

THE EFFECT OF GARDEN-BASED LEARNING (GBL) ON PLANT SCIENCE AND ENVIRONMENTAL EDUCATION

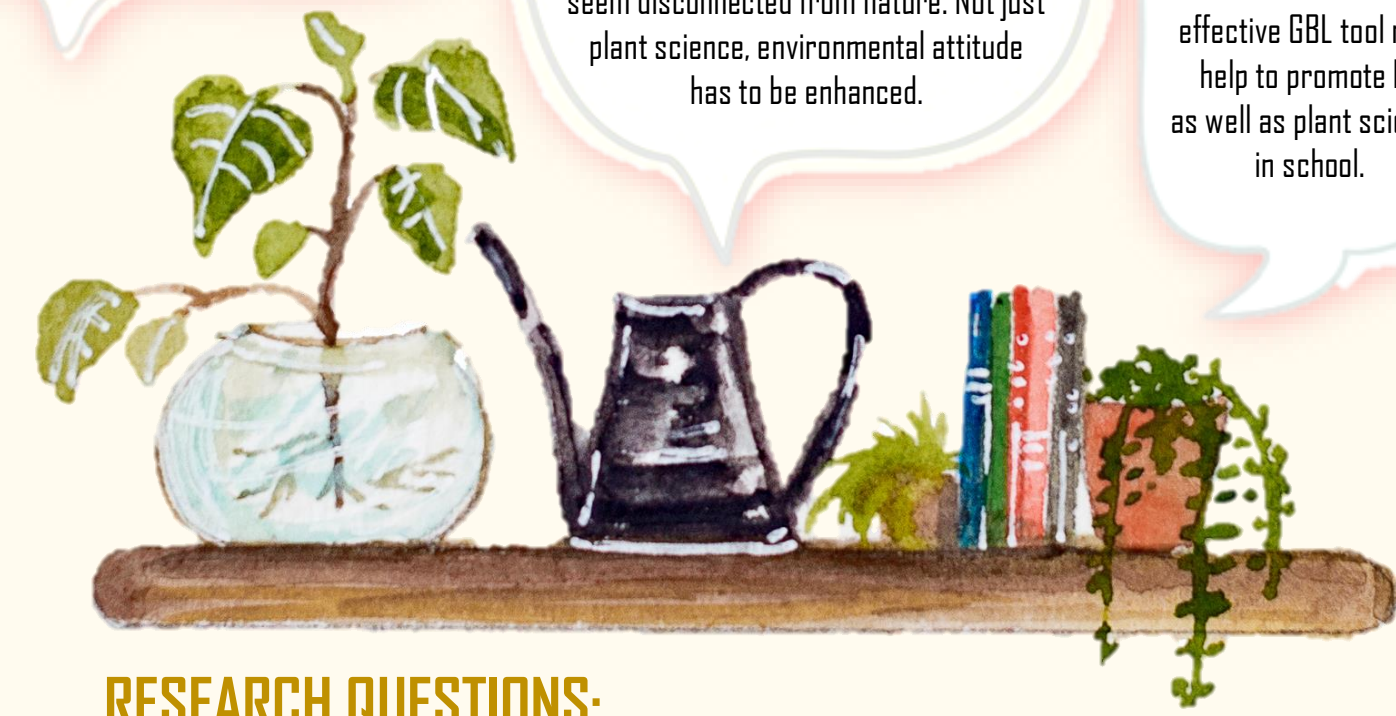
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WHY GBL?

Biology students in HK are generally **not interested in plant science** due to unfamiliarity to plants. Their **performance** in plant science is also **not satisfactory**. Traditional direct teaching further disengages students in studying plant science.

Students in HK **lack opportunity to get in touch with nature** either indoor or outdoor throughout their entire school life. Being confined in the urban area, students seem disconnected from nature. Not just plant science, environmental attitude has to be enhanced.

