments that enable children to cultivate cognitive, emotional, and psychomotor skills through engaging play activities.

Effective stimulation for children's growth and development can be accomplished. Play activities for both boys and girls are neutral and accessible to all participants. Children refine their gross motor skills through sprinting, dribbling, and kicking a ball, which enhances physical fitness.

The requirements analysis results, derived from a questionnaire completed by educators and parents, indicated a lack of understanding regarding gender-based movement activity models in early childhood, particularly at KB-TK, Laboratory Kindergarten, State University of Malang. Derived from a questionnaire distributed to educators and parents at the KB-TK Laboratory, State University of Malang. None of the 25 respondents comprehended the concepts related to gender-based movement activity play models in early childhood.

## **2 Literature Review**

### **2.1 Understanding Movement Activities**

The movement activities given to children will vary depending on their age and development. In babies, allowing them to move through floor-based play (supervised) regularly throughout the day is recommended. Tummy time (the time your baby spends on his stomach while awake) is a great way to help your baby strengthen the muscles needed for crawling and walking later, and can give your child the opportunity to reach and grasp (great for hand/eye coordination) [5]. When babies start crawling, slithering, bottom-dragging, the focus remains on floor-based play and creating opportunities and a safe environment where they can move freely [1]. Recommendations suggest limiting the time young children spend in situations that restrict movement.

Physical Development is about experiencing and developing a variety of basic movement skills that will improve coordination, locomotion, control, balance, and manipulation [3].

## 2.2 The Nature of Movement Activity

Movement activity is essentially an educational process that utilizes physical activity to produce holistic changes in individual quality, both physically, mentally and emotionally. Movement activities treat the child as a complete unit, rather than just considering him as a person with separate physical and mental qualities. Movement activities are emphasized to encourage physical growth, psychological development, motor skills, knowledge and reasoning.

Movement activity is a part of overall education that prioritizes physical activation and fostering healthy living for harmonious, balanced physical, mental, social and emotional growth and development. The function and purpose of teaching movement activities is a medium or means of acquiring physical skills and development. It is also hoped that through movement activities students will be socialized about physical activities including sports skills. Through movement activities, it is hoped that students can gain various experiences to express impressions personally that are fun, creative, innovative, skilled, improve and maintain physical fitness.

## 2.3 Movement Activity Goals

The aim of movement activities is to develop self-management skills in an effort to develop and maintain physical fitness and a healthy lifestyle through various selected physical activities and sports, increase physical growth and better psychological development, improve basic movement abilities and skills, lay the foundation of good moral character. Strong through internalizing the values contained in physical education, sports and health, developing sportsmanship, honesty, discipline, responsibility, cooperation, self-confidence and democracy, developing skills to maintain the safety of oneself, others and the environment, understanding the concept of physical activity and sports in a clean environment as information to achieve perfect physical growth, healthy lifestyle and fitness, skill and have a positive attitude.

## 2.4 The benefits of movement activities include:

The benefits of movement activities for early childhood are as a means for children to move around, movement activities at school are a means of channeling their talents, one of the functions of movement activities is to maximize the formation of children's muscles and bones. In the end, this can support the growth and development of young children. Movement activities reduce the risk of obesity, movement activities trigger children to be active, so that the number of calories in the body will also be easily broken down. Movement activities can also improve a child's mood and can maintain a person's mental health. When exercising, the body releases endorphins which make humans happy.

## 2.5 Understanding Gender

The word "Gender" comes from the English language, gender, which means "sex". In Webster's New World Dictionary, gender is defined as the visible differences between men and women in terms of values and behavior, mentality and emotional characteristics between men and women that develop in society.

Gender is the difference that appears between men and women when viewed from values and behavior [2]. Gender is a term used to describe the differences between men and women socially. Gender is a group of cultural attributes and behaviors that exist in men and women.

The school environment has many common biases or stereotypes that have the same goal of socially constructing and socializing ideas, expectations, and expressions of sexual orientation and gender identity. Despite the misconception that these ideas are not appropriate or relevant until adolescence, these processes are critical early in development in elementary and early childhood education settings. Social construction and socialization occurs in many ways, from the organization of physical spaces (e.g., restrooms, locker rooms), movement activities, seating plans, dress codes and uniforms, to the relational language and behavioral, social, and emotional expectations of gendered children [9].

