



EVALUATION OF THE PREPARE4VBD SUMMER SCHOOLS

Project consortium partners have successfully planned, conducted and evaluated the project's two summer schools.

The first summer school ("Models4VBDs") took place in Durban, South Africa, on October 1-2, 2022, and focused on models and data analysis. The program included two main components:

- Ecological niche modelling, GIS and mapping in PREPARE4VB (facilitated by UCPH)
- Data analysis and R in PREPARE4VBD (facilitated by Swiss TPH)

In addition to these technical skills, the first summer school offered fellows courses in transferable skills aimed at enhancing their research management capabilities and fostering collaboration across different work packages and disciplines. In this regard, the following modules were facilitated by CSRS:

- Project Planning and Management
- Budget Management
- Research Problems and Questions, Research Design
- Introduction to Quantitative Data Collection
- One Health: Inter- and Transdisciplinary Approaches (focusing on stakeholder engagement and vector case studies)

Overall, these sessions aimed to give participants a well-rounded understanding and enhance teamwork among everyone involved.

The second summer school on "New molecular detection and monitoring tools for VBDs" took place at *icipe's* Duduville Campus in Nairobi, Kenya, from 24th to 25th February 2024. Various partners facilitated the following modules:

- Introduction to Molecular diagnostics and VBD surveillance
- Practical training in tick identification and tissue collection
- Practical training on multiplex real time direct Polymerase Chain Reaction (PCR) with high-resolution melting (HRM) analysis for detection of *Anaplasma* and *Ehrlichia* spp. in tick haemolymph.
- Isolation of bovine peripheral blood mononuclear cells (PBMCs) for an *ex vivo* platform to dissect host-pathogen interactions.
- Molecular methods used for snail vectors and the pathogens they transmit, specifically zoonotic flukes of the genera *Fasciola* and *Schistosoma*.
- Session on lab analysis of eDNA samples for snail borne fluke.
- Session on lab analysis of vector snails.

Evaluation method:

We conducted an anonymous online survey in October 2024 for both summer schools.

PREPARE4VBD fellows were asked two **optional** questions with provision for open-ended answers in text boxes:

- 1) Provide highlight(s) from the summer schools.
- 2) Make suggestions for improving the course.

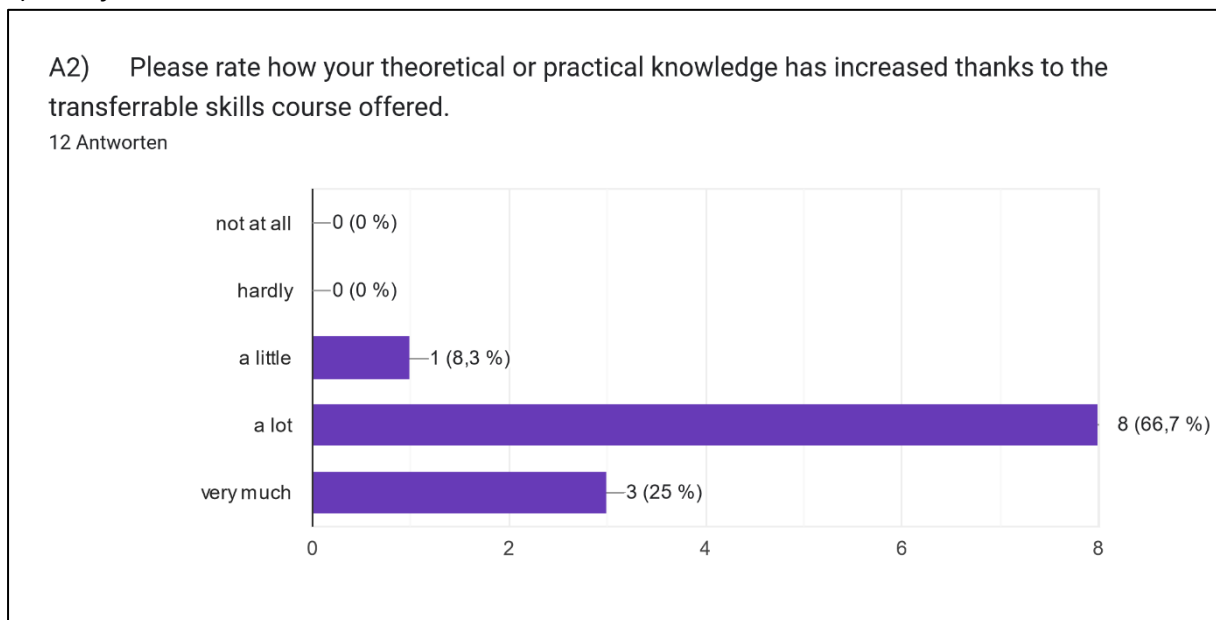
Fellows were also asked two **mandatory** questions from which they had to:

- 3) rate how much their theoretical or practical knowledge has increased (mandatory).
- 4) rate the extent to which they were able to apply/use the gained knowledge in their project/research (mandatory).