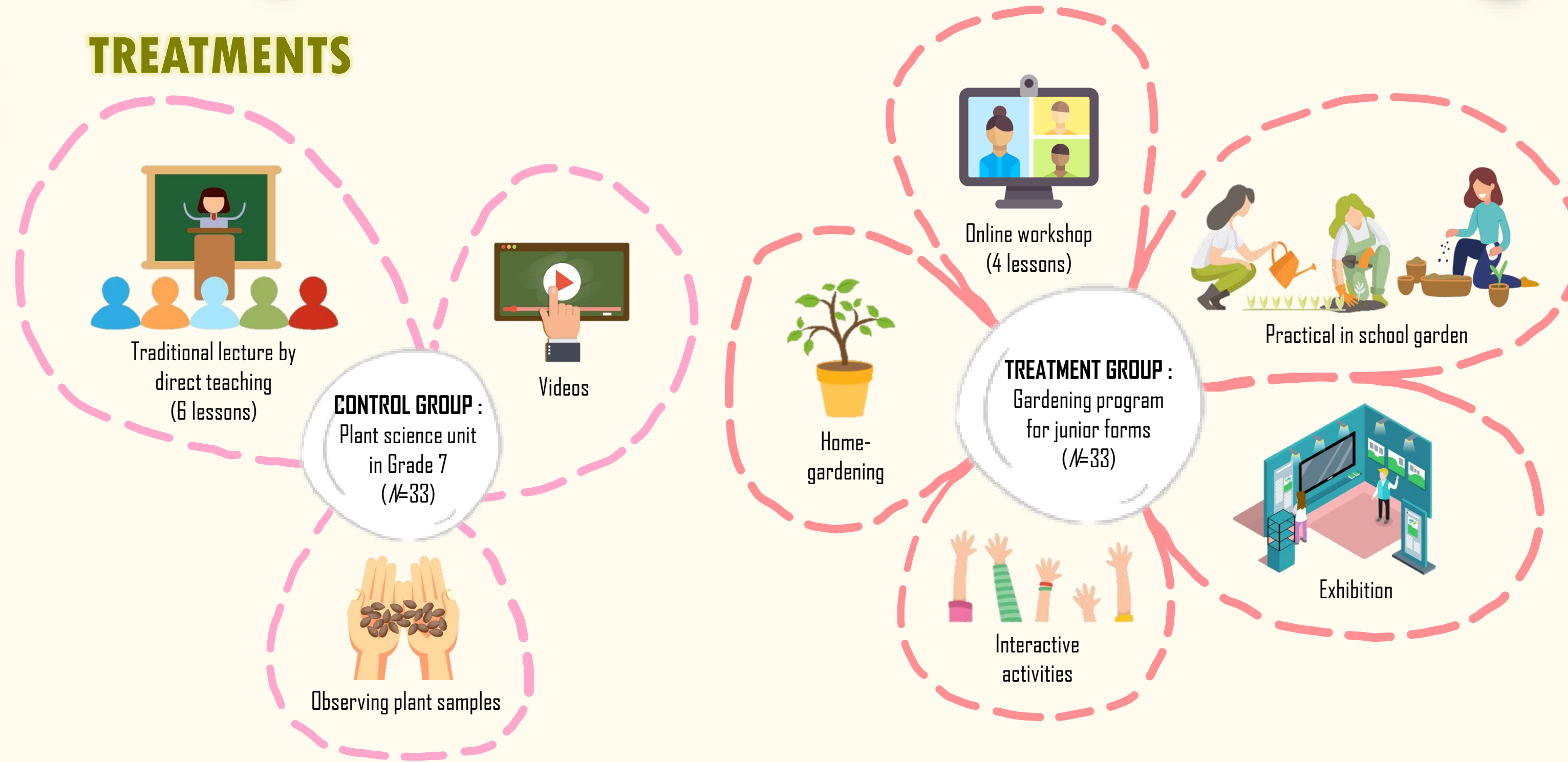
In HK, little attention has been casted on Environmental Education (EE). Besides, **little local gardening program** or resource is available to teachers in HK. An effective GBL tool may help to promote EE as well as plant science in school.



RESEARCH QUESTIONS:

1. How will GBL impact on **student's academic achievement** in terms of plant literacy?
2. How will GBL impact on **student's attitudes in learning plants**?
3. How will GBL impact on **student's environmental attitudes**?

TREATMENTS



DATA COLLECTION

DATA SOURCE	Research question 1: Academic achievement (Plant literacy)	Research question 2: Attitude to learning plant science	Research question 3: Environmental Attitude
1	A+ Pre- and Post-test	Pre- and Post-survey	Pre- and Post-survey
2	Pre- and Post-survey	Student's interview	Student's interview
3	Student's interview & reflective journals	Student's reflective journals & Teacher field notes	Student's reflective journals & Teacher field notes

