

Developing Creativity thro STEM+A activities – Where and How

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29 Oct, 2018



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STEM+A

Science + Technology + Engineering + Math + Arts



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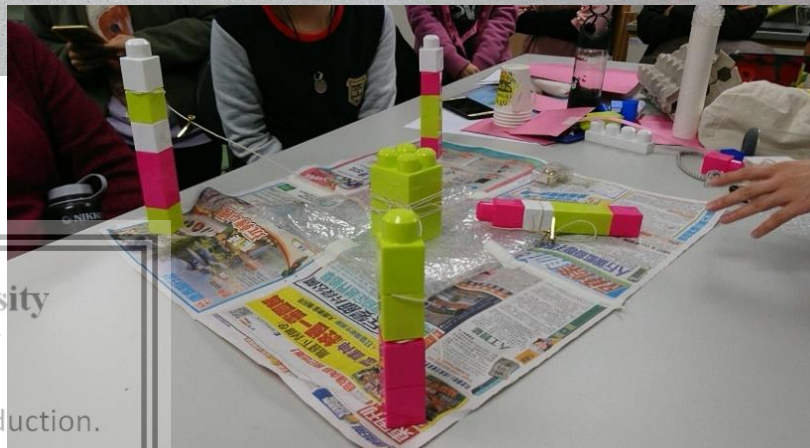
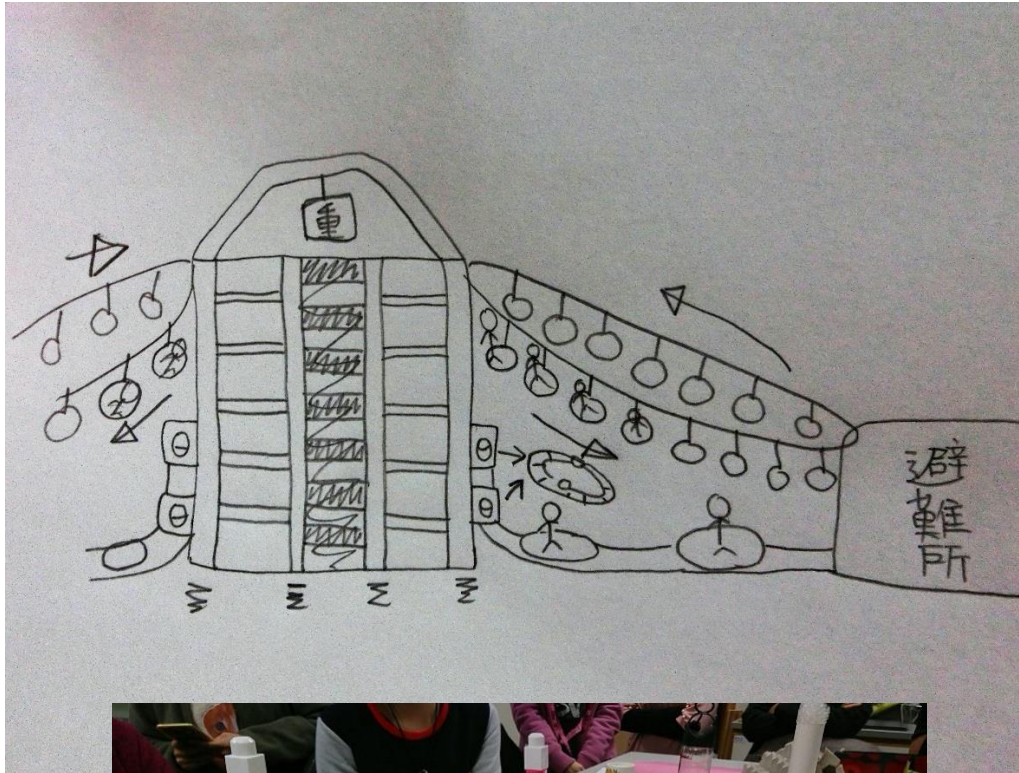
Fostering creativity *through engineering process*



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Creativity in Problem-discovery

