

## Impact of Hyper electronic mind maps strategy and artificial intelligence technology on developing Hardanger embroidery skills

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### Abstract:

**Research problem:** The research problem is to determine the following main question: What is the impact of using hyper electronic mind maps and artificial intelligence technology on developing of Hardanger embroidery? The following sub-questions branch out from this main question: 1- What is the impact of using hyper electronic mind maps and artificial intelligence technology on developing cognitive achievement of Hardanger embroidery? 2- What is the impact of using hyper electronic mind maps and artificial intelligence technology on developing performance of Hardanger embroidery skills?

**Research aims:** The current research seeks to: 1- Developing cognitive achievement and skill performance using superior mind maps and artificial intelligence technology for Hardanger embroidery skills.

**Research importance:** 1- The current research is a response to what educators need for regarding the necessity of using modern strategies in the teaching and learning processes. 2- Providing clothing and textile curricula educators with a set of ideas that can be used when developing curricula, and paying attention to using modern strategies that employ the energies of both sides of the brain. 3- Contributing to spreading and developing the culture of using the superior mind map strategy and artificial intelligence technology.

**Search limits:** Human limits: Fourth year female students, Department of Clothing and Textiles. Objective limits: Hardanger Embroidery Using hyper Electronic Mind Maps and Artificial Intelligence Technology. Time limits: Academic year 2021/2022, second semester.

**Research hypotheses:** 1- There is a statistically significant difference between the average ranks of the students in the experimental group and the control group ( $< 0.05$  in cognitive achievement. 2- There is a statistically significant difference between the average ranks of the students in the experimental group and the control group ( $< 0.05$ ) in skill performance. 3- There is a positive attitude among the students of the experimental group towards the proposed strategy. 4- The proposed strategy helped maintain the effect of learning on the cognitive achievement and skill performance of the experimental group.

**Research sample:** The current research was applied to a sample of fourth-year female students who studied Hardanger embroidery using the hyper electronic mind map and artificial intelligence technology.

**Research Methodology:** This research relies on the descriptive approach and the semi-experimental approach to determine the effect of the independent variable (hyper mind maps and artificial intelligence technology) on the dependent variable (development of Hardanger embroidery skills).

**Research tools:** 1- An achievement test to measure the knowledge and skills related to Hardanger embroidery. 2- A skills test to measure the skills associated with Hardanger embroidery. 3- Rating scale. 4- A measure of female students' attitudes towards using hyper electronic mind maps and artificial intelligence technology.

**Research variables:** The independent variable (hyper mind maps and artificial intelligence technology) on the dependent variable (development of Hardanger embroidery skills)

**Results:** 1- There is a statistical significant difference between the average of ranks of the students of the experimental group and the control group at the level of (0.05) or less in cognitive achievement in favor of the experimental group. 2- There is a statistical significant difference between the average of ranks of the students in the experimental group and the control group at the level of (0.05) or less in skill performance in favor of the experimental group. 3- There is a positive attitude among the students of the experimental group towards the proposed strategy. 4- The proposed strategy maintain the effect of learning on the cognitive achievement and skill performance of the experimental group.

### Keywords:

Hyper electronic mind maps, Artificial intelligence technology, Hardanger Hardanger Embroidery

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