Research Design

[Subtitle]

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- **What is the research question?**
  - This research aims to find out how the environmental behaviour of students is related to their knowledge of the policies of the Green Office at Maastricht University. The Green Office is our client, so our focus is on them. Hence, we have come up with the following research question: 'how is students environmental friendly behaviour related to the facilities provided by the Green Office's policies (i.e. green printers; recycling bins)?'
- **What are the sub-questions?**
  - Are there notable differences between the environmental behaviour of students at different faculties?
  - Are there noteworthy differences between the environmental behaviour of students of different age?
  - To what extent have students noticed the changes that occurred due to the implementation of green policies by Maastricht University (e.g. recycling bins and new printers)?
  - How do students grade the information provided by the Green Office when introducing the new facilities (e.g. printers or recycling bins)?
- **What are the key concepts and/or theories?**
  - Environmental Sustainability: The ability and responsibility of not being detrimental to the environment or impoverishing natural resources. This involves behaving and making decisions that are in concern of protecting the natural environment on a long-term basis, while meeting the resource needs of current and future generations.
  - Environmental/Green behaviour: behaviour, often supported by altruistic and "biosphere concerned oriented" values. Benefits the environment or people, with no direct individual profits.
  - Environmental policies: commitment of an organization to certain laws or regulations respecting environmental issues. These often concern issues preventing harmful effects to the biophysical environment by human activity.
  - Recycling: The activity or process of making something new from something that has been used before, by passing it through a series of changes or treatments and extracting or reusing substances found in the product that would otherwise be discarded as waste.
- **What is the leading hypothesis:**

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- Student who know about Maastricht University's and Green Office's policies act more environmental friendly than those that are not aware of these policies.
- **What are the working hypotheses:**
  - H1: There is a relationship between the introduction (e.g. printers or recycling bins) of green facilities by Maastricht University and the degree of recycling and environmental friendly printing.
  - H2: For students that are not aware of new policies of the Green Office, the presence of for example environmental friendly printers or recycling bins is still a motivation to behave more environmental friendly.
  - H3: Other faculties that have green facilities (e.g. Randwyck's bins) behave more "green" than FaSoS that have fewer green facilities.
  - H4: Younger students tend to behave less environmental friendly, since they are less aware of environmental issues.
- **What are the key variables, how do you define/code them? Why? What are their levels of measurement?**
  - H1: There is a relationship between the introduction (e.g. printers or recycling bins) of green facilities by Maastricht University and the degree of recycling and environmental friendly printing.
    - Dependent: degree of recycling and environmental friendly printing (ordinal > answers can be ranked, but there are no magnitude differences)
    - Independent: the introduction of green facilities (ordinal > the answers can be ranked, yet there is no magnitude difference)
    - Questions 3; 4; 5; 15
  - H2: For students that are not aware of new policies of the Green Office, the presence of for example environmental friendly printers or recycling bins is still a motivation to behave more environmental friendly.
    - Dependent: the degree of green behaviour (interval > allows to scale and indicate differences)
    - Independent: knowledge of Green Office policies (ordinal > respondents can scale their knowledge)
    - Questions 2; 3; 6; 7; 8; 9; 10; 11; 12; 13
  - H3: Other faculties that have green facilities (e.g. Randwyck's bins) behave more "green" than FaSoS that have fewer green facilities.