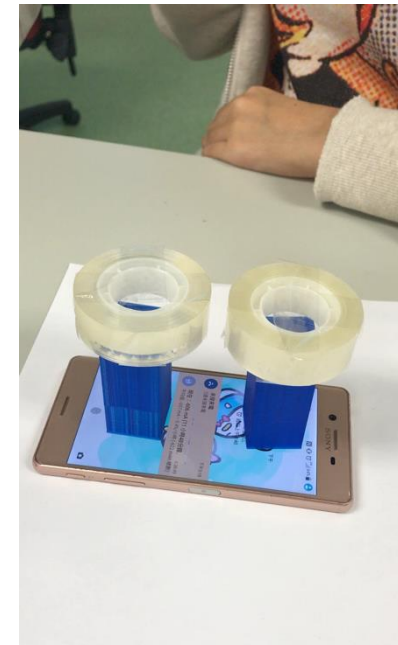
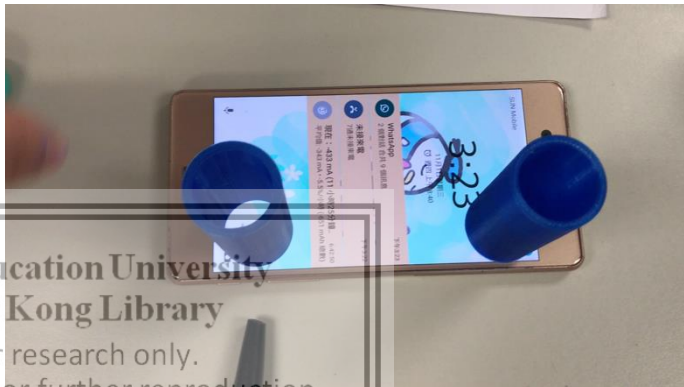


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Creativity in researching

Pillars for earthquake-proof building



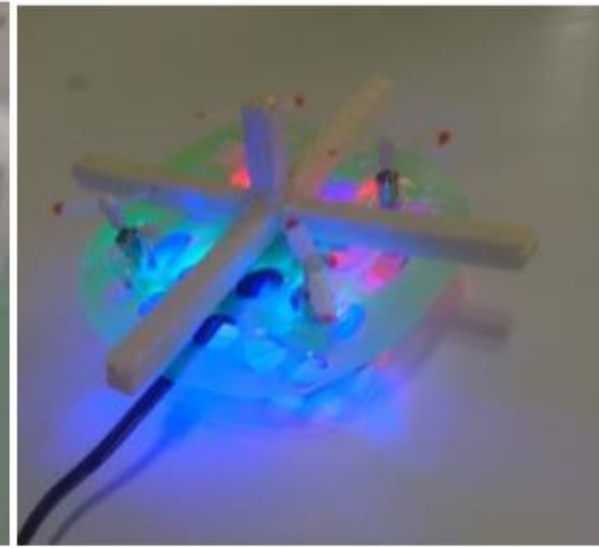
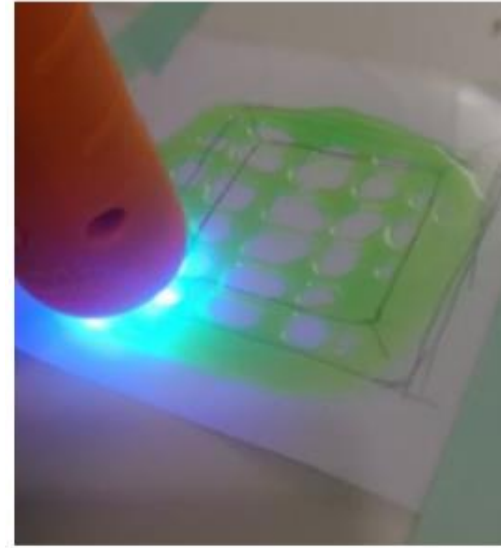
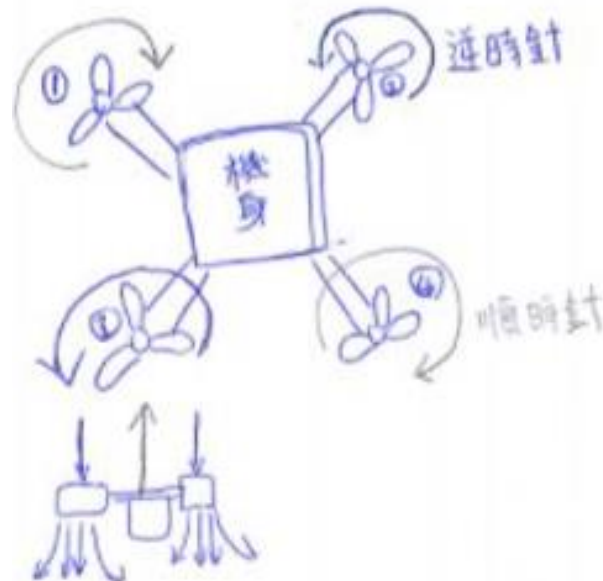
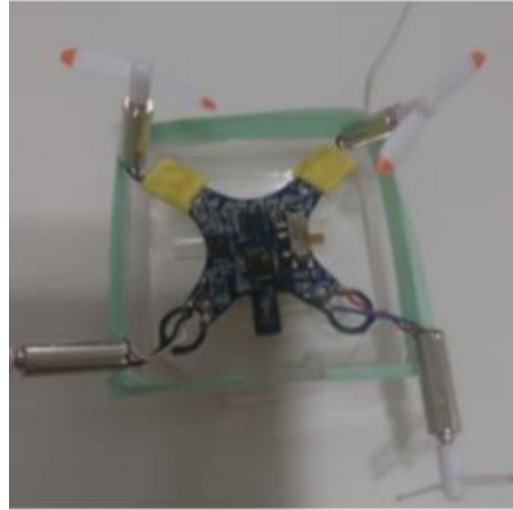
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Creativity in designing