RESULTS

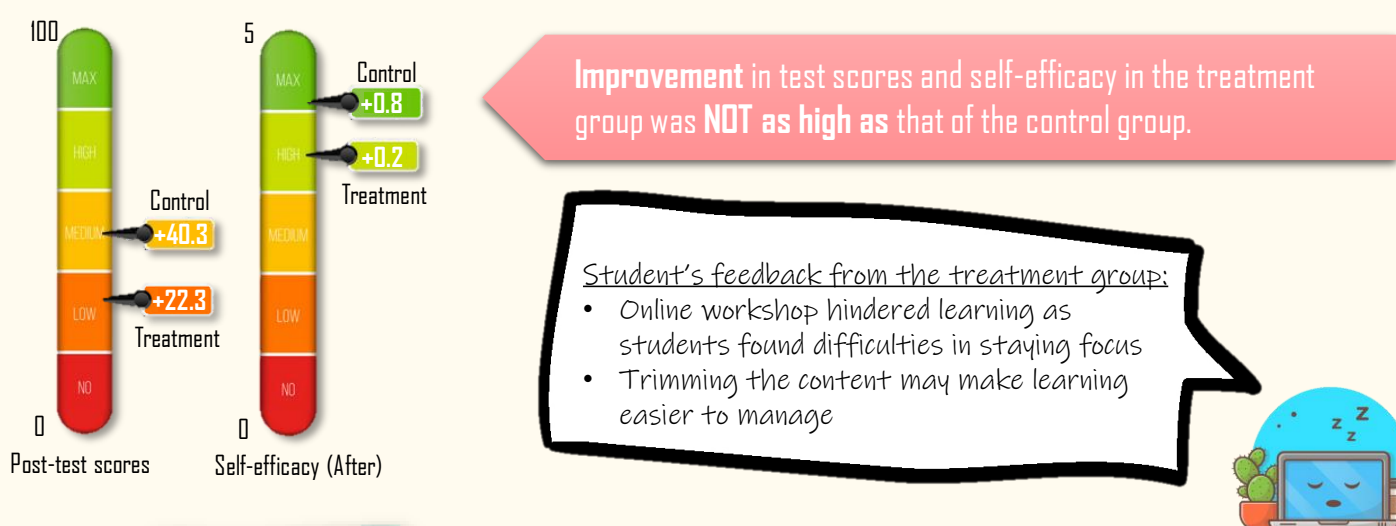


CONCLUSION

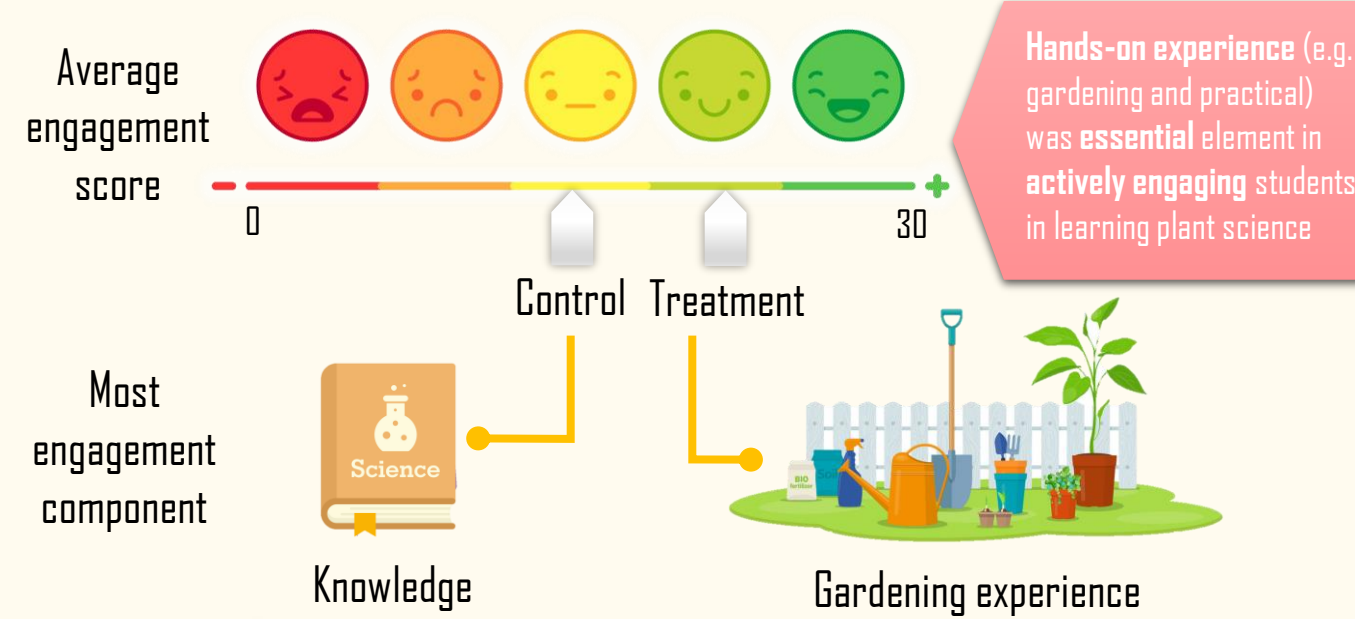
1. More modifications of the gardening program will be needed if it is intended to improve academic performance. Yet, it was observed that GBL promoted the learning of plant science in different ways.
2. The gardening experience was a crucial contributing factor to engage and motivate students in learning plant science as they gained achievement, interest, and a sense of responsibility during gardening.
3. GBL was proved to be an effective tool to cause a positive impact on the Environmental attitude and behavioural changes. Hands-on and real-life experience in gardening formed a deeper feeling and stronger connection with the environment.