- Dependent: the degree of green behaviour (interval > allows to scale and indicate differences)
- Independent: faculty of study (nominal > it just indicates a location)
- Questions 6; 7; 18 (question about faculty will be added in demographics?)
- H4: Younger students tend to behave less environmental friendly, since they are less aware of environmental issues.
  - Dependent: the degree of green behaviour (interval > allows to scale and indicate the differences)
  - Independent: the age of the respondent (ordinal > the age can be put in order but does not indicate a noteworthy difference in this context)
  - Questions 6; 7; 19; 20 (questions about age will be added in demographics?)
- **What are the target sample population (proposed size of the sample, control groups, etc.) and your proposed sampling/data collection method (when, where, how, why)?**
  - The target populations are all students of Maastricht University. We will be conducting surveys both online and in person. Our aim is to have 40% of the respondents' answer the paper questionnaire and 60% answer online. We will make sure that the respondents represent the population of the university in its diversity. The focus will be on faculty and year of study. Staffs, both the teachers and administrators are excluded of our research. If we see that it is more easier to get answers in person or online, we will focus on one of these methods to ensure that we get at least 10 answered questionnaires per group member.
- **Do you anticipate any problems, ethical issues and have you considered data protection?**
  - The main problem that we may face could be the little motivation students have to fill in a questionnaire. Either because they have little time or because they are not interested in sustainability. Nevertheless, young people are generally more aware of climate change and the responsibility to use sustainable method and this could help us addressing this problem. By emphasizing on the fact that theses result would help improve their future, we may persuade them to fill in the questionnaire despite their initial lack of motivation. Additionally, all researchers are students at FASOS, which means that our friends at FASOS are more likely to help us than unknown students at Randwyck, Law, UCM or SBE. Thus, we should make use of students that have previously studied there or use our best "talkers", to get an honest representation of

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UM students. Finally, considering data protection, our survey will be anonymous. All variables will not be related to a single individual, thus students will feel freer to answer the questionnaire.

- **What methods of quantitative data analysis do you intend to use to test your hypotheses and why (univariate, bivariate, multivariate -> relate to the respective levels of measurement of your variables)?**

  • H1: There is a relationship between the introduction (e.g. printers or recycling bins) of green facilities by Maastricht University and the degree of recycling and environmental friendly printing.

    - For hypothesis 1 the dependent variable is the degree of recycling and environmental friendly printing (ordinal) and the independent variable the introduction of green facilities (ordinal).

    - This is displayed at best by a crosstable, as the difference between the use of bins and printers will not significantly appear on a histogram.

    - The generalisability can be tested by Kendall's and c, as both variables are ordinal and the table will count an unequal number of rows and columns.

  • H2: For students that are not aware of new policies of the Green Office, the presence of for example environmental friendly printers or recycling bins is still a motivation to behave more environmental friendly.

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    - For hypothesis 2 the dependent variable is the degree of green behaviour (interval) and the independent variable is knowledge of green office policies (ordinal).

    - Again, it is graphically displayed at best by a histogram. In this histogram, we should also outline answers per faculty, to look at the presence of green facilities.

    - The generalisability can be tested by a t-test, since there is an interval dependent variable and ordinal independent variable. As we are comparing students that are not aware with those that are aware, we still use a t-test.

  • H3: Faculties that have green facilities (e.g. Randwyck's bins) will behave more green than FaSoS that have lesser green facilities.

    - For hypothesis 3 the dependent variable is the degree of green behaviour (interval) and the independent variable is the faculty of study (nominal).

- This can graphically be displayed by a histogram. Both enable us to show how each faculties population grades it self.
- Since we are just having one sample for which we are testing the generalisability, and have interval and nominal variables, a Z-test can be used.

- H4: Younger students tend to behave less environmental friendly, since they are less aware of environmental issues.
  - For hypothesis 4, the dependent variable is the degree of green behaviour (interval) and the age of our respondents (ordinal).
  - This can graphically be displayed by a cross tab or maybe even better, a histogram, as we can easily show how students of each year grade them selves.
  - Again, there is just one sample to test generalisability and with interval and nominal variables, a Z-test can be used.

- **What are the limitations of your proposed survey?**

There are many limitations correlated to our survey. Firstly, time limits us to only a certain number of questions and small sample of students. Secondly, the implementation of environmentally friendly policies (i.e. new printers and new recycling bins) is not equal in all faculties and for students on different level of study. The new recycling bins are present in both the Inner City Library and, only since this year, in the Randwyck faculty, meaning that students that have not been to Randwyck or the Inner City Library might have not been exposed to these new changes. Printers are also new from last year, which means that the new students from this year would not know notice change.

What is the timetable of your project?

