

# New Design to Use Up Glue Sticks to the End

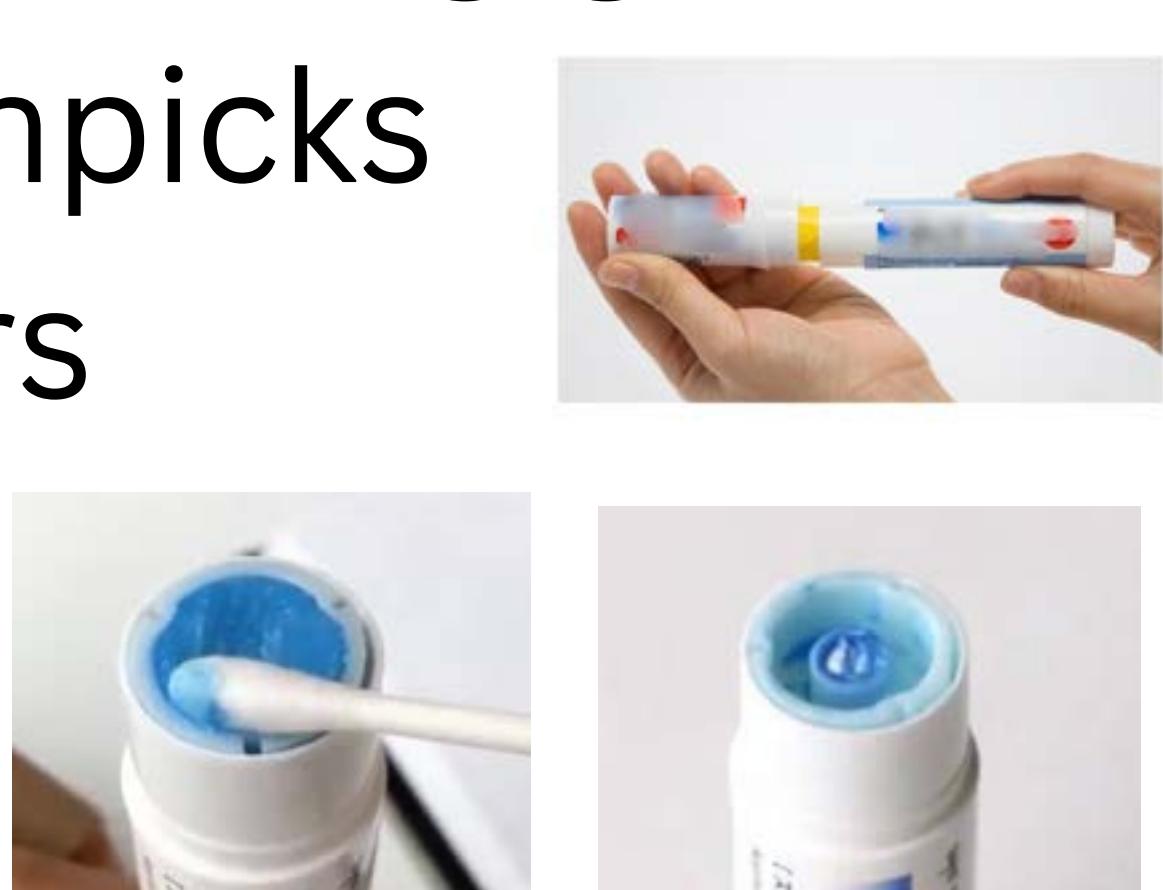
Yamagata Prefectural Yamagata East Senior High School

## Background

We can't use up glue sticks to the end and remaining glue is thrown away even when it is still usable. ⇒ We want to reduce the amount of glue waste!

