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Idea Puzzle software: A new approach to research design based on Philosophy of Science

EUA-CDE Annual Meeting Tallinn, 15.6.2017

Salzburg Principles

ii. **Embedding in institutional strategies and policies**: universities as institutions need to assume responsibility for ensuring that the doctoral programmes and <u>research</u> <u>training</u> they offer are designed to meet new challenges and include appropriate professional career development opportunities.

viii. **The promotion of innovative structures**: to meet the challenge of <u>interdisciplinary training</u> and the development of transferable skills.



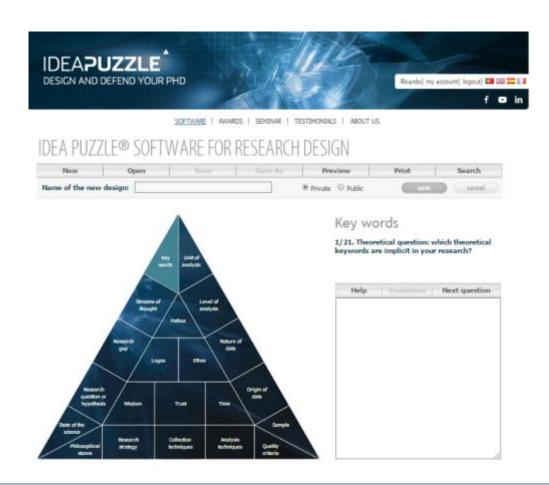
Philosophy of Science

'PhD' means 'Doctor of Philosophy'. Yet, most doctoral students have never attended a course on Philosophy of Science, disregarding the link between epistemology, methodology, ontology, and axiology. They thus perceive their research project as a sequence of tasks such as literature review, methodological choice, and data collection, rather than a system of interdependent decisions that integrates theory (epistemology), method (methodology), data (ontology), rhetoric (axiology of the audience), and authorship (axiology of the author).





Theoretical framework of 21 questions







Help to answer the 21 questions

www.ideapuzzle.com/gethelp.php?myhelp=area_4

Q 💁

Kev words

1/21. Theoretical question: which theoretical keywords are implicit in your research?

In order to answer this question, write down (with complete references):

A relationship between two defined concepts that captures the focus of your research design

Click here and here to see two examples of answer to this question, one from Social Sciences and another from Engineering

In the Idea Puzzle® software "theoretical keyword" is defined as "a scientific concept for a phenomenon".

Theoretical keywords are important for your research because they specify your focus in terms of theory, In general, scientific publications include theoretical as well as empirical and methodological keywords in order to specify the research focus in terms of theory, method, and data

The theoretical keywords specify your research topic and should be included in the title of your research design. Without definitions, your theoretical keywords have no meaning (e.g. Daft, 1995). Definitions, in turn, are the basis for your theoretical contribution (e.g. Whetten, 1989; Sutton & Staw, 1995; Weick, 1995; Smith & Hitt, 2005).

- 1. Make a list of theoretical keywords related with your research interests in general and with your postgraduate degree in particular;
- 2. Ensure that each theoretical keyword is subject of scientific publication, preferably in English;
- 3. Check the novelty of each theoretical keyword with queries in Internet in general and scientific data bases in particular;
- 4. Consider adding words to each theoretical keyword in order to increase its novelty and focus (e.g. "contacts" > "personal contacts" > "international personal contacts");
- 5. Draw a conceptual map in order to visualise direct and indirect relationships between the theoretical keywords;
- 6. Choose one relationship between two theoretical keywords as the focus of your research;
- 7. Adopt a working definition for each theoretical keyword (original or cited);
- 8. Avoid tautological relationships between theoretical keywords, that is, the relationships between similar meanings (e.g., "the influence of personal contacts on communication" when personal contacts are themselves defined as "an instance of communication" translating into "the influence of personal contacts are themselves defined as "an instance of communication" translating into "the influence of personal contacts are themselves defined as "an instance of communication" translating into "the influence of personal contacts are themselves defined as "an instance of communication" translating into "the influence of personal contacts are themselves defined as "an instance of communication" translating into "the influence of personal contacts are themselves defined as "an instance of communication" translating into "the influence of personal contacts are themselves defined as "an instance of communication" translating into "the influence of personal contacts are themselves defined as "an instance of communication" translating into "the influence of personal contacts are themselves defined as "an instance of communication" translating into "the influence of communication" translating into "the influence of personal contacts are the instance of communication" translating into "the influence of communication" translating into "t communication on communication"):
- 9. Choose one of two possible directions for the relationship between the two theoretical keywords because they represent two different research topics (e.g., "the influence of personal contacts on multinational coordination" is a different research topic from "the influence of multinational coordination". coordination on personal contacts"):
- 10. Adopt a title for your research design which includes the two theoretical keywords and reflects the direction of the relationship between them (e.g. "the influence of personal contacts on multinational coordination").