## 2.6 Gender-Based Movement Activity Games

This cultural influence seems to be a theory that will have the power to influence a person's behavior. One of them is how a teacher behaves in implementing his duties in learning activities. This is as expressed by (Kathryn Davis, 2011) the research findings which in this case are in line with the facts that emerged in this research, that; “

*The physical education teachers used their proposed theories to explain how they felt themselves to be fair in gender interactions in their classes. However, it appears these teachers were operating under their own theories - in - use that have been influenced by their past socialization. Gender socialization theory views the interactions between teachers and students in physical education classes as learned behaviors that are influenced by socialization in a male dominated society”*

## 2.7 Basic Movement Skills

Basic movement skills are a set of specific skills that involve different parts of the body such as feet, legs, trunk, head, arms, and hands. These skills are the “building blocks” for more complex and specialized skills that children will need throughout their lives to participate competently in a variety of games, sports, and recreational activities.

Development of a gender-based movement activity game model to stimulate basic movement skills in children aged 2-5 years through the implementation of play activities. Game specifications consist of a variety of play activities in the form of movement activity games which consist of several activities to stimulate basic movement skills (locomotor, non-locomotor, manipulative)

Basic movement skills are defined as movement activity skills that are considered important as the movements that underlie physical activity in early childhood [4]

Basic motor skills are the most appropriate explanation for the general cognitive benefits derived from children's participation in physical activity, sports, and performing arts activities. Adopting a skill acquisition versus PA intervention perspective has the

potential to shape how we think about the development of motor skills and EF in early childhood [7].

### 3 METHOD

The research methodology employed to address the issues and requirements for a Gender-Based Movement Activity Model aimed at enhancing early childhood fundamental movement skills at the KB-TK Laboratory of the State University of Malang utilizes a development research design. This study synthesizes various established development research models, including the Ploom Model, the Kemp Model, the Hanafin and Pack Model, and the Borg and Gall model. Given the research objectives and the scope of the subjects, the procedure encompasses six steps: (1) conducting a needs analysis, (2) identifying a movement activity game model, (3) developing an initial hypothetical model, (4) performing expert evaluations, (5) executing small-scale trials (model usage tests), and (6) implementing field trials (model application tests).

Table 3. 1. Stages of Overall Research Activities

| No | Activity Stages                                                                  | Type Information                                                     | Subject                                                                   | Analysis Techniques | Product                                                                         |
|----|----------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------|
| 1  | Analysis Need                                                                    | Understand the gender-based movement activity game model             | UM Laboratory Kindergarten teachers and parents                           | Descriptive         | Data to raise existing problems regarding gender-based movement activity models |
| 2  | Development of product prototypes for gender-based movement activity game models | Knowing how to prototype a gender-based movement activity game model | Literature review, field study, UM Lab Kindergarten teachers and parents. | Aiken Scale         | The product prototype is a gender-based movement activity game model            |
|    | Development of instruments for product assessment                                | Obtain instruments used to obtain standard models of gender-based    | Literature review.                                                        | Likert Scale        | Effectiveness instrument                                                        |

|  |                                          |                                                                                                                |                                           |                        |                                                                                         |
|--|------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------|-----------------------------------------------------------------------------------------|
|  |                                          | movement activity games (valid and reliable)                                                                   |                                           |                        |                                                                                         |
|  | Development of effectiveness instruments | Obtain instruments used to obtain standard models of gender-based movement activity games (valid and reliable) | Literature review.                        | Likert Scale           | Effectiveness instrument                                                                |
|  | Field Test.                              | gender-based movement activity game model                                                                      | Product revision, caregivers and experts  | Aiken Scale            | Guide to a gender-based movement activity game model to stimulate basic movement skills |
|  | Effectiveness test ( <i>experiment</i> ) | effective gender-based movement activity play model                                                            | Gender-based movement activity game model | Experimental research. | movement activity game model to stimulate movement activities                           |
|  | Production result                        |                                                                                                                |                                           |                        | Guidebook gender-based movement activity game model to stimulate basic movement skills. |

