

Elementary Astronomy Education in Taiwan

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Elementary Astronomy Education in Taiwan

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Elementary science curriculum in Taiwan

- involves

- biology

- chemistry

- physics

- earth science

- moon phase

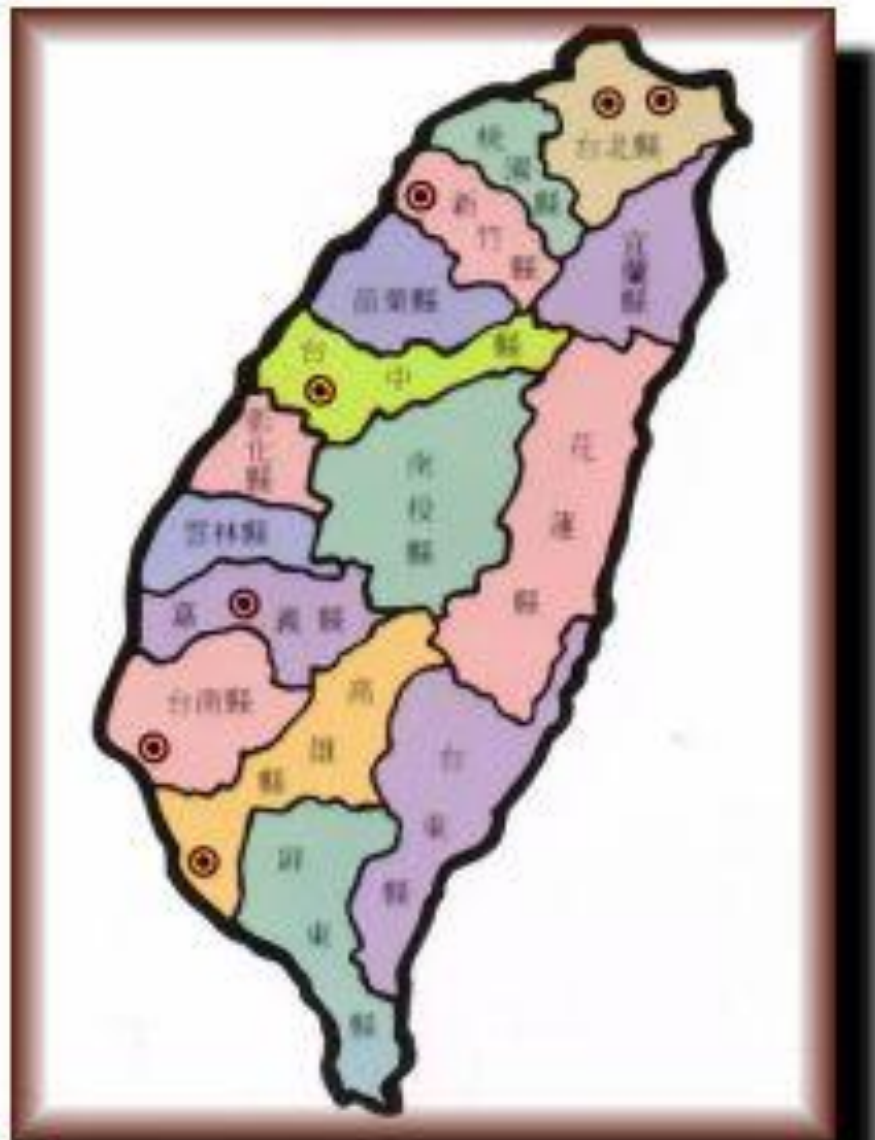
- movement of sun- earth & season

- movements of stars

- rock and mineral

The problems are

- More than 70% elementary science teachers are non-science background. So...
 - have low confidence for teaching science
 - especially earth science
 - lack of content knowledge



My past experience

- I have been a science teacher for 17 years.
- I am a novice class teacher.
- Majored in animal science in college.
- Majored in science education in master.