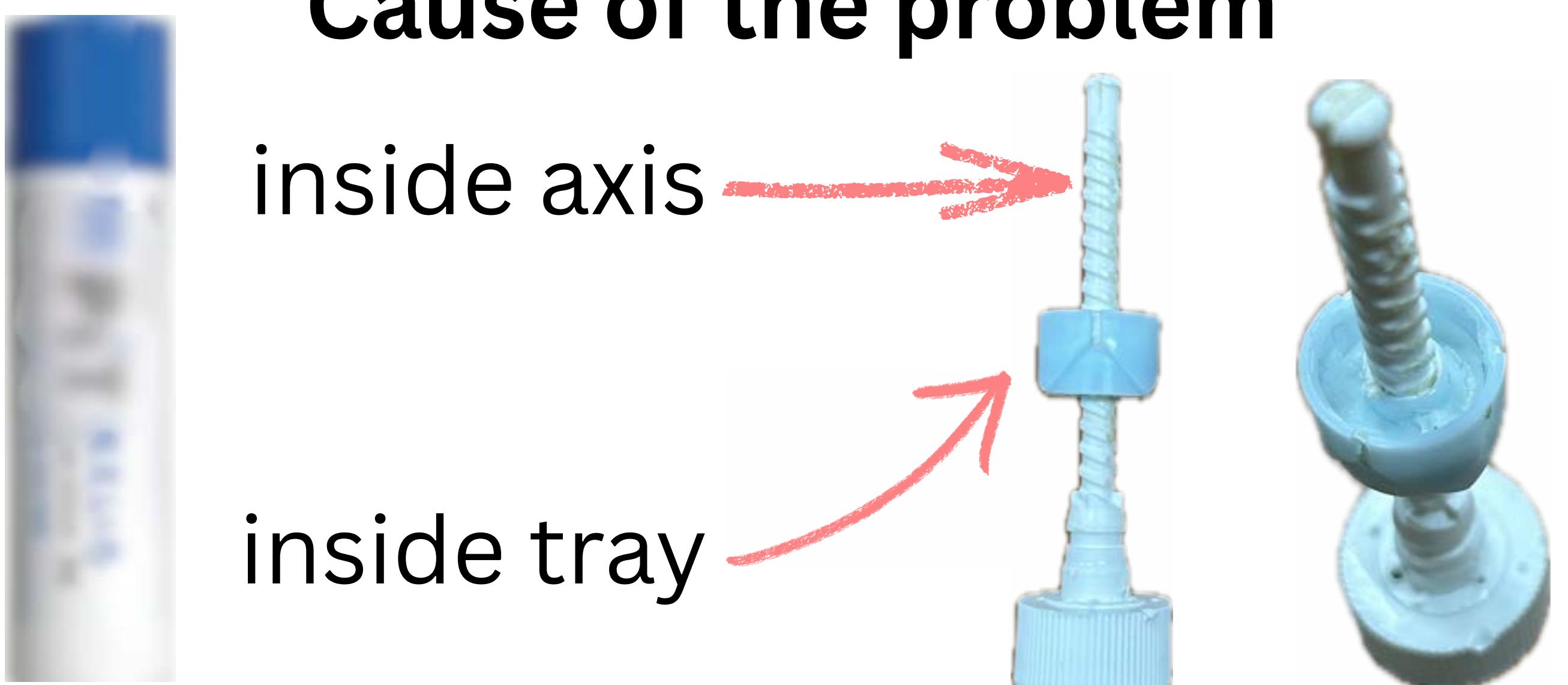
### Current Situation

- Scrape out the remaining glue with cotton swabs or toothpicks
- Refillable containers
- Current containers



