

Lenz's Law and the Art of Dance

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Introduction

- Dance is an art of communicating abstract concepts and images appealing to the aesthetic sensibilities of the observers.
- On the other hand, according to Lenz's law, the direction of the current induced by a changing magnetic field will always oppose the direction of the magnetic field that produced it.

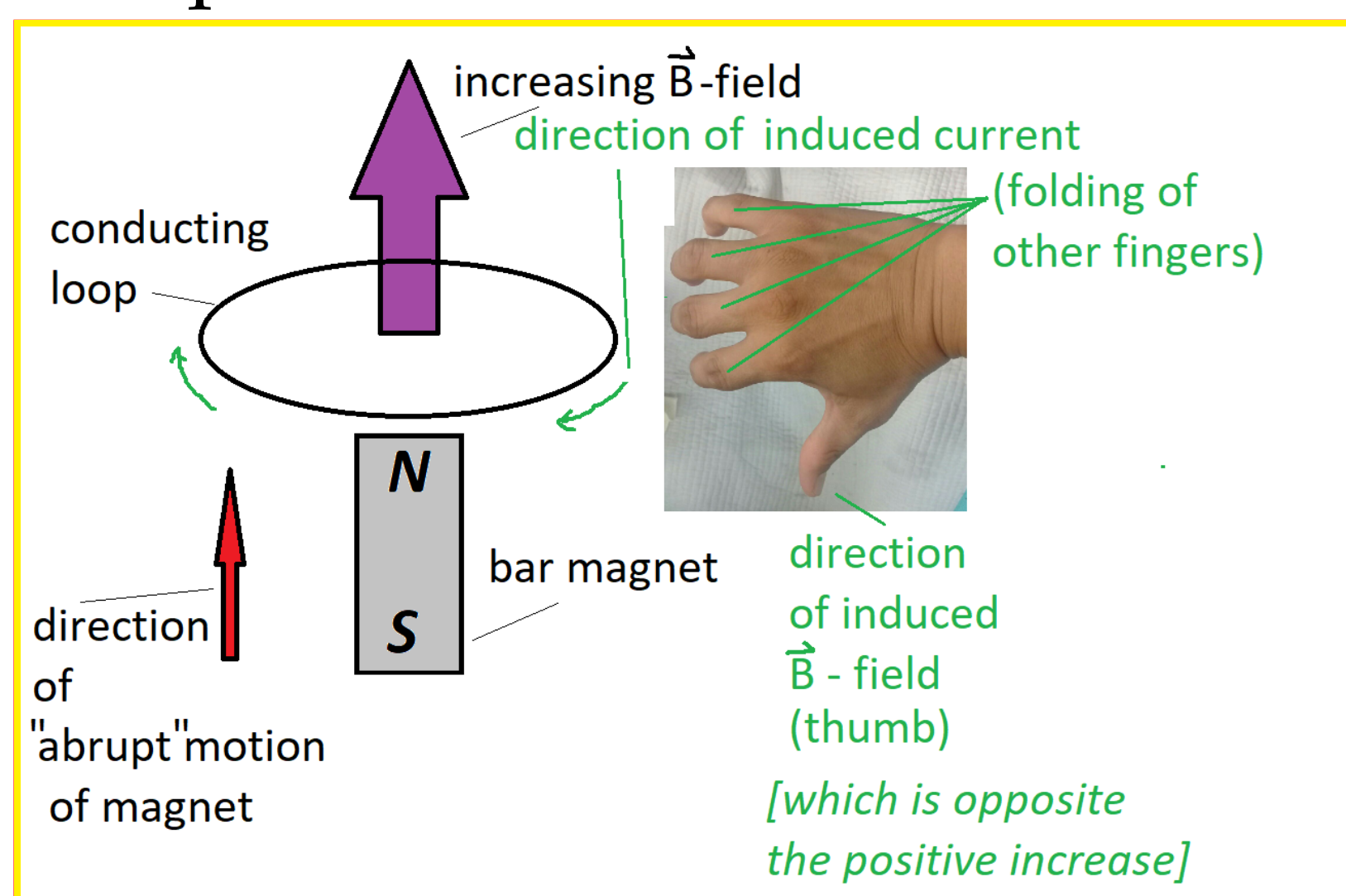


Figure 1: Illustration of Lenz's law.

- This paper demonstrates the movement of the current, as described in the Lenz's law, through a dance.