My past experience

- Had an earth science class in 12th grade.
- Astronomical training courses in TAM.
- Astronomical workshops in TAM.
- Lectures, exhibitions...
- Studied by myself.

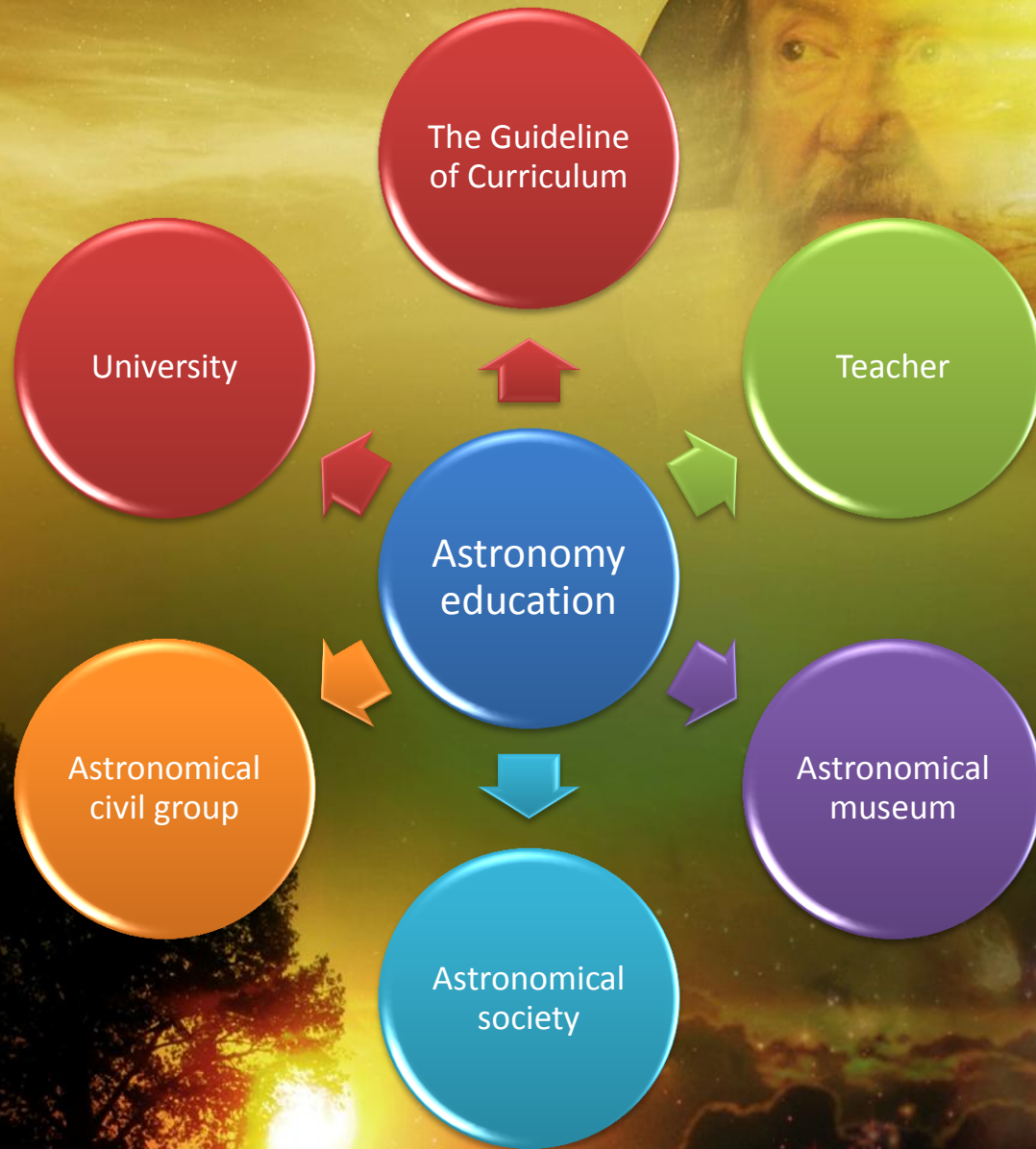
The turning point



The turning point

- 2009 international year of astronomy
 - Formulated questions for astronomical general test
 - Senior high school teachers
 - Junior high school teachers
 - Elementary school teachers
 - Astronomy educators
 - Astronomers

The biggest problem in astronomy education is...



