NELSON MANDELA UNIVERSITY

APPLICATION FOR APPROVAL: UMBRELLA PROJECT
NELSON MANDELA UNIVERSITY RESEARCH ETHICS COMMITTEE (HUMAN)

SECTION A (FOR OFFICIAL USE ONLY)					
Umbrella application reference code: (*To be completed by a representative from the Faculty Postgraduate Studies Committee (FPGSC)*)	**H** HUMAN	..... YEAR	..... FACULTY	..... DEPARTMENT	...../U NUMBER
Umbrella and sub-study research proposals and methodologies reviewed and approved by Faculty (form RECH-003/U and related forms RECH-003/S)	☐ **Yes** **Date Approved:** _____ ☐ **No**				
FPGSC representative signature:					

Sub-study reference code (add additional rows to this table if required)	**Approval Status**	**REC-H Comments**
H YY - FAC - DEP - nnn **/U-01**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-02**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-03**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-04**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-05**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-06**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-07**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-08**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-09**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-10**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-11**	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn **/U-12**	☐ Approved ☐ Not approved	

H YY - FAC - DEP - nnn /U-13	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn /U-14	☐ Approved ☐ Not approved	
H YY - FAC - DEP - nnn /U-15	☐ Approved ☐ Not approved	

Supporting Documentation Included

Document	**Page reference**
Risk Assessment Form	3
Application Form	8
Appendix 1: Umbrella Study Research Proposal (mandatory)	13
Appendix 2: International Ethics Approval Process (if applicable)	
Appendix 3: Restrictions/conditions applicable to publication of results of study (if applicable)	
Appendix 4: *Other supporting documentation:* Permission for access to Moodle logfile data	14
Appendix 5: *Other supporting documentation:* _____	
Appendix 6: *Other supporting documentation:* _____	
Appendix 7: FPGSC Reviewer comments and communications (mandatory)	
Sub-study Documentation (full set of form RECH-003/S and supporting documentation, correctly and clearly labelled, required for each sub-study unless the recruitment, enrolment and data collection materials and procedures for each sub-study are substantially the same – in the latter case sub-study applications may be grouped in a single RECH-003/S submission) For each sub-study/group of sub-studies, provide the sub-study reference(s) (remove unused rows* from the table below, or add additional rows** to the table if there are more than 15 sub-studies). ** To remove rows, highlight the rows/cells in rows to be removed, click mouse right button, select DELETE CELLS/ROWS and follow the prompts.* *** To add a row, in the last cell of the table, click mouse right button, select INSERT then INSERT ROWS BELOW. Add the required details.*	**Page reference**
Appendix 8**/U-***01 and 02*, where *nn* is the reference number(s) of the sub-study/group of similar sub-studies: Synopsis of sub-study (mandatory for each sub-study/group of similar sub-studies) together with all supporting documentation	15

Select the box next to any statement that is relevant to any one of the sub-studies, or the umbrella study as a whole. This will sensitise researchers to the content to be addressed in the umbrella application. It is assumed that all researchers are familiar with the DoH Ethics Guidelines available on the REC-H portal.

	No risk	Negligible to Low risk	Medium risk	High risk
Are the subjects/participants of your study			☐ University staff/students? ☐ in a dependency relationship with the PI and/or PRP? ☐ to be compensated in any way (e.g. incentive, reimbursement for travel, etc.) for participating in the study?	☐ children under the age of 18? ☐ a sample from an institution (e.g. hospital)? ☐ handicapped (e.g. mentally or physically) persons? ☐ socially and/or economically disadvantaged persons? ☐ persons of diminished physical and/or mental and/or educational capacity (e.g. traumatised)? ☐ elderly? ☐ persons who are not competent to give participation consent (e.g. due to language challenges)?
Are you administering any process and/or treatment that		☒ is expected to result in no foreseeable risk, harm or discomfort to the mental and/or physical well-being of the participants? ☐ is expected to result in the only foreseeable discomfort being that of inconvenience (e.g. time and effort required by participants to complete questionnaire/form, participate in a street survey)?	☐ could be hazardous to the social well-being (e.g. possibly results in damage to social networks/relationships with others, discrimination, social stigmatisation, discovery of previously unknown paternity status) and/or result in discomfort associated with the social well-being of the participants and/or researcher? ☐ could be hazardous to the economic well-being (e.g. possibly results in the imposition of direct and/or indirect financial commitments on participants) and/or result in discomfort associated with the economic well-being of the participants and/or researcher? ☐ collects any articles/documents of property, personal or cultural from participants?	☐ involves participants undergoing psychological, physiological or medical testing or treatment? ☐ involves the collection and use of human biological samples (e.g. skin, blood, urine, saliva, hair, bones, tumour and other biopsy specimens) or their exhaled breath? ☐ could be hazardous to the physical health (e.g. possibly results in illness, injury, pain) of the participants and/or researcher?