Results:

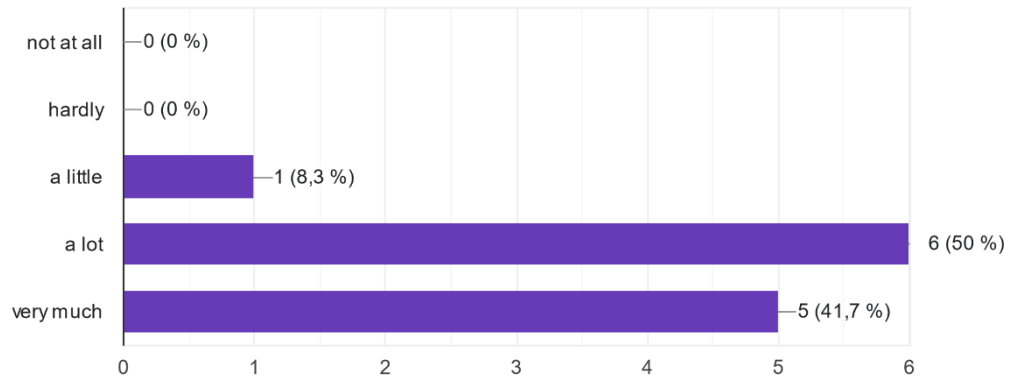
The evaluation was completed by 17 fellows. From the total, 12 attended the first summer school and 10 participated in the second summer school.

A) Transferrable skills



A3) Have you been able to apply/use the gained knowledge on transferrable skills in your project/research?

12 Antworten



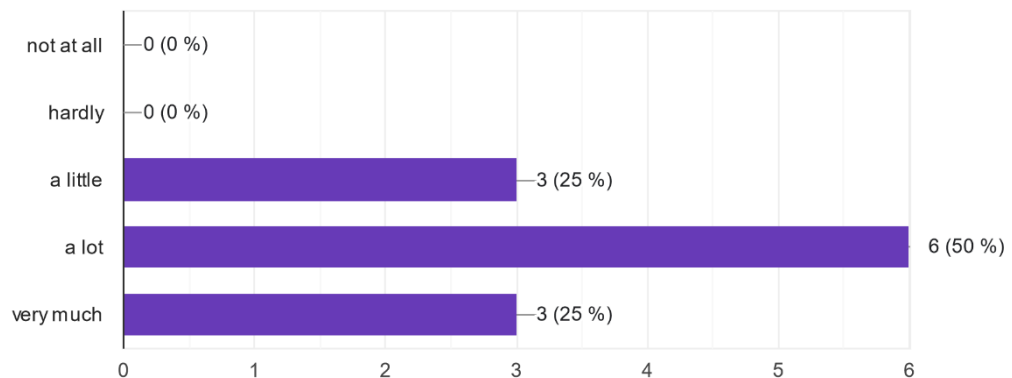
The ratings indicate that fellows felt their transferrable skills significantly increased and found these to be very useful for their project work. The most frequently mentioned point highlighted by fellows was the One Health approach, although each module received at least one mention from participants.

To enhance the module further, fellows suggested: Offering regular sessions on transferrable skills and including a focus on manuscript writing.

B) Models and data analysis

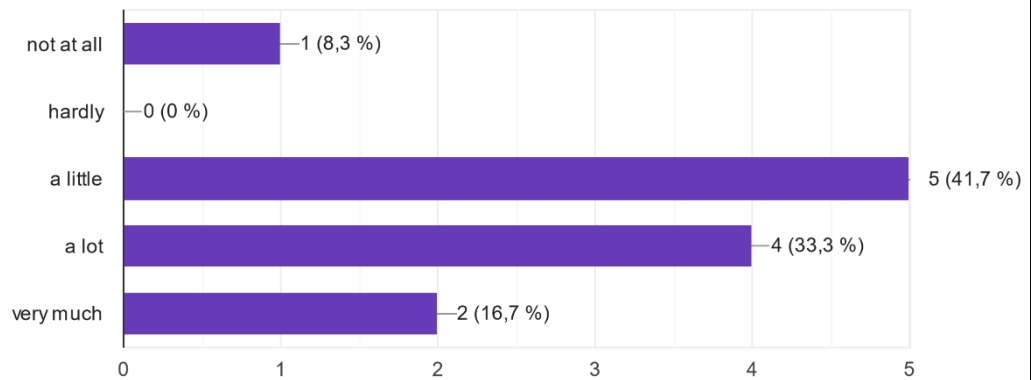
B2) Please rate how your theoretical or practical knowledge has increased thanks to the models and data analysis course offered.

12 Antworten



B3) Have you been able to apply/use the gained knowledge on models and data analysis in your project/research?

12 Antworten



Three-quarters of the fellows reported that their knowledge had significantly increased, while opinions on the applicability of the skills varied depending on the disciplines. About half of the participants rated the usefulness as 'little'; while the other half found it to be 'a lot' or 'very' useful.

In terms of highlights, data analysis and R were mentioned six times and GIS was mentioned four times.