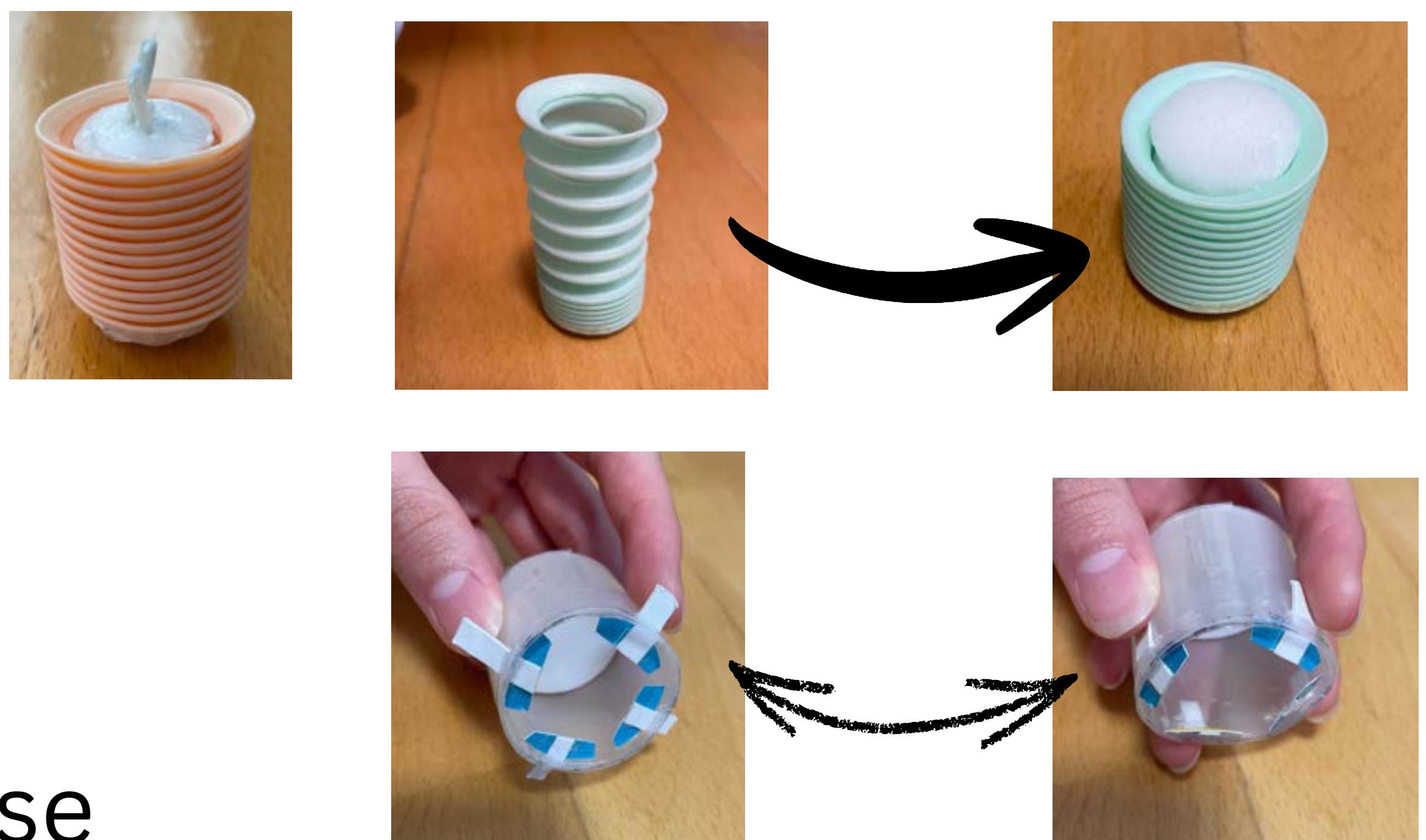
### Cause of the problem

inside axis



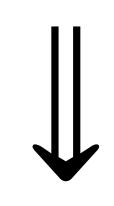
### Our Plan

- Use accordion structure  
⇒ Shrink the container
- The new cap with adjustable finger levers  
⇒ Fit the container
- The base which has protrusions  
⇒ Prevent easy separation of glue and the base



### Experiment

We had participants use our glue stick.



Q1 Is it easy to apply?

Q2 Is it easy to hold?