Are you administering any process and/or treatment that			☐ may result in a traumatic experience for the participants and/or researcher? ☐ may result in the disclosure of sensitive and/or embarrassing information about the participants and/or researcher? ☐ involves covert observation of behaviour that is not normally in the public domain? ☐ could result in the participants feeling humiliated, manipulated and/or in other ways treated disrespectfully and/or unjustly? ☐ uses specialised equipment on the participants? ☐ could result in discomfort associated to the physical health (e.g. the act of measuring blood pressure, minor side effects of taking medication) of the participants and/or researcher? ☐ could result in discomfort associated with the psychological well-being (e.g. feelings of anxiety due to being interviewed) of the participants and/or researcher? ☐ could result in discomfort associated with the legal well-being of the participants and/or researcher? ☐ could result in the identification and/or re-identification of a participant from a resulting report? ☐ could result in risks to non-participants (e.g. distress to relatives upon discovering that a participant suffers from a serious genetic disorder, infectious disease risks to a community, social/economic discrimination of subgroup populations)?	☐ could be hazardous to the psychological well-being (e.g. possibly results in feelings of worthlessness, guilt, anger, fear) of the participants and/or researcher? ☐ could be hazardous to the legal well-being (e.g. possibly results in the discovery and prosecution of criminal activity) of the participants and/or researcher? ☐ could result in the participant learning about a genetic possibility of developing an untreatable disease?

Are you administering a questionnaire/survey/interview/ focus group/observation practices that		☐ occurs in public spaces and natural environments where the researcher does NOT interact directly with participants? ☐ occurs in public spaces and natural environments where the researcher does NOT stage any intervention? ☐ occurs in public spaces and natural environments where the participants do NOT have a reasonable expectation of privacy? ☐ occurs in public spaces and natural environments and dissemination of research findings does NOT identify individual or groups of participants?	☐ collects sensitive data from the participants (e.g. personal data that is not normally in the public domain)? ☐ does not guarantee the anonymity of the participant? ☐ occurs in public spaces and natural environments and dissemination of research findings does could identify individual or groups of participants? ☐ occurs in public spaces and natural environments where the researcher interacts directly with participants? ☐ occurs in public spaces and natural environments where the researcher stages an intervention? ☐ occurs in public spaces and natural environments where the participants have a reasonable expectation of privacy? ☐ does not guarantee the confidentiality of data collected from the participants?	
Are you intending to access participant data from an existing stored repository (e.g. school, institutional, university records or data collected from another previously completed or ongoing research study) that	☐ relies exclusively on publicly available information or accessible through legislation or regulation? ☐ relies exclusively on secondary use of anonymous information (i.e. no identifiable information is generated or inferred)?	☒ requires access to participant information (in non-identifiable form, e.g. summarised form) as part of an existing published or unpublished source or database?	☐ requires access to participant information (in individually identifiable or re-identifiable form) as part of an existing published or unpublished source or database?	
Do you intend publishing the findings of your study in a publication that	☐ requires no evidence of human ethics approval/acknowledgement?	☐ requires evidence of human ethics approval/acknowledgement?		

Is this study	☐ exclusively for quality assurance and/or quality improvement studies (audits) and/or programme evaluation activities and/or performance reviews?	☒ for qualification purposes at Nelson Mandela University? ☐ a local (e.g. regional, national) study?	☐ an international/cross border study? ☐ NOT for qualification purposes at NMU and also NOT exclusively for quality assurance and/or programme evaluation activities and/or performance reviews?	
Has the research methodology (if the study is not for qualification purposes) been reviewed for scientific rigour and approved by an appropriate research body at Nelson Mandela University?		☐ Yes. Specify body:_____	☒ No	
Does any sponsor of the study/the researcher have a vested interest in any possible findings of the study?	☒ No		☐ Yes	