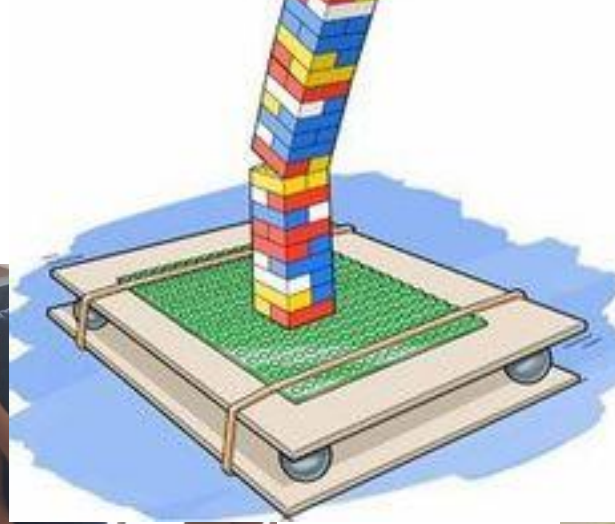
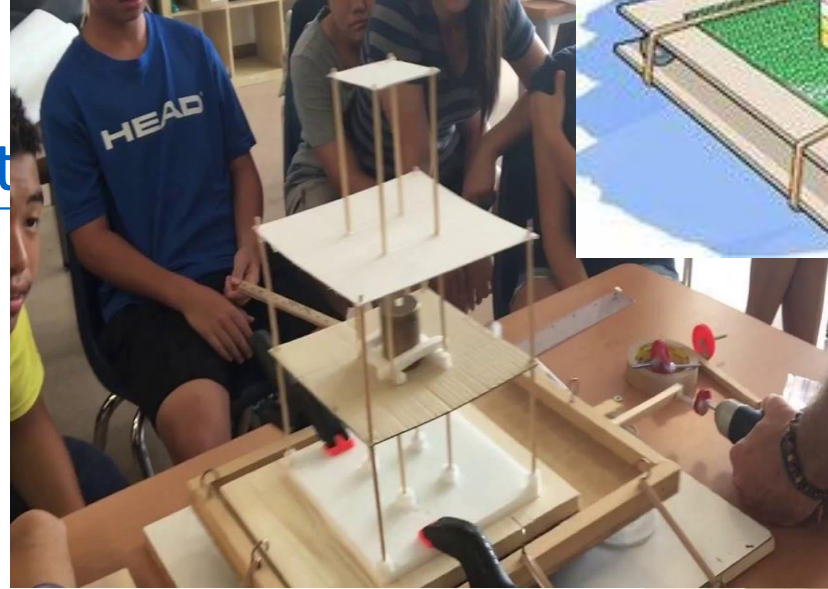
Creativity in making