Date in 2016	What	Who
22.02	Meeting to discuss Research Design	Group
22.02	Deadline for RD draft	Email/upload Ellen
26.02	Meeting to improve RD, divide tasks for collecting data	Group
26.02	Deadline RD final 17:00	Email/upload Cyrilla
01.03	Meeting to discuss feedback RD	Group
01.03 – 09.03	Collection of data	Individually
		Randwyck: Isabel & Guy
		Law: Nina
		UCM: Ellen
		SBE: Cyrilla, Quentin
		Fasos: Guy
10.03	Enter survey data in SPSS	Ellen, Cyrilla
11.03 – 14.03	Create website	Nina & Isabel
11.03 – 14.03	Data analysis & results	Quentin, Guy
15.03	Discuss data analysis results	Group
14.03 – 20.03	Finalize website	Nina, Isabel
21.03	Prepare last things for presentation	Group
22.03	Presentation	Group
01.04	Deadline webpage	Upload Nina

- Questionnaire questions:

- 1. To what extent do you agree or disagree with the statement: "Students at Maastricht University are concerned about environmental issues?"
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
- 2. To what extent do you agree or disagree with the statement: "Student at Maastricht University know about the Green Office?"
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
- 3. To what extent are you satisfied or unsatisfied with the availability of recycling bins at your faculty?
  - Strongly satisfied
  - Satisfied
  - Unsatisfied
  - Strongly unsatisfied
- 4. To what extent are you satisfied with the availability of printers at your faculty?
  - Strongly satisfied
  - Satisfied
  - Unsatisfied
  - Strongly unsatisfied
- 5. To what extent do you agree or disagree with this statement:" Students make active use of recycling bins".
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree

- 6. To what extent do you agree or disagree with this statement: "Students make active use of environmental friendly printing mode of the printers".
  - Strongly agree
  - Agree

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- Disagree
- Strongly disagree

- 7. To what extent do you agree or disagree with the statement:" Before the introduction of "green facilities" at university by the Green Office, students already had a "green" behaviour (i.e. recycling at home and/or university)?
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree

- *8.* On a scale from 0 to 5, how often do you separate waste at home?
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5

- 9.On a scale from 0 to 5, how often do you use the two-sided printing mode at home?
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5

- 10. On a scale from 0 to 5, how often do you scan at home?
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5

- 11. On a scale from 0 to 5, how often do you separate waste at University?
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5

- 12.On a scale from 0 to 5, how often do you use the two-sided printing mode at University?
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5

- 13. On a scale from 0 to 5, how often do you scan at University?
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5

- 14. To what extent do you agree or disagree with the following statement: "Students are aware that the university was provided with new environmental friendly printers last year"?
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree

- 15.On a typical week, how often do you use these printers?
  - More than one time per week
  - Less than one time per week
  - Never
- 16. To what extent do you agree or disagree with the following statement: "Students are aware of the double side-printing mode"?
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
- 17.On a typical week, how often do you use this double side-printing mode?
  - Every time
  - Sometimes
  - Never
- 18. To what extent do you agree or disagree with the following statement: "Students are aware of the Draft-printing mode"?
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
- 19. On a typical week, how often do you use this draft-printing mode?
  - Every time
  - Sometimes
  - Never
- 20. To what extent do you agree or disagree with the following statement: 'The Green Office is doing enough to introduce students to their work for a more sustainable University"?
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
- 21. To what extent do you agree or disagree with the following statement: 'The new facilities (i.e. printers; recycling bins) have made it easier to behave more environmentally friendly'?

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- Strongly agree
- Agree
- Disagree
- Strongly disagree

- 22. During the last semester, have you been to the barbeques organized by Green Office Maastricht?

  -Yes

  -No

- 23. During the last semester, have you been to the mix & mingle event organized by the Green Office Maastricht?

  -Yes

  -No

- 24.During the last semester, have you been on the fieldtrip organized by the Green Office Maastricht?

  -Yes

  -No

- 25.How old are you? *(Please right down your age)*

- 26. In which faculty are you studying?

- Randwyck
- Law
- UCM
- SBE
- FaSoS

- 27. What is your level of study?

- Bachelor's
- Master's
- PhD

- 28. How long have you been at UM?

  -One semester

  -1 year

  -2 years

  -3 years

-More than 3 years