Are there any restrictions/conditions attached to the publication and/or presentation of the study results?	☒ No		☐ Yes	
	Number of selections in this column: ___2___ ***If number of selections in in this column is more than 0 and there are no selections in any of the other columns, then no review for ethics is required.***	Number of selections in this column: ___3___ ***If number of selections in in this column is more than 0 and there are no selections in any of Medium and High risk columns, then the application would qualify for an expedited review***	Number of selections in this column: ____1__ ***If the sum of the number of selections in Medium and High risk columns is more than 0, irrespective of whether selections appear in other columns, then the application would require full review after the proposal has been approved by the Faculty***	Number of selections in this column: ___0___
	No ethics application necessary	**Expedited Review: Faculty level review by accredited and co-opted Faculty reviewers (approval for noting at REC-H)**	**Faculty review required to ensure proposal/research methodology approval followed by Central REC-H review**	

SECTION B: (To be completed by the leading researcher)

I declare that I have familiarised myself with the content of the following documentation and applied this knowledge in the completion of this application form:

☒ REC-H Standard Operating Procedures, with emphasis on the section on the responsibilities of the PRP and PI

☒ Department of Health Research Ethics Guidelines (2015)

☒ Protection of Personal Information Act (POPIA) summary

☒ Code of conduct for Researchers

☒ Research Ethics Policy

1. GENERAL PARTICULARS

TITLE OF STUDY

a) Concise descriptive title of umbrella study as approved by FPGSC (if applicable):
Analysis of Moodle Logfiles for Learning Analytics

b) Rationale for this study: briefly (300 words or less) describe the background to this study i.e. why are you doing this particular piece of work. A few (no more than 5) key scientific references may be included:
Moodle logfiles record the online behaviour of students when interacting with Moodle sites (for example, date and time of access, duration of activity interaction, frequency of activity interaction). This data can be harvested and analysed to provide insight into the learning behaviour of individuals as well as groups of students. The analysis results have the potential to influence future learning and teaching techniques. In particular, this data can be used to provide students and educators with a summarised dashboard of current and future predicted academic progress (Sub-study 1) as well as be used to predict the preferred learning style of students (Sub-study 2), the latter of which can be used to customise future learning and teaching interventions.

c) **This application focusses specifically on the procedure in which human subjects will be participating** (and not on any other procedures of the study nor necessarily on the study as a whole). Describe the placement of ***this application for ONLY the data collection from human participants*** in the context of the above-mentioned study (see 1 a) above), i.e. describe the contribution of the data collection from human participants to the overall study.
No data is collected directly from any human participant at any point in time. The data that is required is anonymised secondary data stored in Moodle logfiles. In particular, anonymised secondary data for the period 2019 – 2021 for the modules Module 101 and Module 102 is the only data that would be required.

RESEARCHERS:

Please note - The Protection of Personal Information Act, 2013 (POPI Act) has been promulgated and implemented on 1 July 2020. All personal identifiable information provided by you shall be treated in accordance with this statute and only used for research ethics application and/or reporting processes, as indicated in the University's Privacy Policy. By providing your information, you are giving your consent for the use of all of your personal identifiable information, provided to the University, for the aforesaid purposes.

PRIMARY RESPONSIBLE PERSON (PRP)

d) PRP identification and affiliation details:
12345 A N Other email@mandela.ac.za
Faculty **Other (Please specify)**
Department (or equivalent): Some Dept

PRINCIPLE INVESTIGATORS AND CO-WORKERS

e) For each sub-study, provide the PI identification and affiliation details in the appropriate places (remove unused rows* from row 2 onwards from the table below, or add additional rows** to the table if there are more than 15 sub-studies). For added rows, provide sequential reference numbers for additional sub-studies. The references must be correct and accurate across this application as well as the related form RECH-003/S.

** To remove rows, highlight the rows/cells in rows to be removed, click mouse right button, select DELETE CELLS/ROWS and follow the prompts*
** To add a row, in the cell with …/U-15 in it, click mouse right button, select INSERT then INSERT ROWS BELOW. Add the required details.*

Reference	Staff/student number	Name	Email address	Faculty	Department
.../U-01	12345678	Some Student	S12345678@mandela.ac.za	Other (Please specify)	Some Dept
.../U-02	2215678	Another Student	S2215678@mandela.ac.za	Other (Please specify)	Some Dept

f) Name(s) and affiliation(s) of all other co-workers (e.g. co-investigator/assistant researchers/supervisor/co-supervisor/promoter/co-promoter/participant recruiter, etc). If names are not yet known, state the affiliations of the groups from which they will be drawn, e.g. Interns/M-students, etc. and the number of persons involved:
I am the supervisor for both PIs