Example



Example

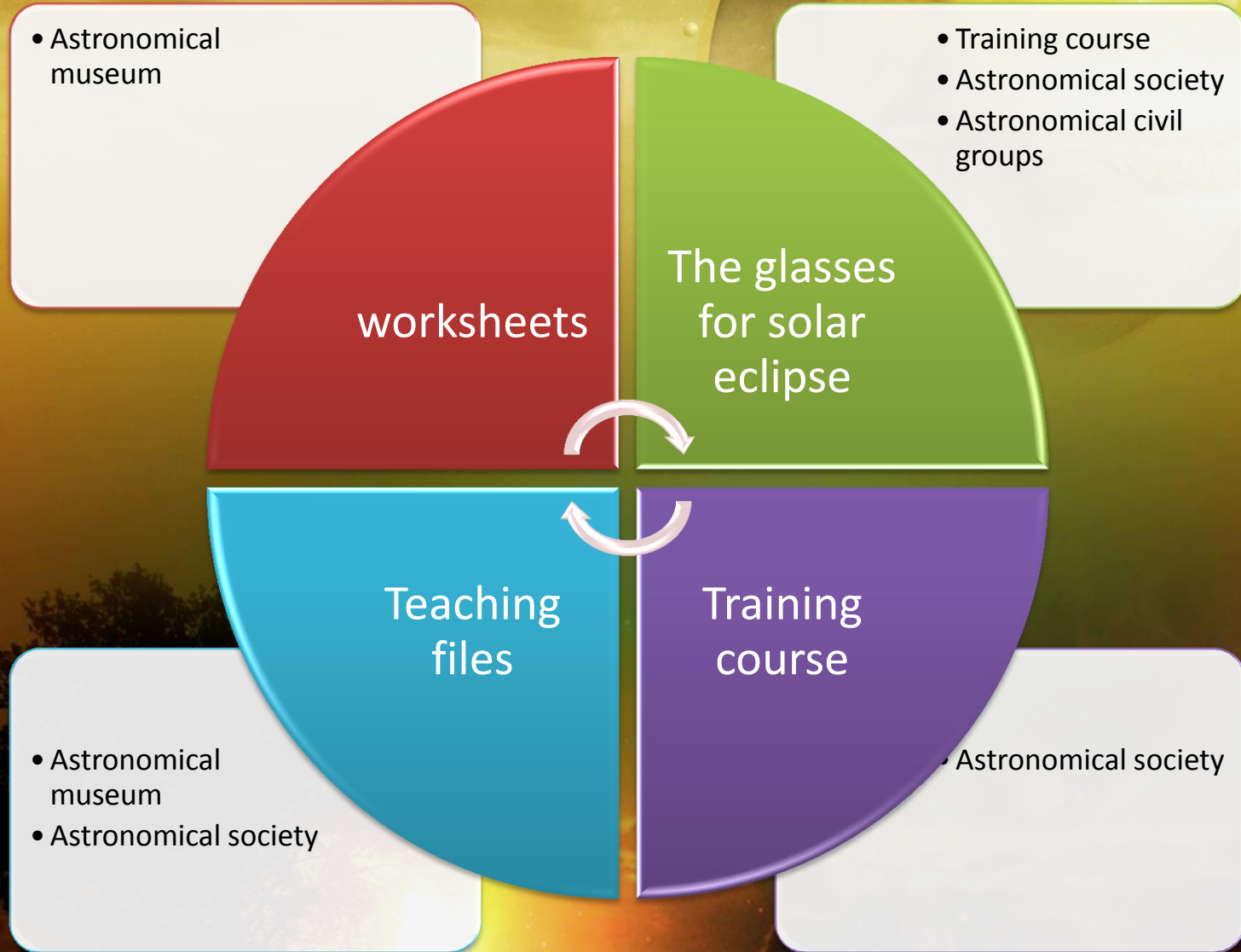




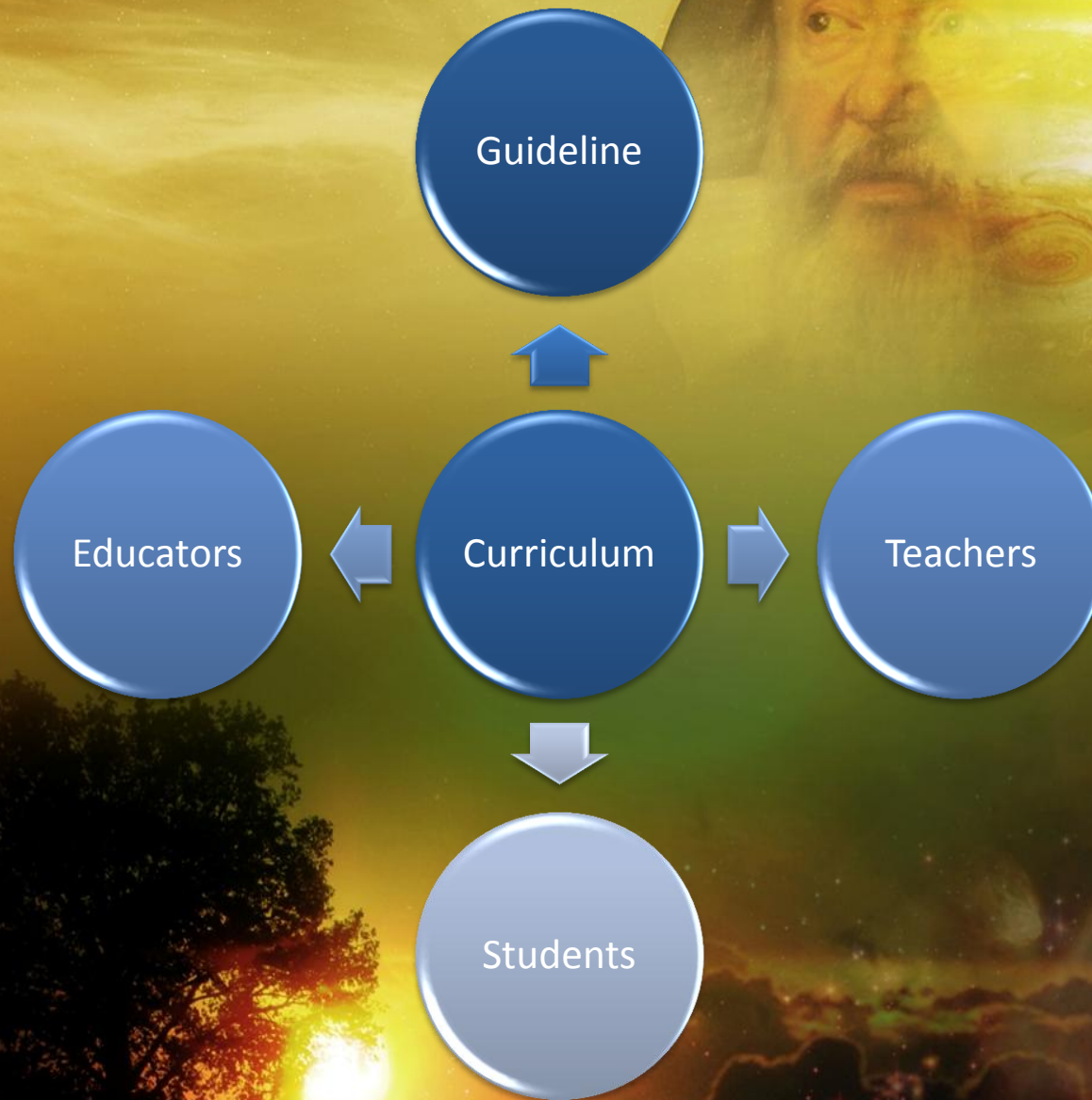
Example



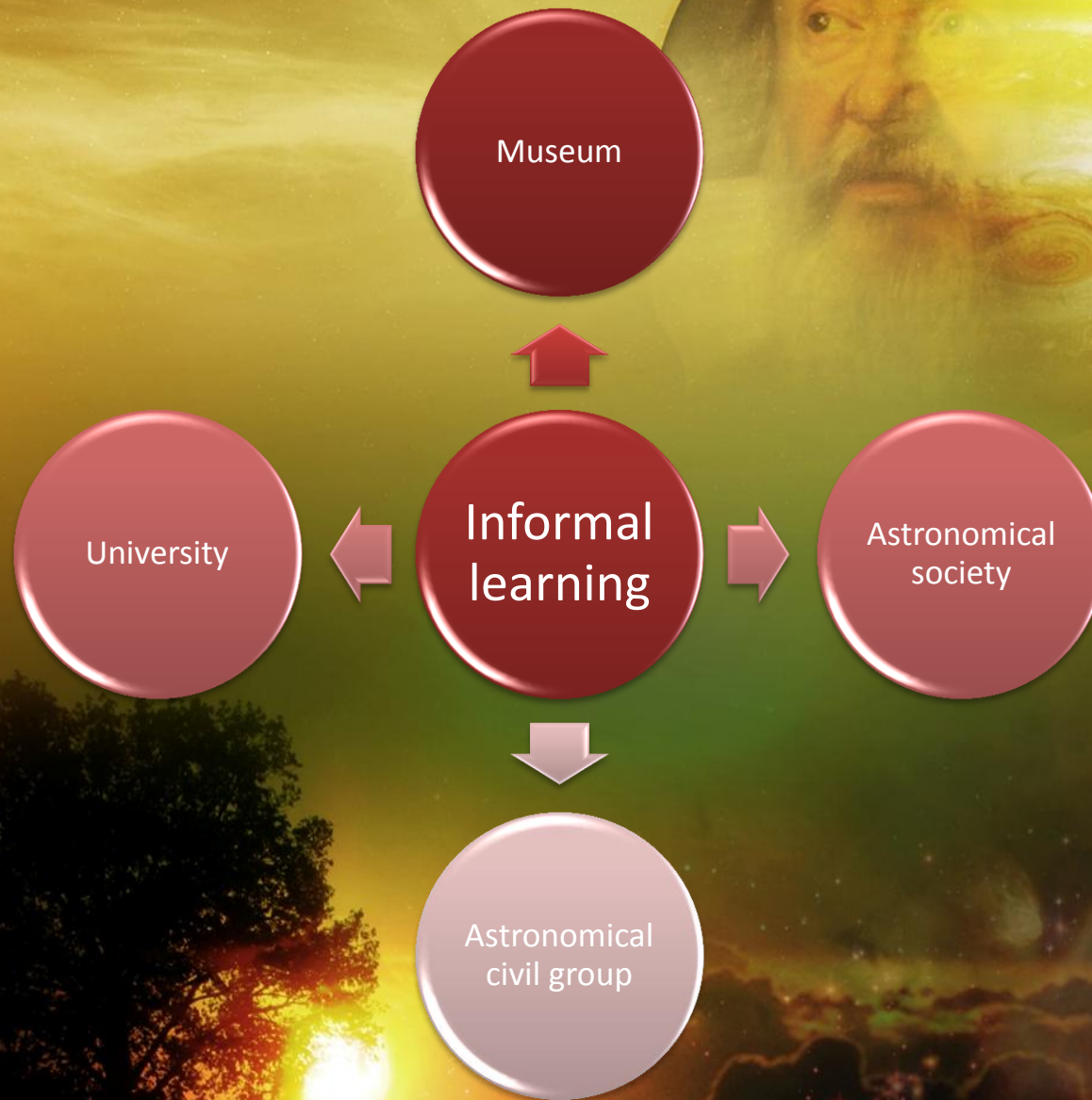
Example



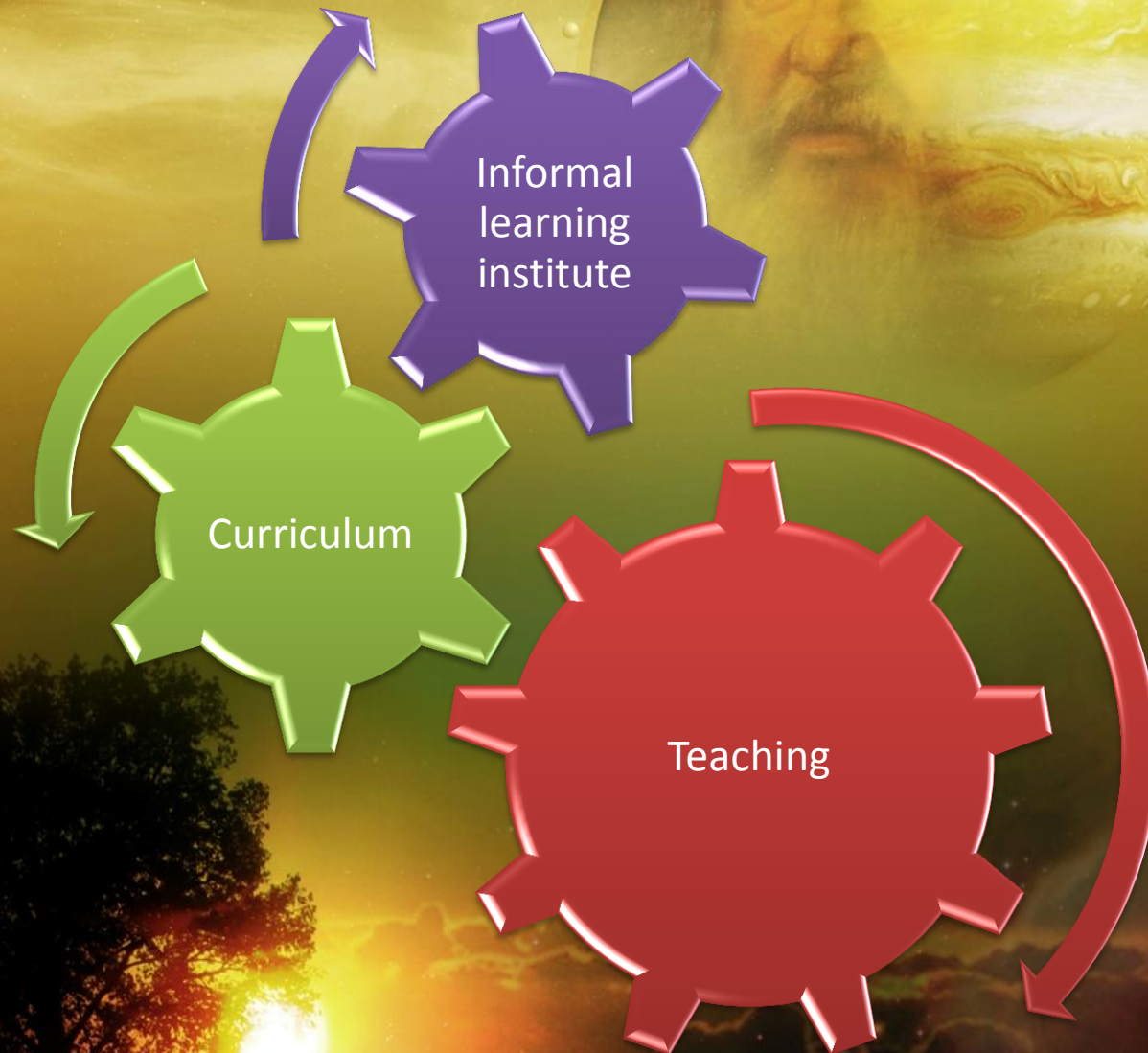
Question 1



Question 2



Question 3



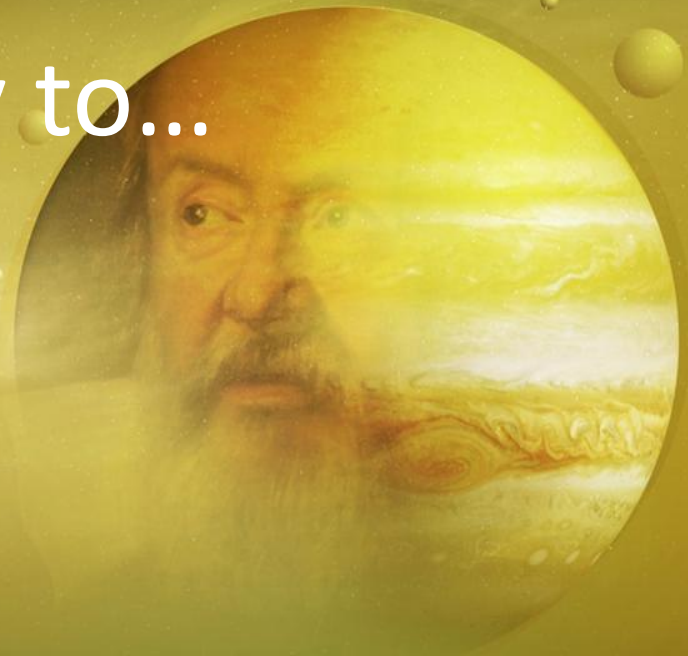
Method

- Grounded theory



I will try to...

- review the curriculum
 - Trends
 - comparison
 - ...



I will try to...

- Ask teachers

- Interview