## 4 RESULTS AND DISCUSSION

Based on data on problems faced in the TK-KB Laboratory of the State University of Malang, it can be concluded 1) game planning: (a) understanding game competency 77.3%; (b) developing game indicators 77.3%; (c) developing game activities 81.8, (d) Developing game procedures 81.8%, (e) selecting game methods in accordance with indicators 77.3% (f) Developing assessment procedures 77.3% 2) Implementation (a ) The initial stage of the game Movement activity (Opening) has problems; (b) Apperception (connecting with previous learning) 77.3%; (c) explain the purpose of the movement activity game 81.3%, (d) Explain the benefits of the movement activity game 77.3%, (e) Explain the activities that will be carried out 77.3% (f) implementation of the movement activity game 77.3% (g) Child-centered learning 81.8 % (h) efforts to explore children's play experiences that have been carried out in one day 72.7 % (i)

Encouraging children to take part in subsequent learning activities 72.7 % 3 ) assessment experienced problems (a) determining the assesment instrument according to its domain was assessed at 72.7%; (b) Determine movement activity assssment instruments 81.8%; (c) analyzing the assessment results of 81.3% of the assessment data. (d) Summarize the assesment results 81.3%, (e) report the assessment results 81.3%. All results can be seen in table 2.

**Table 2.** Assessment Result Percentage

| No | Items                                                                                   | N  | Percentage |
|----|-----------------------------------------------------------------------------------------|----|------------|
| 1  | Game planning                                                                           |    |            |
|    | Understanding game competency a                                                         | 17 | 77.3       |
|    | Develop game indicators b                                                               | 17 | 77.3       |
|    | Developing game activities c                                                            | 18 | 81.8       |
|    | Develop game procedures d                                                               | 18 | 81.8       |
|    | Chose a game method that suits the indicator e                                          | 17 | 77.3       |
|    | Develop assessment procedures f                                                         | 17 | 77.3       |
| 2  | Implementation                                                                          |    |            |
|    | Initial stage of the game Movement activities (Opening) a                               | 17 | 77.3       |
|    | Apperception (connecting withh previous learning) b                                     | 17 | 77.3       |
|    | Explain the purpose of the movement activity game c                                     | 18 | 81.3       |
|    | Explain the benefits of movement activity games d                                       | 17 | 77.3       |
|    | Explain the activities that will be carried out. e                                      | 17 | 77.3       |
|    | Core                                                                                    |    |            |
|    | Implementation of the game Movemen activities f                                         | 17 | 77.3       |
|    | Child-Centered Learning g                                                               | 18 | 81.3       |
|    | Closing                                                                                 |    |            |
|    | Efforts to explore children's play experiennces that have been carried out in one day h | 16 | 72.7       |
|    | Encourage children to take part in the next learning activity. i                        | 16 | 72.7       |
| 3  | Evaluation                                                                              |    |            |
|    | Planning the assessment a                                                               | 16 | 72.7       |
|    | Determine movement activity assessment instruments b                                    | 18 | 81.3       |
|    | Analyzing assessment results c                                                          | 18 | 81.3       |
|    | Summarizing the assesment results d                                                     | 18 | 81.3       |
|    | assessment results report e                                                             | 18 | 81.3       |

## 5 CONCLUSION

This researc examines the preliminary phase (needs analysis) of game model development. Based on data regarding the chalenges encountered by KB and Kindergarten educators at the State University of Malang, the conclusions are: 1) planing children's movement activityy games, 2) implementing children's movement activity games, 3) evaluating children's movement activity games.

During the planing phase, educators struggle to comprehend fundamental and essential competencies for structuring daily instruction. In the implementatioon phase, it

was observed that core competencies significantly enhanced the inspiration of learning, while teachers encountered challenges in facilitating child-centered learning.

The resultss will be further analyzed concerning the children's reactions following their engagement with the game model designed to enhance movement activities. The children's responses throughout the implementation of the game were overwhelmingly positive. Children desire to engagee in activities even during recess.

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