

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

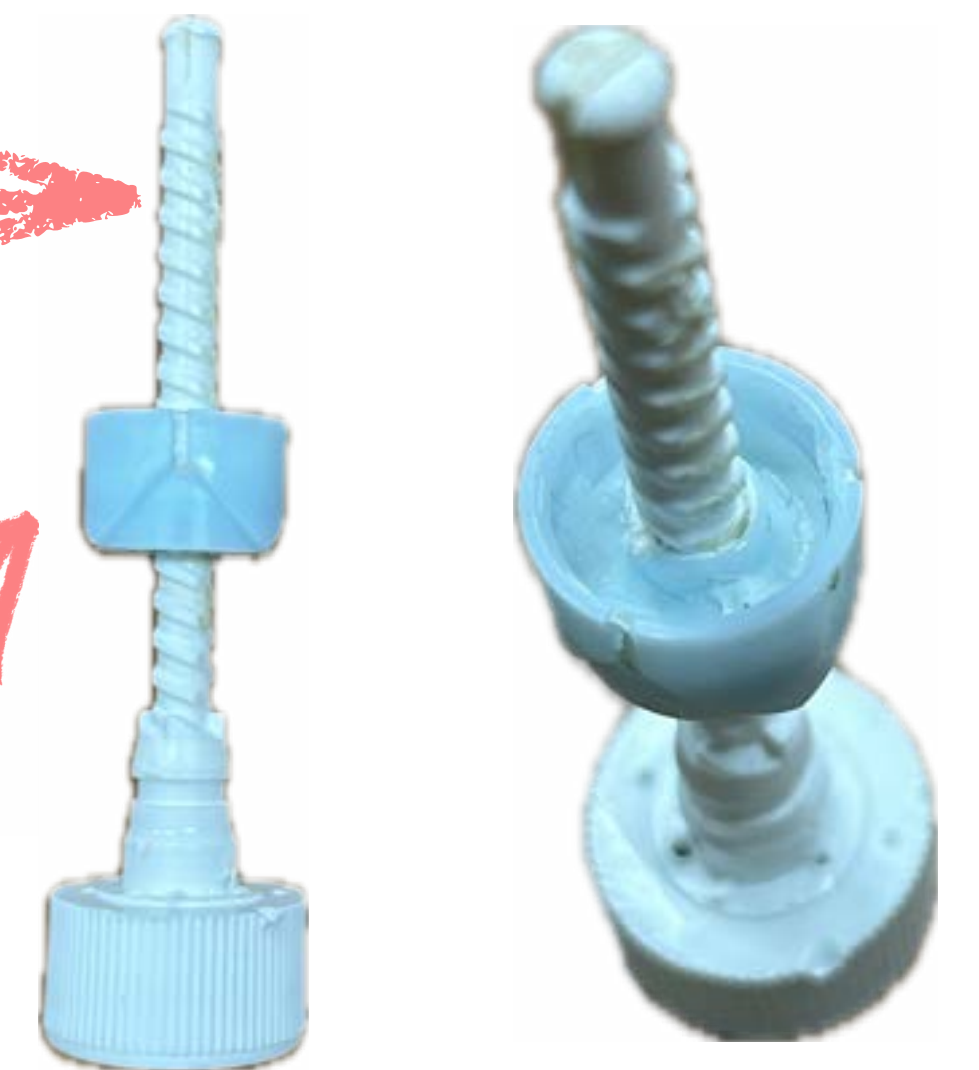


Cause of the problem



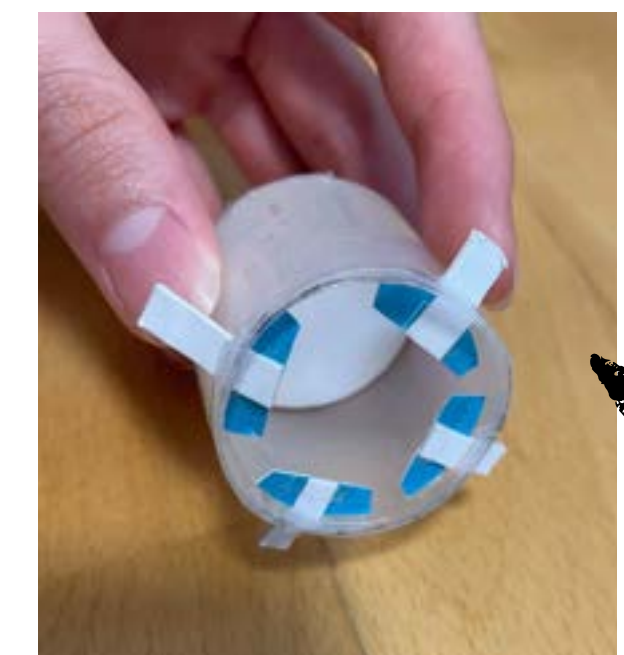
inside axis

inside tray



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.



