

# The impact of clinical simulations on the development of the teacher competence 'dealing with aggression in the classroom'

## Psychology & Educational Sciences DMP

### Admin details

**Project Name** The impact of clinical simulations on the development of the teacher competence 'dealing with aggression in the classroom'

**Project Identifier** EXAMPLE01

**Description** The impact of clinical simulations on the development of the teacher competence 'dealing with aggression in the classroom' is a 6-year doctoral research project, situated within the Faculty of Psychology and Educational Sciences (Department of Educational Studies). The research project aims to investigate (1) how teachers can address aggressive behavior in the classroom and (2) if online clinical simulations can influence the development of the aggression-management competence of (student-)teachers. In order to complete the first goal, an extensive literature study, interviews with teachers & focusgroups with experts will be conducted to develop a script which can be used by (student-)teachers. The second goal will be attained by conducting two intervention studies within the teacher-education programme of the University.

**Institution** Ghent University

### Administrative Data

#### Date of first version

23/02/2018

#### Date of last update

27/04/2018

## 1. Data Collection

### 1.1 What data will you collect or create?

#### Types of collected data

The screening and analysis of literature is important in view of the first research goal but it will also be a continuous process during the entire research project. Databases such as Web of Knowledge, Google Scholar, ERIC, ProQuest etc. as well as paper books will be screened. Data of the empirical studies will consist of qualitative and quantitative material. More specifically:

#### *Qualitative material:*

- Videos of scripted teacher-student (minors!) interactions which is used as test material: stored as .mp4 files on a secured external hard drive.
- Interviews with teachers: audio-recorded as .flac-files and transcribed (saved as .docx)
- Focusgroups with experts: video-recorded as .mp4-files) and transcribed (saved as .docx)
- Group discussions (reflections): video-recorded (saved as .mp4 files) and transcribed (saved as .docx)

- Online tasks/questionnaires, constructed individually in Curios (an online test environment - within the electronic learning platform Minerva - which is only accessible with a UGhent account AND if registration in a specific educational course. The researcher is the only one who has access to the data) or LimeSurvey (an open source software package which is only accessible with a link provided by the researcher AFTER registration in a specific educational course. The researcher is the only one who has access to the data):  
written answers on open-ended questions: data downloaded as .xlsx files.

#### *Quantitative material:*

- Pre- and posttest data (Likert scales), collected within Curios or LimeSurvey: data downloaded as .xlsx files.

#### **Data formats**

- Literature: stored in Mendeley, processed in MS Word, saved as .docx files.
- Online questionnaires: the data can be downloaded as an .xlsx file to permit statistical analyses (R/SPSS). For the analysis in SPSS, .csv files will be created.
- Videos of scripted teacher-student (minors!) interactions as part of the test material will be edited in Camtasia, which results in an editable .cmproj-file. Furthermore, the videos will be transformed into .mp4-files and saved on a secured external hard drive.
- Videos of focusgroups with experts: videotaped and saved as .mp4-files. These will be converted into written transcriptions that will be saved in MS Word (.docx). The processing of data will take place in NVivo or will be conducted manually in MS Word (.docx).
- Transcriptions of the videos of focusgroups with experts: saved as .docx  
Interviews with teachers: audiotaped and saved as flac-files. These will be converted into written transcriptions that will be saved in MS Word (.docx). The processing of data will take place in NVivo or will be conducted manually in MS Word (.docx).

#### **Volume of data**

The expected total amount of data, based on the stored files from the first exploratory study, is:

Type	formats	Volume
Video	.cmproj .mp4	22 GB
Audio	.flac	12 GB
Written answers	.xlsx .csv .docx	10 MB
Total		approx. 34.01 GB

## Conversion

Once the project is finished, transcriptions will be converted to the PDF/A format for preservation.