STUDY DETAILS

g) Scope of study: **Local**
In the case of an International study, include evidence of the ethics approval / plan for such approval in the other country(ies) in *Appendix 4*

h) Purpose of study: **Honours**
If **Other**, please specify: _____

i) Funding : **No specific funding**
Source of funding:**Not applicable**
Does the sponsor of the study have a vested interest in the study: **No**
If YES, describe the extent of the interest and how this risk is to be managed. **Not applicable**

j) Are there any restrictions or conditions attached to publication and/or presentation of the study results? **No**
If YES, elaborate (any restrictions or conditions contained in contracts must be made available to the Committee in *Appendix 5*): **Not applicable**

METHODOLOGY

Full approved overarching research proposal for the umbrella study to be included as Appendix 1. This proposal should clearly indicate the contribution of each sub-study to the umbrella study. Relevant sub-study protocols to be described in Appendices supported by form RECH-003/S (together with relevant supporting documentation), one submission per sub-study.

2. ETHICAL AND LEGAL ASPECTS

a) The DoH Research Ethics Guidelines (2015) pp 12 lists a number of documents relevant to ethical and legal aspects of research studies. It is advised that the PRP peruse these documents and list below those that are deemed relevant to this umbrella study.

The following documents are relevant and will be included in the references of any publication emanating from this study. **Not applicable**

b) The PRP declares that (s)he is familiar with at least the contents of the Belmont Report and that it will be included in the references: **Yes**
If NO, motivate: **Not applicable**

I would like the REC-H to take note of the following additional information: **The following ethical considerations are applicable to the use of the secondary data:**
1. The Moodle logfile data entries will be de-identified prior to the researchers having access to the data.
2. The results of the data analysis (by means of computing algorithms) will be in a summarised form and the summaries will not allow the re-identification of individual participants in any way.
3. The use of the data to produce the summaries will not result in any damage and/or distress to individual participants or participant groups. The summaries themselves will not result in any damage and/or distress

to individual participants or participant groups.
4. The summaries will only be published in an internal Honours treatise, to be examined by 2 academics of the Some Department.
5. The summaries will present data in a form that cannot be interpreted as being sensitive.
6. Historical data is necessary to allow for a sufficiently large sample of data to be analysed so as to prevent any biases and/or prejudices that could lead to inaccurate conclusions.
7. The data collection activity involves no direct contact with any participant.
8. Due to the historical nature of the secondary data (2019 – 2021), it will be close to impossible to obtain explicit consent from all affected individuals since the majority of them would have already graduated and are no longer associated with the University as registered students. The small proportion of students currently on campus in 2022 who could be approached for and might grant explicit consent will be a sample of students who have progressed onto postgraduate studies, which might result in biased findings and ultimately undermine the benefits of the research which is aimed at a more diverse sample of participant data.

3. DECLARATION

I am aware that data collection for any sub-study will only commence once final approval for the umbrella study has been granted and that the PI is in receipt of an approval letter for the relevant sub-study. Retrospective approval is not permitted.

I declare that I am familiar with and support the protocols of all sub-studies appended to this submission.

I am not aware of potential conflict(s) of interest which should be considered by the Committee.
If affirmative, specify: **Not applicable**

05 September 2022

SIGNATURE: **A N Other** (Primary Responsible Person) Date

4. SCRUTINY BY FACULTY AND INTRA-FACULTY ACADEMIC UNIT

This umbrella study and associated sub-studies have been discussed, and are supported, at Faculty and Departmental (or equivalent) level. This is attested to by the signature below of a Faculty (e.g. FRTI, FPGSC, or similar) and Departmental (e.g. HoD) representative, neither of whom may be a previous signator.

NAME and CAPACITY (e.g. HoD)	SIGNATURE	Date
NAME and CAPACITY (e.g. Chair:FacRTI/FPGSC)	SIGNATURE	Date

5. APPENDICES

In order to expedite the processing of this application, please ensure that all the required information, as specified below, is attached to your application. You are required to please clearly label each Appendix in the top right hand corner of all supporting documentation and retain the numbering order, transferring page numbers to the Supporting Documentation table on pp 2 of this application. Any deviation from this requirement may result in a delay in the review and approval of the application.