To improve the modules, the following suggestions were made:

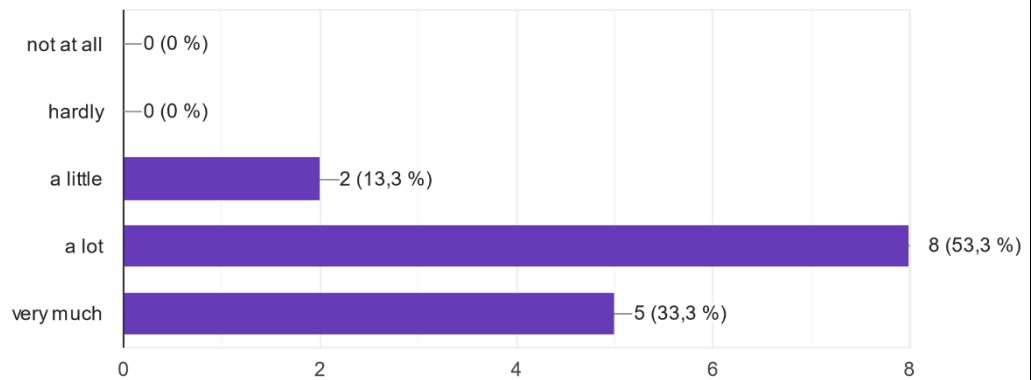
- extending the duration of the sessions by more days to make them more comprehensive.
- include data from all fields next time to better accommodate students from diverse fields.
- introducing other statistical methods of analysis to show the interlinkage between different approaches.

Two respondents indicated that they had no suggestions for improvement.

C) *New molecular detection and monitoring tools for VBDs*

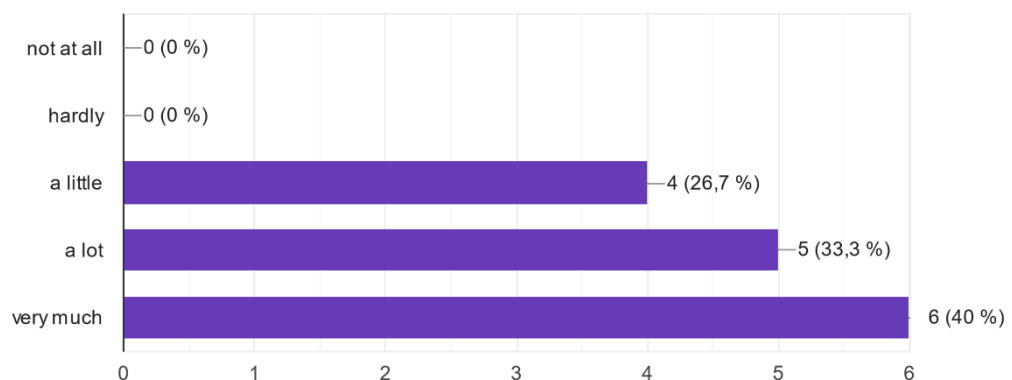
C2) Please rate how your theoretical or practical knowledge has increased thanks to the “New molecular detection and monitoring tools for VBDs” course offered.

15 Antworten



C3) Have you been able to apply/use the gained knowledge on “New molecular detection and monitoring tools for VBDs” in your project/research?

15 Antworten



As shown in the graphs, half of the fellows felt that their knowledge had increased significantly, with a third stating it had increased ‘very much’. Furthermore, all participating fellows reported they had been able to apply their knowledge, with 40% selecting ‘very much’.

Highlights mentioned by the fellows included:

- All sessions (mentioned 4 times)
- Everything was clear, both the theoretical part and the practice in the laboratory. The lab practice it was very useful for continuing the tasks of WP3, 4 and 5.
- Session on lab analysis of vector snails
- Types of ticks
- Real time PCR, identification and collection of tissue for ticks, eDNA sampling of snail borne flukes



- Isolation of bovine peripheral blood mononuclear cells (PBMCs) for an ex vivo platform to dissect host-pathogen interactions
- It was practical and informative

Suggestions for improvement:

- 3 mentioned not having suggestions
- 2 mentioned that time was a bit limited
- There is a need to do sequencing practically
- I would suggest to add more practical activities on the molecular part of the snail-borne diseases

Current needs

As a last question, fellows were asked to mention current challenges and needs:

- No challenges (mentioned 4 times)
- Finalizing the molecular analyses and interpretations
- I had some problems with the detection of Fasciola infection in the snails, as well as the detection of some snail species at the beginning. In the end the problems were solved.
- I would appreciate assistance with microsats markers data interpretation.
- Late procurement process for the lab supplies, and no facilitation to do the actual lab work and other project assignments
- Financial constraints

These findings have been circulated to WP leaders and fellows were asked to contact the CSRS Coordinators if they would like to request for help.

Conclusions

We can conclude that both summer schools were successful in terms of the variety of modules offered and the acquisition of new theoretical and practical knowledge. Most students reported being able to apply what they learned to their current research projects, highlighting the relevance and usefulness of the courses offered.