## Reusing existing or third-party datasets

Not applicable

### 1.2 How will the data be collected or created?

#### Data capture standards and data quality

To ensure the quality of the collected data, processes of data collection will follow the methodological standards of qualitative inquiry in general. A test case will be set up to check the quality of the material retrieved during the data collection process and to adjust the data collection process if necessary. Data that will be retrieved from online tools such as Curios will be checked for errors and loss of information when stored by the researcher.

#### Structure and naming system:

- Videos of scripted teacher-student interactions will be filed by topic (for example 'Fysieke agressie': FA), date and version (1, 2, 3, 4, etc. or 'def'), using the following template:  
*Video\_FA\_YYYYMMDD\_versieX*
- Interviews with teachers: mp3-files and transcriptions in Word will be filed by date and participants' code, using the following template:  
*Interview\_YYYYMMDD\_participantcodeX* and  
*Interview\_transcribed\_YYYYMMDD\_participantcodeX*
- Focusgroups with experts: mp4-files and transcriptions in Word will be filed by date and number of focusgroup, using the following template:  
*Focusgroep\_YYYYMMDD\_groepX* and  
*Focusgroup\_transcribed\_YYYYMMDD\_focusgroepX*
- Group discussions (reflections): mp4-files and transcriptions in Word will be filed by date and number of (reflection)group, using the following template:  
*Reflectie\_YYYYMMDD\_groepX* and  
*Reflectie\_transcribed\_YYYYMMDD\_groepX*
- The original, unprocessed written answers will be filed by course name (for example 'Klasmanagement en reflectie 2017-2018': KR1718) - (if necessary, also by the name of the assignment, for example: 'Simulaties agressie': SA) - date and participants' code, using the following template:  
*KR1718\_SA\_YYYYMMDD\_participantcodeX*
- Questionnaires: Excel files with raw data (and created .csv files) will be stored by course name (for example 'Klasmanagement en reflectie 2017-2018': KR1718) - (if necessary also by the name of the assignment, for example: 'Simulaties agressie': SA) and date, using the following template:  
*KR1718\_SA\_YYYYMMDD\_pretest*

*Important note: codes will be used instead of research participants' names!*

## **2. Data Documentation and Metadata**

### **2.1 How will you document the data?**

To interpret the data generated in the context of the doctoral research project, some descriptive information is needed (i.e. the general research design, methodological procedures followed during data collection and analysis, contextual information on the courses and participants involved in the studies (also the instructions the participants received) etc.). This information will be captured and stored by the PhD-student as follows:

- The methodology section of each chapter of the PhD-dissertation will contain a detailed description of the data gathering procedures. The same applies for each publication during this PhD-project. Furthermore, this information will also be included in the annual progress report concerning this PhD-project (Faculty level).
- A logbook (MS Word) will be written for each study, describing which steps were taken. After each study, a data storage fact sheet will be added to this logbook.
- A [data list](#) will be maintained for each study in which all data files of the interviews, focusgroups and observations are listed and described.
- Whenever SPSS/R is used, codebooks will be developed which contain more information about the variables' names, labels and descriptions, units of measurement for variables, references to the question numbers in a survey etc.
- Each syntax-file will be annotated explaining all steps taken.

## **3. Ethical and Legal Issues**

### **3.1 How will you manage any ethics and confidentiality issues?**

**Ethics:** The 'General Ethical Protocol for Scientific Research at the Faculty of Psychology and Educational Sciences of Ghent University' will guide the data-collection, -use, -preservation and -sharing. Furthermore, as the subject of the dissertation is sensitive to ethical issues, an advice related to the data collection (as the online simulations will contain scripted classroom situations with minors) of the ethical committee will be asked.

**Personal data:** The collected data will contain some personal information, i.e. research participants full name, background information (e.g. personal experiences with aggression in the classroom, years of teaching experience, certificates and diploma's, age etc.), interviews, pre- and posttest data, ... Since some of the data are part of a compulsory educational assignment, it is necessary for the students to state their full name or student number.

**Informed consent:** Each participant (student, teacher, expert, actor etc.) will sign an informed consent. Without consent, they are not allowed to participate. These consents will be retrieved on paper.

