

Peer Assisted Physics Learning, PAPL

Peer Assisted Physics Learning, PAPL, is a learning loop that connects physics students at all levels (from high school to postgraduate levels). It's a structure that helps students learn without pressure under the supervision of a higher-level student leader. Undergraduate students at several African colleges are taught to teach in high schools in their unique surroundings. Similarly, African postgraduate students in Africa and the diaspora will support undergraduate students in their studies virtually and in-person as the case may be. Our goal is to bridge the gap between these levels of education and to encourage students to pursue STEM courses. Peer Assisted Learning is an approach that has been used successfully by several colleges across the world.

Peer Assisted Physics Learning, PAPL is divided into two phases:

1. High School Phase
2. Undergraduate Phase

High School Phase

Undergraduate volunteers of various levels are trained to teach for two hours each week in high schools (with a focus on public schools). For each topic, a (canvas) module is created, and each volunteer is required to follow the module in order to ensure consistency of understanding across schools. An agreement will be reached with the high school administration to incorporate PAPL into their program. When every school has access, volunteers will be allocated to schools based on their proximity to their university or residential location. The lecture modules span from theoretical to practical and simulations, depending on the situation.

Because of the poverty level in Africa, it is recommended that volunteers be paid monthly a sum sufficient to cover their transportation and lunch for each session. This will enable some of them to take care of themselves and remain committed to the vision's goals.

Students will be split into groups for problem solving and lab sessions, making PAPL class sessions more interesting and dynamic. We will allow them to teach one another in order to encourage teamwork as a life skill.

Undergraduate Phase

The rate at which Africans are leaving the continent is concerning, and we must consider how to transform brain drain into gain. PAPL allows postgraduate students in the diaspora to contribute back to the continent. The undergraduates and postgraduates will form a mentor-mentee connection (home and

abroad). This will help to solve the issue of students leaving STEM fields. The mentor's responsibility is to support the mentee in their academics, give required resources and guidance on difficult courses, and teach them virtually or in-person if necessary. They will also be dedicated to bringing out the best in them without passing judgment. If necessary, they can recommend them to a therapist.

Evaluation

Students will be assessed once a year. We will hold a centralized test that will be required of all PAPL students. The best pupils will be recognized, while the average and others will be given extra attention and support to help them grow. They will not be ignored because the goal of this program is to help them rather than to blame them.

Committees

Different committees will be set up to help with the structure of the program.

- Counselling
- Academic
- ICT
- Logistics ...