université STEP project AUPALE

Developing students' critical thinking skills through a philosophical approach



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A humble attitude in philosophical dialogue collective knowledge building rather than winning & admit being

The methodology of text

commentary => Structure the reading, take the time to highlight and understand thoroughly before criticising.

> Argumentative logic => recognise a valid argument using the example of syllogism,

> detecting paralogisms and sophisms)

547

Philosophy'

Development of indepth scientific and technical learning outcomes

Problem-Based Learning to nondestructive testing => group project to respond to a concrete case study

Engineering sciences

> Practical application of learners' skills in projects = investment and assimilation of theoretical knowledge acquired in the workshop on critical thinking

Students' critical thinking

Mini-project: Non-Destructive Testing Problem in an Applied Context 548-49

Project => Inspired on Problem-based learning (PBL)

Problem analysis, brainstorming and Knowledge Gaps

Independent Study and Synthetis in group

Project implementation experiments and analyses

Analysis + Drafting of the project report (initial version)

presentation of the project/Answers to questions

550

Finalisation of project reports based on various feedback

=> Collective construction of a highquality Final work

Work explicitly involving critical thinking Workshop on critical thinking: Theory / role-playing and case studies in NDT

Unsupervised Supervised

Written peer review report + Preparation of question session

Conducting the question and answer session for the expert group

Finalisation of critical expertise reports

=> Having the right attitude, a method and the ability to think critically

Results & Conclusions

TEACHERS

- Best investment for all students
- Discussions during oral presentations Demonstrate greater insight into the subject matter and their work
- Much better final reports
 Best results (project and final exam marks)
- Greater commitment to the subject (only 2 out of 32 students scored below average in the final examination)

STUDENTS

- 88% expressed the usefulness of the workshop
- 33% spontaneously expressed their desire for more workshops of this kind
- 66% spontaneously made the connection between their student life, professional life and personal life.

Philosophy: Structuring / decisive theoretical contributions + method for constructing one's critique

Importance of the oral discussion session:

Sequence of critical comments/questions during oral examinations, (empowerment?)

Project context: Strong interest in explicitly mobilising them in a project context