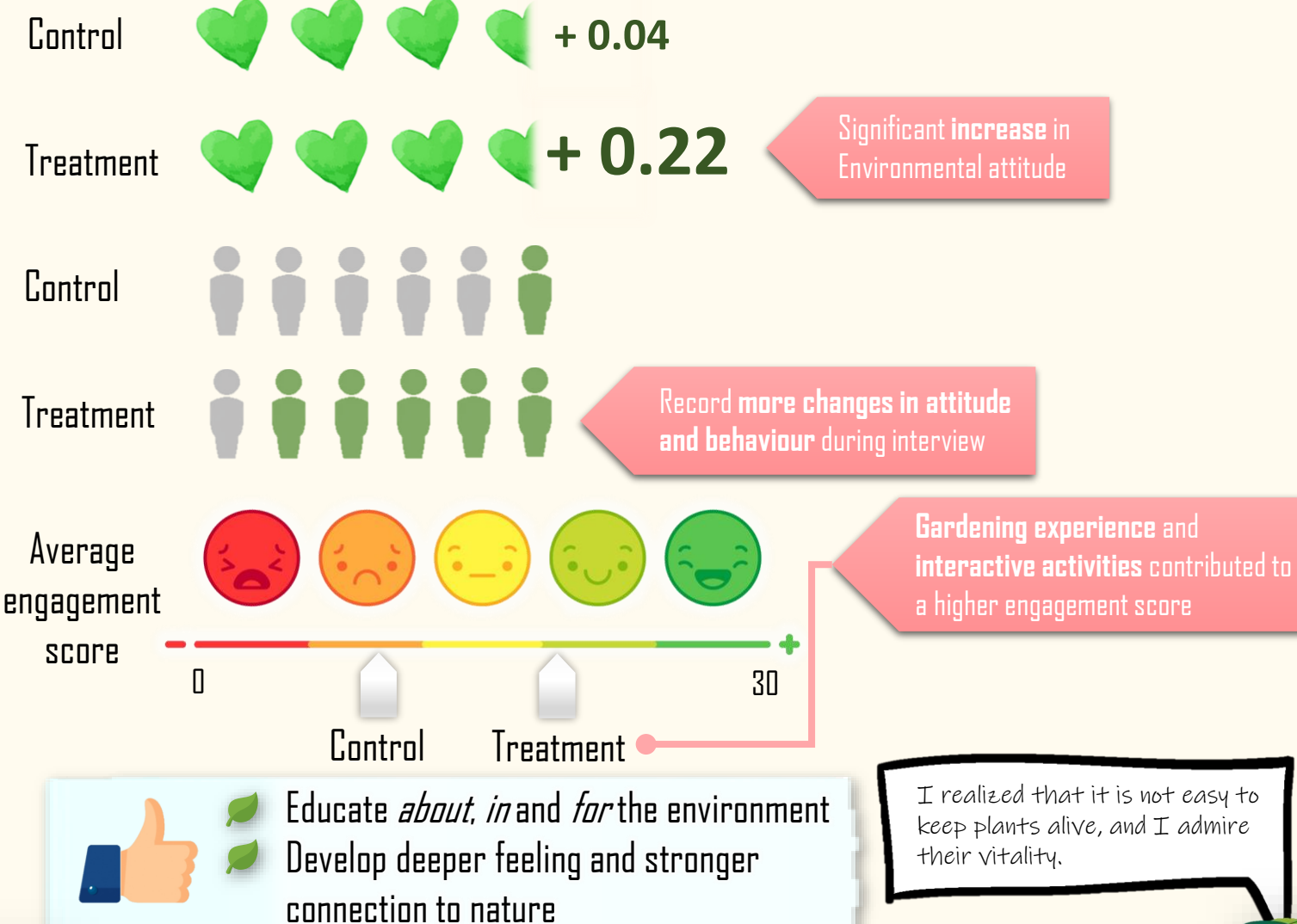
ACADEMIC ACHIEVEMENT (PLANT LITERACY)



ATTITUDE IN LEARNING PLANT SCIENCE



ENVIRONMENTAL ATTITUDE



Benefits of GBL to academic achievement:

- Cater to wider spectrum of learning styles and intelligence
- Emotionally engage learners
- Increase motivation
- Enhance recalling of facts and mastery of knowledge
- Especially helpful to lower achievers