The Choreography

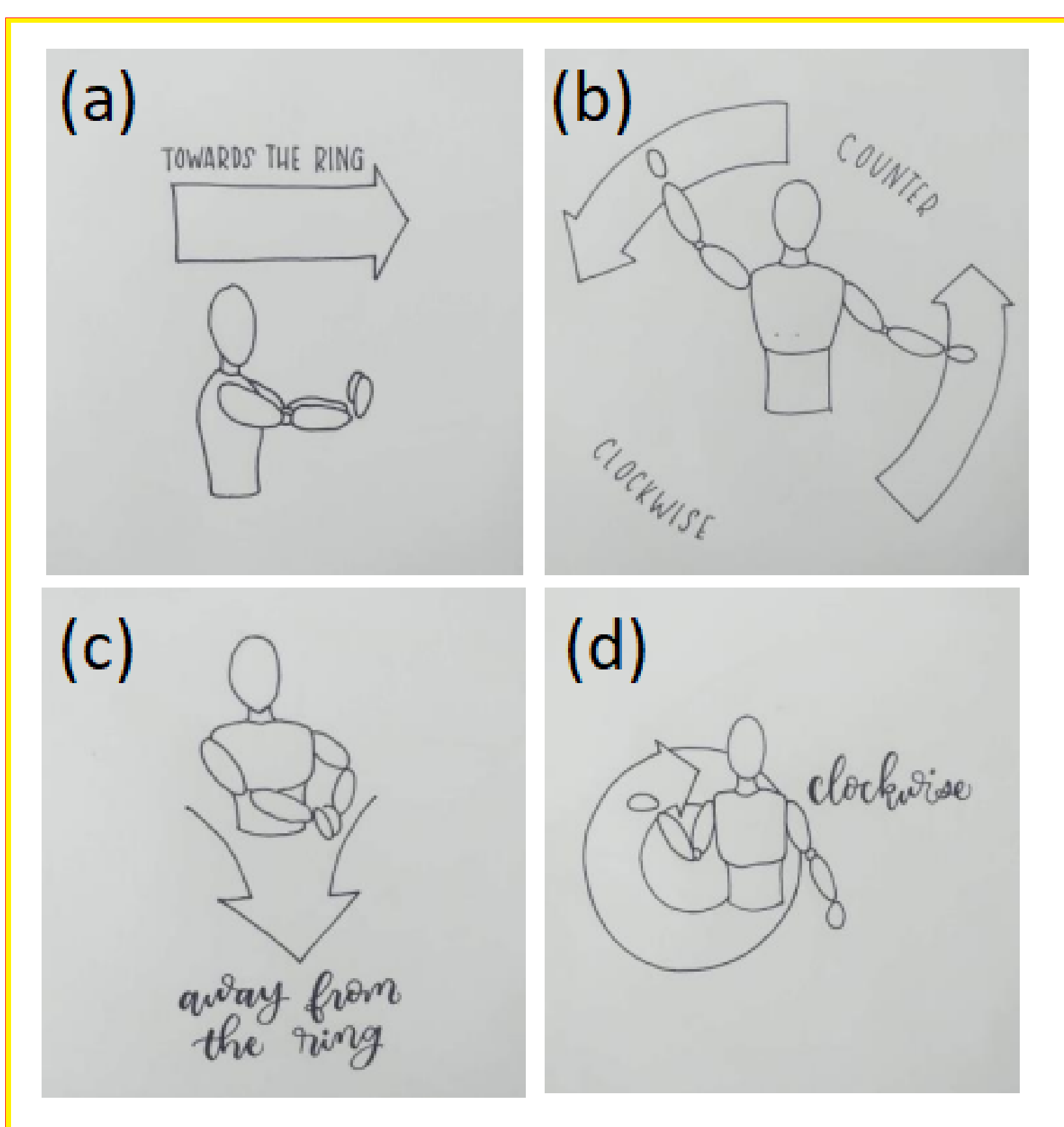


Figure 2: Dance steps designed by the class choreographer.

- The dance steps were choreographed by the students to

demonstrate the direction of the induced emf and the magnetic field.

- Figure 2(a) and 2(c) illustrate how the female students should depict the direction of the magnetic field while Figure 2(b) and 2(d) how the male students portraying the direction of the induced electromotive force inside the conducting loop, may it be clockwise or counterclockwise.

The Lenz's Law Dance



Figure 3: Dance formation.



Figure 4: Warming up.



Figure 5: Choreographer teaching the dance "steps" to the ladies.



Figure 6: Choreographer teaching the dance "steps" to the gentlemen.

Teaching Tips Utilized

- Advertise the activity to students ahead of time.
- Schedule the classroom usage, or during the class period.
- Identify talents and skills in students.
- Assign essential roles, like, choreographer, assistant choreographer for each gender, artist for the drawing, writer for the activity summary output, photographer for the documentation, teaching assistant for the physics concepts, etc.
- Inviting students from other sections would add to the "audience impact".
- Depending on teaching style, teach the concepts first before the activity, or let the students use the textbook to "self-discover" the concepts through the activity.

High School Days

The authors, in those days (early 2020, before the pandemic), were graduating students and teacher (ARbN) of the Philippine Science High School - Caraga Region Campus, Butuan City.