**Protecting research participants' identities:** Research participants' identities are protected through pseudonymisation. Participant names will be replaced by codes. An encrypted keyfile containing the link between participant codes and identities will be kept available during the project. It will be destroyed once the project is

finalised. The file-naming template will not contain any personal information (as stated before, instead of names, codes are used). Furthermore, the videos will only be accessible for participants after individual permission is given by the responsible researchers (i.e. the doctoral student and the supervisor).

**Third parties:** The collected data will only be accessible for third parties when granted permission by the responsible researchers. Data will be anonymised before transfer to third parties. At the moment, there are no plans to share data with other researchers.

### **3.2 How will you manage intellectual property rights issues?**

Ghent University has the ownership of the data. If students are involved in data collection, an agreement will be made in which it is stated that they renounce ownership rights.

If we decide to share data from the project, it will be made available under the Creative Commons Attribution license (CC-BY 4.0), so that users have to give credit to the original data creators. Only anonymised data will be eligible for sharing.

## **4. Data Storage and Backup During Research**

### **4.1 How will you store and backup data during research?**

#### **Storage**

All data will be stored on the laptop of the researcher. A synchronized copy will be made every work day to a shared network drive provided by DICT. The shared network drive will be accessible by the researcher and the promotor.

#### **Backup**

- For all data on the [shared network drive](#), DICT is in charge of the security and the back-up of the server. See
- Additionally, an external hard disk will be used to make a backup weekly.

### **4.2 How will you ensure that stored data are secure?**

- Because confidential information is stored on the laptop of the researcher, it will be [encrypted](#) using volume encryption (Bitlocker).
- Only the researcher and supervisor will be given access to the data. Access to data will be controlled using the shared disk space for UGent staff.
- The researcher can decide who she grants access to the shared folder.

## **5. Data Selection and Preservation after Research**

### **5.1 Which data should be retained for preservation and/or sharing?**

- According to the UGent [policy on research data management](#), all relevant research material should be preserved until at least 5 years after the research project has finished. Therefore, all research material collected by the researcher will be preserved for at least 5 years.
- Although there is no obligation to destroy certain data, key-files connecting participant codes with their identities will be destroyed after the 5 year preservation period.

### **5.2 What is the long-term preservation plan for the selected datasets?**

- After the PhD-project, all the digital research material will be transferred to the shared network drive maintained by the promotor of the project. Data will be anonymised where possible.
- Physical data (paper versions) will be stored in the [faculty archive for research material](#).
- A data storage fact sheet will be uploaded to Biblio to make the preserved data searchable.
- No external repository will be used.

## **6. Data Sharing**

### **6.1 Are any restrictions on data sharing required?**

- Data collected for the research project does contain personal data, i.e. first and last name of the students involved, the first and last name of the teachers/experts who participate in the interviews/focusgroups, their completed pre- and posttest, their voice on audio-files and their faces on videos.
- Participants are, when they agree to participate in the research, required to sign an informed consent form which contains a section about the anonymization process during data collection, analysis and storage. There are currently no plans to share data with third parties (e.g. other researchers).
- Student (or the parents of the minors) and teachers who participated in the videos have signed an informed consent form which states where and to what purpose the videos will be used.

### **6.2 How will you share data selected for sharing?**

There are currently no plans to share data, however, if data are shared:

- Data will only be shared upon request and if permission is given by the responsible researchers (i.e. the doctoral student and the supervisor).
- Data will only be shared if permission is given by the participants (through informed consent).
- Data will be anonymised.

## **7. Responsibilities and Resources**

### **7.1 Who will be responsible for data management?**

- The data management plan will be revised and implemented by the doctoral researcher, Delphine Franco. She is responsible for each of the data management activities.
- If the doctoral researcher leaves the department/university, the data, as well as the responsibility for the data management activities, will be transferred to the supervisor of the research project, Prof. dr. Martin Valcke.

### **7.2 Will you need additional resources to implement your DMP?**

No further resources are needed