APPENDIX 1: Umbrella study research proposal (approved by FPGSC, mandatory)

Attach the full protocol and methodology to this application, as "Appendix 1". The proposal should clarify the contribution of each sub-study to the overall umbrella study.
APPENDIX 2: International ethics approval (if applicable)
If applicable, attach the required information to your application, as "Appendix 2".
APPENDIX 3: Restrictions/conditions applicable to publication of results (if applicable)
If applicable, attach the required information to your application, as "Appendix 3".
APPENDICES 4 – 6: Any additional and relevant supporting documentation for the umbrella study(if applicable)
If applicable, attach the required information to your application, as a clearly labelled Appendix and refer to such from within the application form.
APPENDIX 7: FPGSC Reviewer comments and communications (mandatory)
Attach the required information to your application, as "Appendix 7".
APPENDIX 8/U-*nn*: Sub-study Application (mandatory for each distinct type of sub-study, i.e. multiple sub-studies that are substantially similar in recruitment, enrolment and data collection procedures may submit a shared study application) together with relevant supporting documentation (refer to form RECH-003/S)
Attach the required information to your application, as "Appendix 8/U-*nn*", where *nn* is the reference of the sub-study(ies). With reference to form RECH-003/S, all Appendices related to a distinct type of sub-study must appear together.

NELSON MANDELA UNIVERSITY

APPLICATION FOR APPROVAL: SUB-STUDY OF UMBRELLA PROJECT
NELSON MANDELA UNIVERSITY RESEARCH ETHICS COMMITTEE (HUMAN)

SECTION A (FOR OFFICIAL USE ONLY)					
Umbrella application reference code: (*To be completed by a representative from the Faculty Postgraduate Studies Committee (FPGSC)*)	**H** HUMAN	..... YEAR	..... FACULTY	..... DEPARTMENT	...../U NUMBER

Sub-study reference code(s) for which this application is relevant (remove unused rows from/add additional rows to this table if required)
H YY - FAC - DEP - nnn **/U-**xx
H YY - FAC - DEP - nnn **/U-**xx
H YY - FAC - DEP - nnn **/U-**xx
H YY - FAC - DEP - nnn **/U-**xx
H YY - FAC - DEP - nnn **/U-**xx
H YY - FAC - DEP - nnn **/U-**xx
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H YY - FAC - DEP - nnn **/U-**xx
H YY - FAC - DEP - nnn **/U-**xx

Supporting Documentation Included

Document	Page reference
Sub-study(ies) Application Form	3
Appendix 8/U-*01 and 02*.1: Sub-study(ies) Research Proposal (mandatory, 1 for a group of sub-studies that have a research proposal that is essentially the same)	As per Appendix 1 of RECH-003/U
Appendix 8/U-*nn*.2: Data collection instruments (mandatory, 1 set for a group of sub-studies that have instruments that are essentially the same)	N/A
Appendix 8/U-*nn*.3: Evidence of Researcher Competence for each sub-study in the group (if applicable)	N/A
Appendix 8/U-*nn*.4: Consent form(s) (mandatory, 1 set for a group of sub-studies that have consent forms that are essentially the same)	N/A
Appendix 8/U-*nn*.5: Assent form(s) (if applicable, 1 set for a group of sub-studies that have assent forms that are essentially the same)	N/A
Appendix 8/U-*nn*.6: Budget for reimbursement/remuneration/incentives for each sub-study (if applicable)	N/A
Appendix 8/U-*nn*.7: Gatekeeper/Permission for access/Institutional permission, etc draft letters (mandatory, 1 set for a group of sub-studies that have gatekeeper/ permission for access/institutional permission forms that are essentially the same)	As per Appendix 4 of RECH-003/U
Appendix 8/U-*nn*.8: Recruitment information (mandatory, 1 set for a group of sub-studies that have recruitment information that is essentially the same)	
Appendix 8/U-*nn*.8a: Written information at point of recruitment	N/A
Appendix 8/U-*nn*.8b: Oral information at point of recruitment	N/A
Appendix 8/U-*nn*.9: Enrolment information (mandatory, 1 set for a group of sub-studies that have enrolment information that is essentially the same)	
Appendix 8/U-*nn*.9a: Written information at point of enrolment	N/A
Appendix 8/U-*nn*.9b: Oral information at point of enrolment	N/A

SECTION B: (To be completed by the group of researchers who are the primary investigators (PIs) of the group of sub-studies to which this application refers, in consultation with supervisors, if applicable)