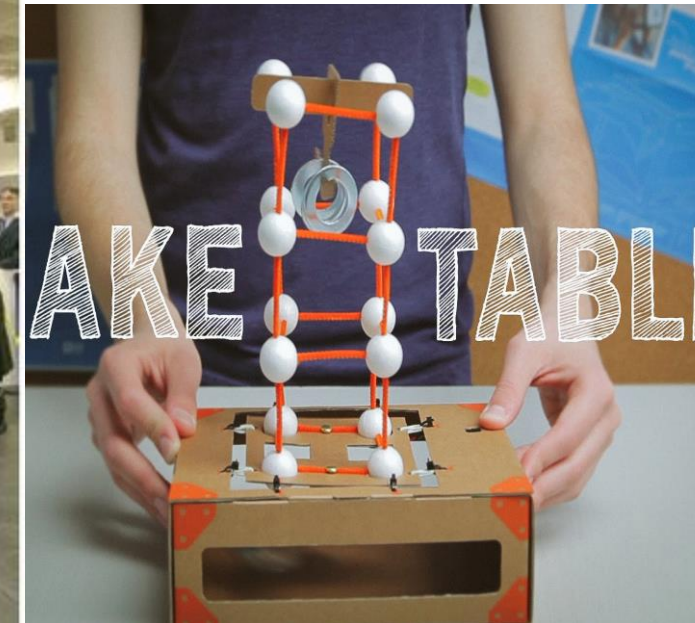
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Creativity in testing



ake Table



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Creativity in selling



The catapult can be improved as the **military usage** instead of domestic usage to **catch rat**. The catapult can be a mine for **escaping from the battlefield** or attacking the enemy, which can decrease the burden of the soldiers and protect themselves.

The original design of the vertical catapult is to **send letter** by shooting (pulling the rubber bands to provide bouncy force). In the further development, it is suggested to develop into a “**transporting robot**”, which can work as for transportation in goods or human.

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The design of egg drop can be applied into the design of the shape of **spaceships**, where can be changed and **reformed** according to the environmental needs during **landing**. The shape can be changed from circular to rectangular. The design has adopted into the future space exploration as the surface of different planets may be uneven and landing can be a challenge.

Fostering creativity *through engineering process*



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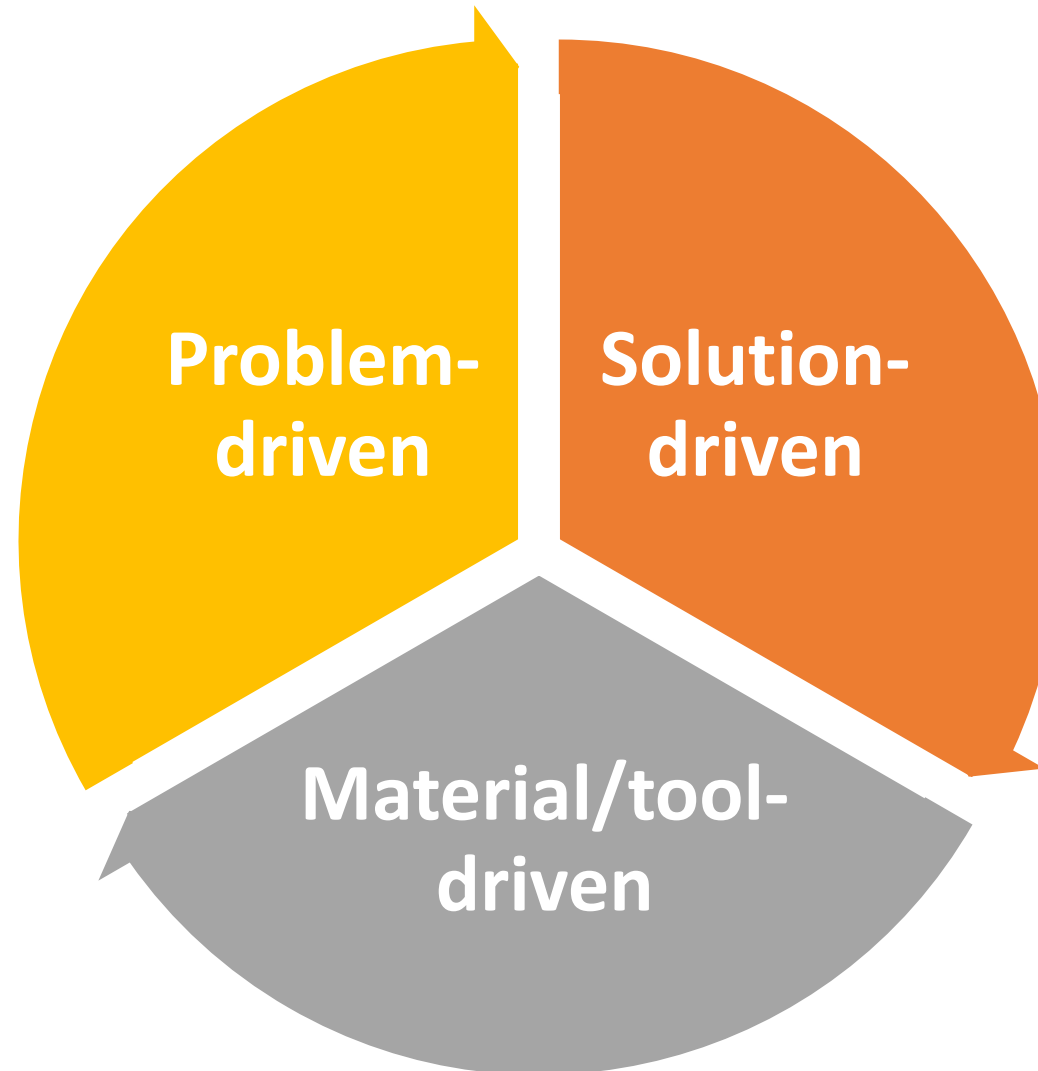
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Diverse STEM+A Approaches:

Design a smart home
Self-sustaining city
Egg-drop
earthquake

upcycling of plastic
bottles/tin cans.....
3D printing
Makey-makey

Conducting pen drawing
Littlebits



start from a DIY from youtube
Start from a solar cap
Droid – SCAMPER?
Biology-inspired STEM inventions:
e.g. robot around animals

Creativity and STEM/STEAM minor

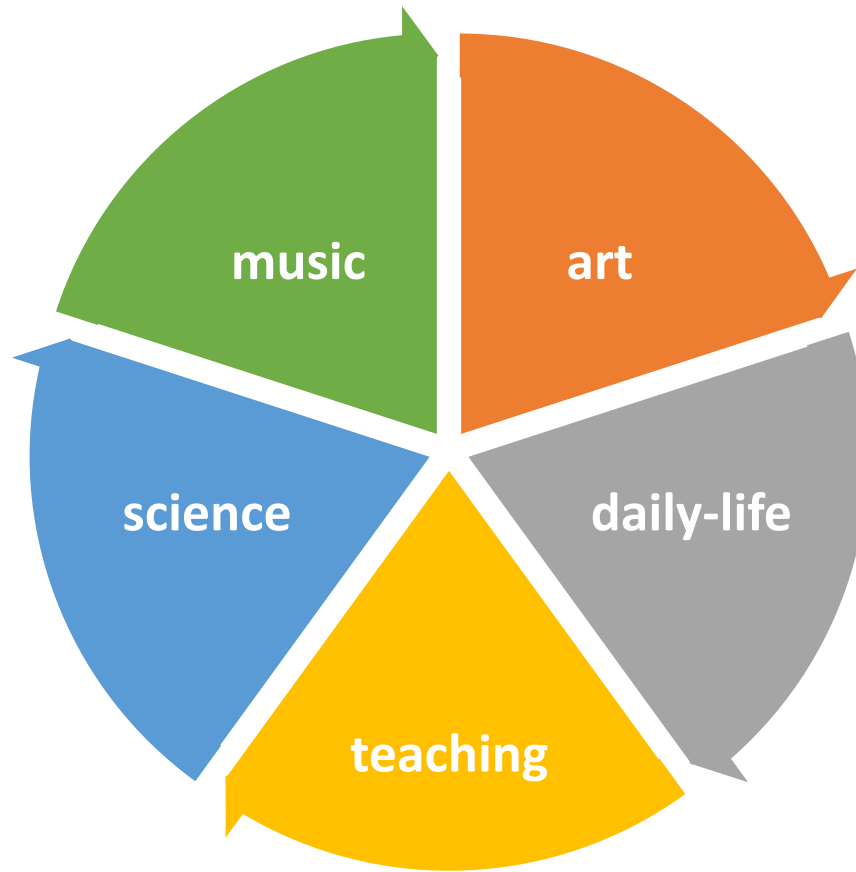
code	Course	STEM/STEAM
INS1043	Creativity and Human Development	40%;
ART2207	Nurturing Creativity through Visual Arts Activities	40%;
SCG2026	Nurturing Creativity through Science and STEM	70%;
SCG2039	Creativity and STEM for Environmental Sustainability	60%;
MUS2170	Creativity in Music	40%;
SCG3028	Creativity Development through Robotics	100%;
SCG3027	Creativity in STEM Invention	100%;
INS3034	Creativity in Teaching	40%;
INS3035	Creativity in Action	50%;



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Diverse domains of the Minor