- How you feel?
 - What do you concern?
 - What are the problems?
 - What do you need?
 - Anything else?

- Questionnaire

I will try to...

- Ask students

- Interview

- What is astronomy?
 - What have you learn?
 - Where did you learn?
 - What topics are interesting?
 - What is your favorite?
 - ...

- Questionnaire



I will try to...

- Ask Educators

- Interview

- How to train pre-service teachers?
 - Is there any problem and what it is?
 - How to train in-service teachers?
 - Is there any problem and what it is?
 - Is there any problem in our curriculum?
 - What is your concern?
 - ...

I will try to...

- Ask the museum
 - Document
 - Interview
 - What do you serve?
 - How to get the topic?
 - Is there any problem and what it is?
 - What is your concern?
 - How could you cooperate with educators and teachers?
 - ...

I will try to...

- Ask the society

- Document

- Interview

- What do you serve?

- How to get the topic?

- Is there any problem and what it is?

- What is your concern?

- What will be taught in elementary school?

- How could you cooperate with educators and teachers?

- ...

I will try to...

- Ask the civil group
 - Document
 - Interview
 - What do you serve?
 - How to get the topic?
 - Is there any problem and what it is?
 - What is your concern?
 - What will be taught in elementary school?
 - How could you cooperate with educators and teachers?

Other questions...

- News

- ...



A composite image featuring a portrait of Galileo Galilei superimposed on the planet Jupiter. The background is a cosmic scene with a bright sun or star low on the horizon, casting a warm glow over a dark, silhouetted tree on the left. The sky is filled with soft, wispy clouds and several small, distant planets or moons.

Thanks for your listening.
and
Expect your comment.