We (the PIs and supervisor(s)) declare that we have familiarised ourselves with the content of the following documentation and applied this knowledge in the completion of this application form:

☒ REC-H Standard Operating Procedures, with emphasis on the section on the responsibilities of the PRP and PI

☒ Department of Health Research Ethics Guidelines (2015)

☒ Protection of Personal Information Act (POPIA) summary

☒ Code of conduct for Researchers

☒ Research Ethics Policy

1. GENERAL PARTICULARS

TITLE(S) OF SUB-STUDY(IES)

a) For each sub-study that is substantially similar in recruitment, enrolment and data collection procedures, provide the reference and a concise descriptive title of the sub-study as approved by FPGSC (if applicable). References must correspond with those appearing in the associated form RECH-003/U (Section 1 e). Remove unused rows* from row 2 onwards from the table below, or add additional rows** to the table if there are more than 8 sub-studies for which this application is relevant).

** To remove rows, highlight the rows/cells in rows to be removed, click mouse right button, select DELETE CELLS/ROWS and follow the prompts*
*** To add a row, in the cell with …/U-8 in it, click mouse right button, select INSERT then INSERT ROWS BELOW. Add the required details.*

Reference	Sub-study Title
…/U-01	**Visualising Current and Future Predicted Academic Progress from Moodle Logfiles**
…/U-02	**Determining Preferred Learning Style from Moodle Logfiles**

SUPERVISOR(S):

Please note - The Protection of Personal Information Act, 2013 (POPI Act) has been promulgated and implemented on 1 July 2020. All personal identifiable information provided by you shall be treated in accordance with this statute and only used for research ethics application and/or reporting processes, as indicated in the University's Privacy Policy. By providing your information, you are giving your consent for the use of all of your personal identifiable information, provided to the University, for the aforesaid purposes.

b) For each of the above sub-studies, provide the supervisor identification and affiliation details in the appropriate places (if applicable). References must correspond with those appearing in the associated form RECH-003/U (Section 1 e). Remove unused rows* from row 2 onwards from the table below, or add additional rows** to the table if there are more than 8 sub-studies).

** To remove rows, highlight the rows/cells in rows to be removed, click mouse right button, select DELETE CELLS/ROWS and follow the prompts*
*** To add a row, in the cell with …/U-15 in it, click mouse right button, select INSERT then INSERT ROWS BELOW. Add the required details.*

Reference	Supervisor staff number	Name	Email address	Faculty	Department
…/U-01 and 02	12345	A N Other	email@mandela.ac.za	Other (Please specify)	Some Dept

STUDY DETAILS

c) Date of commencement of data collection: **2022/09/12**
Anticipated duration of data collection in months: **No commencement date or duration is relevant since the data required is anonymised secondary historical data currently stored in a database. The data will be used for analysis until the end of January 2023 at the latest.**

d) Objectives of ONLY the ***data collection procedure*** of the study for which this application is relevant (i.e. the major objective(s) of the evaluation/experiment/survey, etc for which ethics clearance is required):

Have access to an existing large volume of anonymised secondary historical data for Moodle logfiles for modules Module 101 and Modul1 102 for data analysis purposes.

METHODOLOGY (Full approved research proposal for sub-study/group of sub-studies to be included as *Appendix 8/U-01 and 02.1*)

e) **Recruitment process** (describe in detail the manner in which individual human subjects will be identified and approached for inclusion in the study):
Not applicable. The historical secondary data source already exists.

f) State the minimum and maximum number of participants involved. In the cases of a mixed methodology being used, for each data collection phase/method/technique/participant grouping/sub-study, list the phase/method/technique/ participant grouping/sub-study and indicate the required number of participants for the relevant phase/method/technique/participant grouping/sub-study in the appropriate places below.
Min: **Not applicable** Max: **Whatever the volume of the historical secondary database is**

g) **Sampling Strategy** (provide a detailed motivation as to how the minimum and maximum sample sizes given in 1 f) above are determined. Reference may be made to key scientific sources.)
Anonymised historical secondary data for Module 101 and Module 102 Moodle logfiles for the period 2019 - 2021

h) **Enrolment process** (describe in detail the manner in which volunteers will be selected and enrolled for participation. Include in the description any strategies to be used should the minimum number of participants not be reached): **Not applicable**

i) **Data collection process** (describe in detail the procedure to be followed while collecting data from participants. Copies of all data collection instruments to be included as *Appendix 8/U-01 and 02.2*): **As described in form RECH-003/U. No data collection instruments relevant.**

j) **Data analysis** (provide details on the technique(s) to be applied in order to analyse the collected data):
Customised digital data analysis tools have been developed to analyse the logfile data to provide results relevant to learning analytics processes

k) **Data reporting** (provide details on the technique(s) to be applied in order to report on findings): **Demonstration of proof of concept to appear in Honours treatise**

