

IMPRESS discussion - Group 3

Maximising Educational Impact: How can we fully utilise modern physics topics to foster interest, self-concept, and career aspirations among young learners?

- Utilise discoveries, movies, newscieces to sparkle the discussion with students. (e.g. when interstellar was out, everyone was talking about black holes)
- School visits to research centres is a good motivator
- Teachers should be given recommendations as to what kind of contexts they should use to sparkle interest. Modern PER has a big potential to attract students because it is so interesting
- We need to focus also on fostering students' self-concept: we need to present physics in diverse settings; nowadays physics involves many different people, institutes, nationalities etc. In the 21st century, it is no longer one genius doing all the work.
- Pop culture + self-concept: the representation of physicists should change. If we present physicists as "geeks", not many students will be motivated to follow such a path.
- We should also emphasise that physics is not finished, it is an ongoing process and there's still so much more to learn about it.
- Collaboration between different players: interplay between physicists, teachers and researchers. Use authentic contexts.
- You should also do the work in an evidence-based approach, i.e. following research on the topics.
- Establish a database where we list our modern PER projects. There teachers can look up all of the resources.
- We should have a proper way to reach the teachers, i.e. build a strong network. In similar attempts (e.g. einsteinfirst, frontiers..) it starts with a group of motivated individuals, scaling up and then connecting to official channels.

How do we reach beyond those already interested and motivated, especially in out-of-school settings?

- Only a small fraction of students are already motivated. So now we should rather focus on attracting the majority, not making the already motivated ones even more motivated.
- Again, start from self-concept
- Meet-a-scientist effect
- Start from a very young age