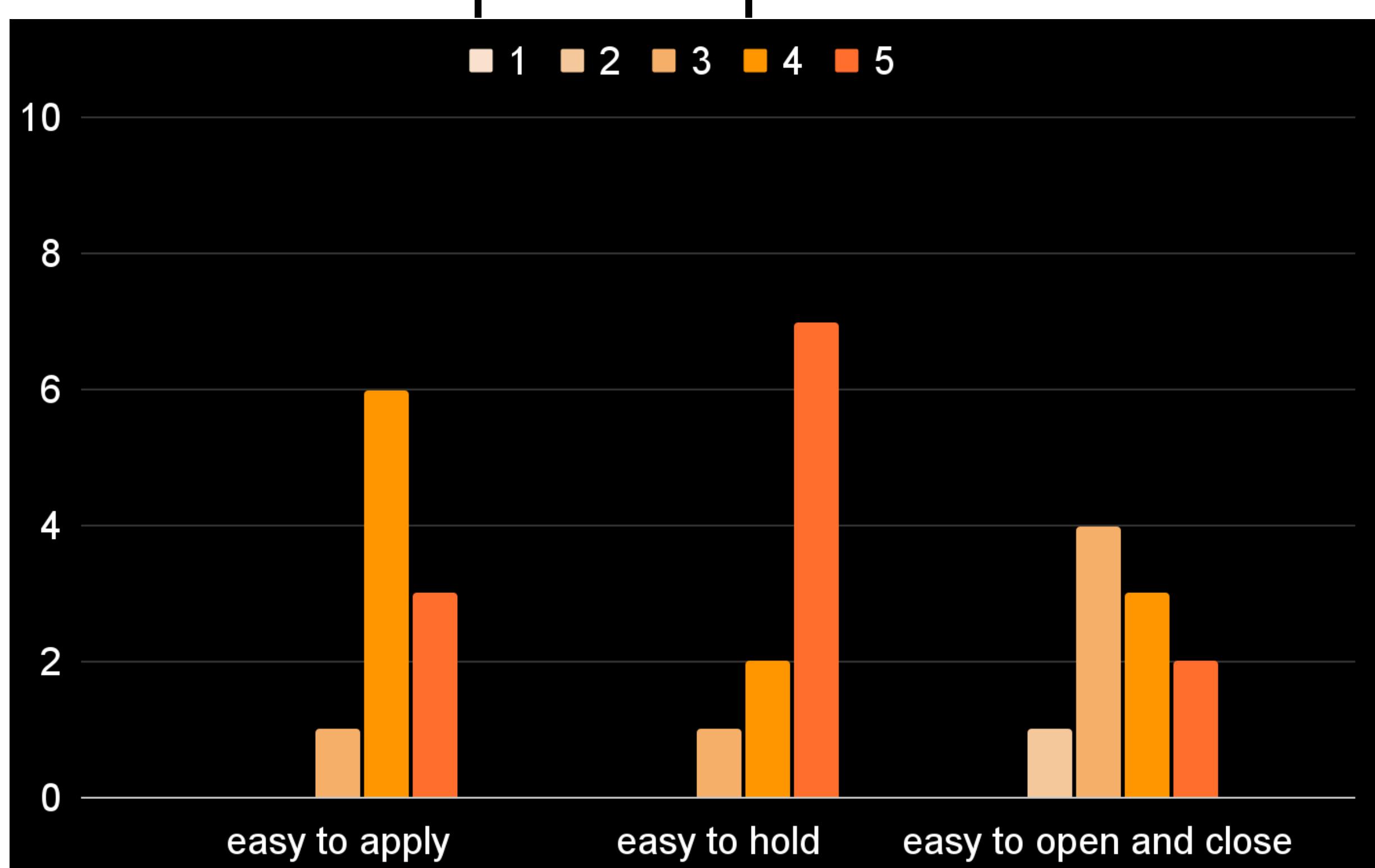
Q3 Is it easy to open and close the cap?

### Conclusion

- More Practical : Durability, Ease and Cost of production
- More User-friendly : Cost Performance, Compact Size, Usability

### Result

We asked 10 participants for feedback.



◎ Easy to use

Fit well

Possibility for  
reducing plastic

△ Hard to use

the cap

Easy to separate  
Too big  
How to mass-produce