Bibliography

- 1. Daft, R. 1995. Why I recommend that your manuscript be rejected and what you can do about it. In Cummings, L. & Frost, P. (Eds.) Publishing in the Organisational Sciences: 164-182. Newbury Park: Sage Publications.
- 2. Smith K. & Hitt, M. 2005. (Eds.) Great Minds in Management: the Process of Theory Development. Oxford, NY: Oxford University Press.
- 3. Sutton, R. & Staw, B. 1995. What theory is not. Administrative Science Quarterly, 4(3), 371-384.
- 4. Weick, K. 1995. What theory is not, theorizing is. Administrative Science Quarterly, 4(3), 385-390.
- 5. Whetten, D. 1989. What constitutes a theoretical contribution? Academy of Management Review, 14(4), 490-495.

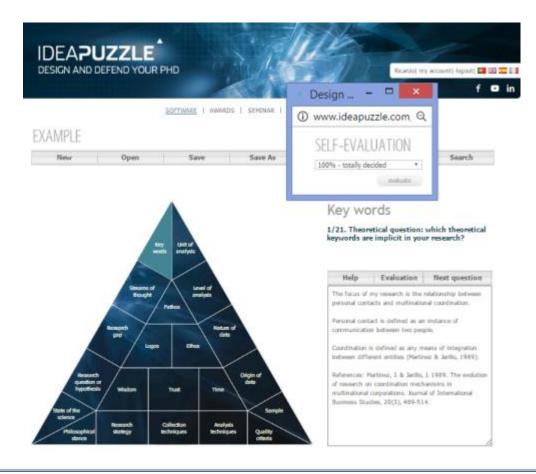
Feedback

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Self-evaluation of the 21 answers





Visual research design









Review

Parente, C. & Ferro, L. 2016. Idea Puzzle (www.ideapuzzle.com), created by Ricardo Morais. *Academy of Management Learning & Education*, 15(3), 643-645.

"All-in-all, we believe Idea Puzzle is a <u>very useful tool for research across a multitude of disciplines</u>, not only for <u>PhD students</u> as they learn about all of the elements of research project design, but also for <u>reviewers</u> and research <u>project teams</u> as they work to move forward with their research and <u>expand their existing skill sets</u>."





Testimonial

Patrícia Rosado Pinto, Head of the NOVA Doctoral School, Portugal

"The support that <u>doctoral students</u> and <u>supervisors</u> can find in a tool such as the Idea Puzzle software lead NOVA Doctoral School to offer this resource that, in our opinion, has a solid <u>theoretical framework</u> and an undeniable usefulness, not only for the research <u>design</u>, but also as a roadmap for the thesis <u>supervision</u> and as a guide for the preparation of its <u>defense</u>."



Audiences

Currently, there are around 7000 users from all over the world registered at www.ideapuzzle.com thanks to several doctoral schools that license the Idea Puzzle software annually (1000 euros per year) for their doctoral students, methodology teachers, and doctoral supervisors.



Benefits

The main benefits of the Idea Puzzle software are:

- 1. The holistic <u>diagnosis</u> of the strengths and weaknesses of a research project;
- 2. The innovative <u>teaching</u> of research methods;
- 3. The structured peer review.



Santander Universities Award