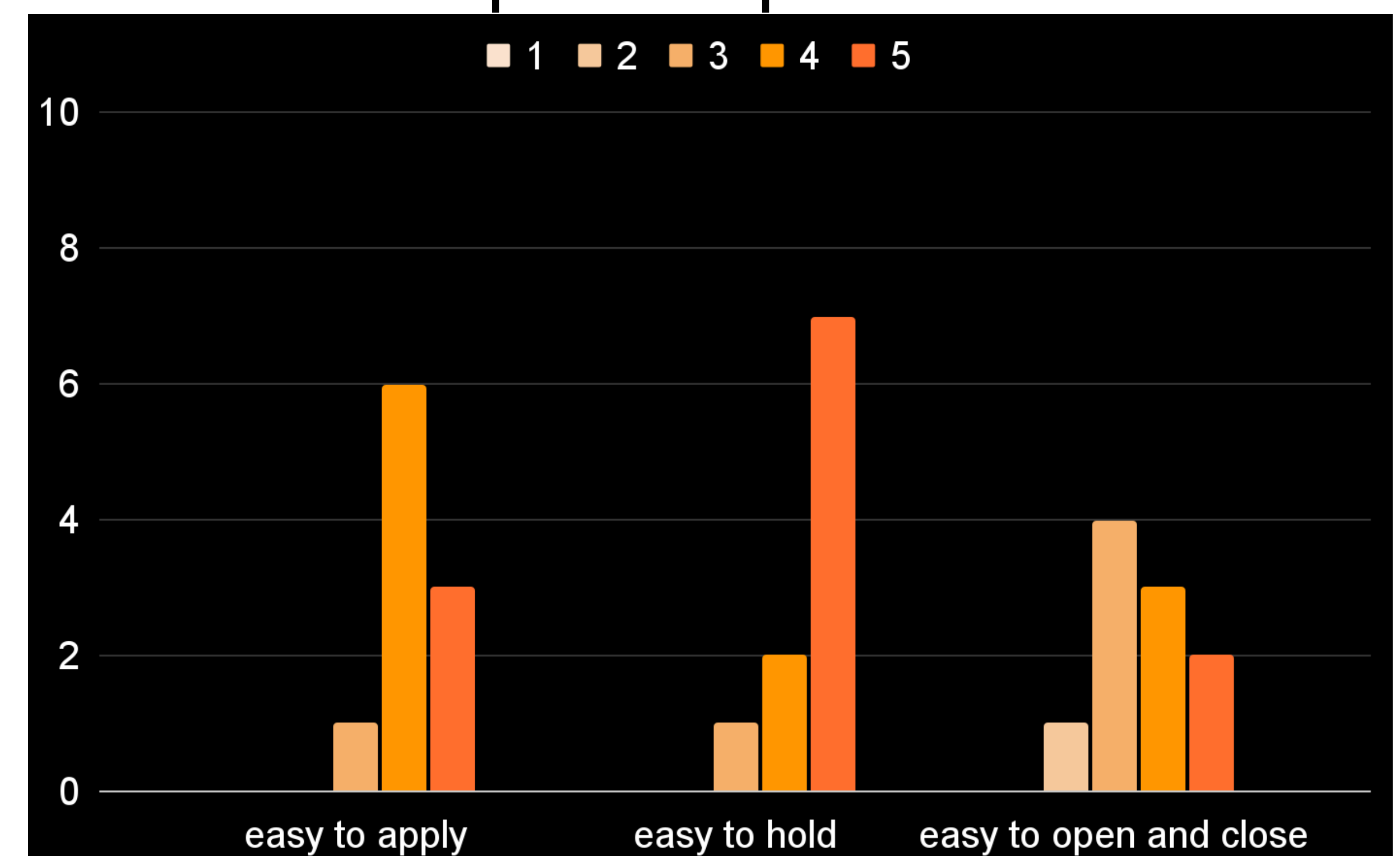
Q1 Is it easy to apply?

Q2 Is it easy to hold?

Q3 Is it easy to open and close the cap?

Result

We asked 10 participants for feedback.



Conclusion

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

◎ Easy to use

Fit well

Possibility for reducing plastic

△ Hard to use

the cap

Easy to separate

Too big

How to mass-produce