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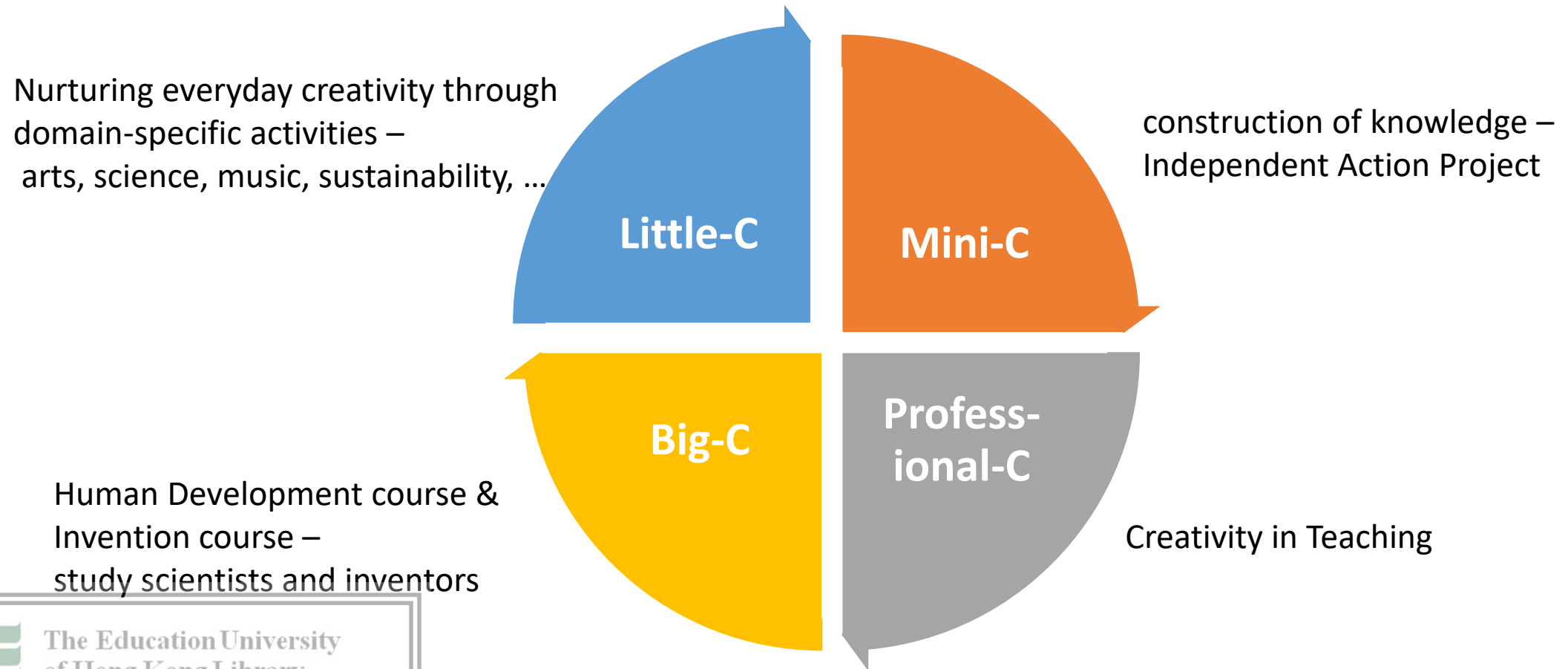
Diverse teaching style of the Minor



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for diverse levels of Creativity in the Minor



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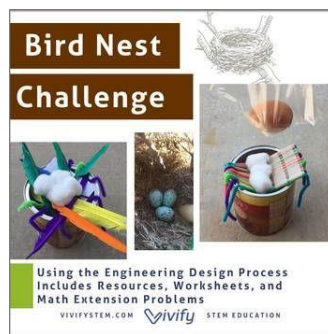
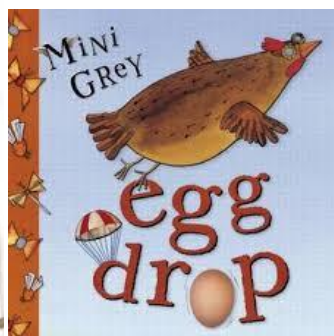
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What are we **in common** across this Minor?

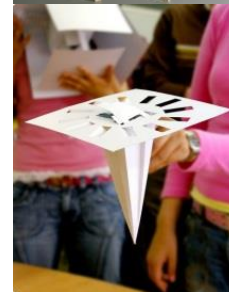


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