2. RISKS AND BENEFITS OF THIS STUDY

a) Is there any risk of harm, embarrassment or offence, however slight or temporary, to the participant, third parties or to the community at large? **No**
If YES, state each risk, and for each risk state i) whether the risk is reversible, ii) whether there are alternative procedures available and iii) whether there are remedial measures available.
Not applicable

b) Does the person administering the project (PI and/or supervisor) have previous experience with the particular risk factors involved? **No**
If YES, please specify: **Not applicable**
If NO, please specify what measures will be taken to address the deficiency in experience: **No risk to participants due to anonymised secondary nature of the data**
Include in *Appendix 8/U-01 and 02.3* evidence/motivation of researcher(s) expertise to manage the identified risks in particular and the data collection procedures in general.

c) List any ethics training acquired by the supervisor in the past 3 years: **All basic courses as prescribed by RECH**
List any ethics training acquired by the PI in the past 3 years: **None – junior postgraduate student who is not collecting any data directly from human participants**

d) Are any benefits (temporary, permanent or otherwise) expected to be transferred to the **participant as a result of the data collection procedure** (e.g. improved health, mental state, financial etc.)? **No**
If YES, please specify the benefits: **Not applicable**

e) Describe the level to which the study endeavours to promote social and/or ethical value, in particular to the benefit of the community from which participants are drawn: **Has the potential to influence learning and teaching environments, but this falls outside the current scope of the study**

f) Will you be using equipment of any sort? **No**
If YES, please specify: **Not applicable**

If mechanical methods of observation be are to be used (e.g. one-way mirrors, recordings, videos etc.), will participant's consent to such methods be obtained? **Yes** If NO, justify: **Not applicable**

g) Will any article of property, personal or cultural be collected in the course of the project? **No**
If YES, please specify: **Not applicable**

Describe what will be done with the article of property upon conclusion of the data collection process: **Not applicable**

h) Describe the process to be followed in the case of any incidental findings relevant to individual participants: **Not applicable**

i) Is there any risk of harm, however slight or temporary, to the researcher while conducting the data collection exercise? **No**

If YES, state each risk and for each risk state i) whether the risk is reversible, ii) whether there are alternative procedures available and iii) whether there are remedial measures available.

Not applicable

j) Is any insurance available for research related injuries for participants and/or researchers? **No**

If YES, please specify: **Not applicable**

If NO, please specify what measures will be taken to address the deficiency in availability of insurance: **Not applicable; no direct contact with human participants**

3. TARGET PARTICIPANT GROUP

a) According to your knowledge, has the chosen participant group participated in any previously approved research? **No**
If YES, briefly describe the study, indicate when it was conducted (year is sufficient) and include reference to the work/ethics clearance number (if known): **Not applicable**

b) **Inclusion criteria**: describe particular characteristics that are required to be present in participants in the target group (e.g. particular age, cultural derivation, background, physical characteristics, disease status etc.): **Be registered for Module 101 and/or Module 102 in any of the years 2019 – 2021 and participated in Moodle activities to allow for capturing of behaviour in Moodle logfiles**

c) **Exclusion criteria**: describe particular characteristics (not listed in 3 b) above) that will automatically exclude volunteers from participation (e.g. particular age, cultural derivation, background, physical characteristics, disease status etc.) please specify: **Not applicable**

d) Are participants drawn from Nelson Mandela University students? **Yes**

If participants are drawn from specific groups of students, please specify: **Records of behaviour sources from anonymised secondary data (Moodle logfiles)**

Are participants drawn from Nelson Mandela University staff? **No**

If participants are drawn from specific groups of staff, please specify: **Not applicable**

e) Are participants drawn from a primary/secondary school population? **No**
If YES, please specify (include the name and geographical region of the school): **Not applicable**

f) If participants are drawn from an institutional population (e.g. hospital, prison, mental institution), please specify: **Not applicable**

g) If participants are drawn from any particular/unique cultural community (e.g. particular nation, social group, etc), please specify how consideration has been given to the inclusion of a relevant cultural advisor in the data collection procedure: **Not applicable**

h) If any records will be consulted for information to complement the data collected, please specify the source of records: **Not applicable**

i) Will each individual participant know his/her records are being consulted? **No**
If YES, state how these records will be obtained: **Not applicable**
If NO, give reasons: **Data accessed is anonymised historical secondary data**

j) Are all participants at least 18 years of age? **Yes**
If NO, state justification for inclusion of minors in study: **Not applicable**

