

KNIME: A TOOL FOR CROSS CURRICULAR STATISTICS AND DATA SCIENCE ALSO IN HIGH SCHOOL

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In the age of AI and Big Data there's a urge to rethink Education as a whole - skills, competences, tools and content-to achieve "a robot proof" status. Data literacy is growing into an increasingly important part of digital literacy for the XXIst century. Statistics in school is no exception. Favoured by an unprecedented access to data of all kinds, including many Open Data collections from national and international organizations, Statistics is turning from an often "dull" and self-referenced module within Math curricula to an exciting investigative tool across the subjects, further empowered by its connections to Data Science.

However, data access alone is not enough. Recently quite a number of interesting professional tools for data analysis (incl. visualization and ML) have been made available also in the educational context. Often, they are free, powerful, user-friendly and with a flat learning curve: the perfect mix for secondary education! Their ease of use allows to focus on concepts and methods rather than formulas and code. Last but not least students are introduced to instruments that they will still use in their future professional lives.

The poster illustrates how one of such tools- KNIME- has been implemented with 16 years old students at IIS Cavazzi Pavullo, a science focused high school in Italy, in three different areas: Statistics Math module, Social Sciences and Italian Literature.

KNIME Analytics Platform is an open-source software for creating data science workflows with a drag and drop graphical interface for blocks ("nodes") and their interconnections (dataflow). The platform relies on a strong community of researchers and practitioners and offers a wide support program.

REFERENCES

- De Mauro, A. (2020). *Big Data Analytics: Analizzare e interpretare dati con il machine learning*
Bergamo: Apogeo.
KNIME <https://www.knime.com/academic-alliance>
BRAIINS Erasmus+ project website <https://bit.ly/2Ud8AB7>