4. CONSENT and ASSENT (in the case of minors) OF PARTICIPANTS

a) **Consent**: Is consent to be given in writing? No
If YES, include the consent form with this application (*Appendix 8/U-01 and 02.4*). *Refer to the consent form checklist for guidance on the expected contents of such a consent form*.
If NO, state reasons why written consent is not appropriate in this study. Anonymised historical secondary data

b) **Assent (if any participant is younger than 18 years of age)**: Is assent to be given in writing? No
If YES, include the assent form with this application (*Appendix 8/U-01 and 02.5*). *Refer to the assent form checklist for guidance on the minimum contents of such an assent form*.
If NO, state reasons why written assent is not appropriate in this study. Not applicable

c) Are any participant(s) subject to legal restrictions preventing them from giving effective informed consent? **No**
If YES, please justify: **Not applicable**

d) Do any participant(s) operate in an institutional environment, which may cast doubt on the voluntary aspect of consent? **No**
If YES, state what special precautions will be taken to obtain a legally effective informed consent: **Not applicable**

e) Do any participant(s) exist in a power relationship with the PI/PRP/supervisor, which may cast doubt on the voluntary aspect of consent? **No**
If YES, state what special precautions will be taken to obtain an effective informed consent: **Not applicable**

f) Will participants receive reimbursement/remuneration/incentives for their participation? **No**
If YES, justify and state on what basis the reimbursement/remuneration/incentives is/are calculated, and how the accuracy of the information can be guaranteed. If applicable, include a budget of such reimbursement/ remuneration/incentives (*Appendix 8/U-01m and 02.6*) to enable the assessment of whether such reimbursement/ remuneration/incentives are reasonable and/or required. **Not applicable**
How will the exclusion of the reimbursement/remuneration/incentive(s) from the study possibly affect the study's outcome? **Not applicable**

g) Which gatekeeper(s)* will be approached for initial permission to gain access to the target group? (e.g. principal, nursing manager, chairperson of school governing body, etc. Copies of gatekeeper **DRAFT**** letters to be included in *Appendix 8/U-01 and 02.7*) **Senior Specialist: Business Analyst, NMU ICT Services (Mr Greg Saunders) – letter for permission to access data included with form RECH-003/U**

* *Standard practice for Nelson Mandela University student/staff participants is a selection of one of the following: i)* ***DVC:Research, Innovation and Internationalisation*** *for staff and/or student participants across more than a single Faculty (dvc.re@mandela.ac.za); ii)* ***Executive Dean*** *for student participants from multiple Departments in the same Faculty; OR iii)* ***Head of Department*** *for student participants from a single Department*.

The gatekeeper for access to Nelson Mandela University student database data for the purposes of research is either Student Records or Legal Services.

** *Gatekeepers shall not be approached for permission to access potential participants until Ethics approval has been acquired. Upon Ethics approval being granted and thereafter gatekeeper permission being received, copies of such completed permission letters must immediately be submitted to the REC-H secretariat prior to the commencement of data collection activities.*

h) Do you require consent of an institutional authority for this study? (e.g. Department of Education, Department of Health, etc. Copies of institutional permission **DRAFT*** letters to be included in *Appendix 8/U-01 and 02.7*) **No**
If YES, specify: **Not applicable**

* *Institutions shall not be approached for permission to access potential participants until Ethics approval has been acquired. Upon Ethics approval being granted and thereafter institutional permission being received, copies of such completed permission letters must immediately be submitted to the REC-H secretariat prior to the commencement of data collection activities.*

5. INFORMATION TO PARTICIPANTS

a) What information will be offered to the participant at point of **recruitment** (i.e. before he/she consents to participate)? (Attach written information given as (*Appendix 8/U-nn.8a*) and any oral information given as (*Appendix 8/U-nn.8b*))

b) Who will provide this information to the participant? (Give name and role)
Not applicable Data accessed is anonymised historical secondary data

c) Will the information provided be complete and accurate? **Yes**
If NO, describe the nature and extent of the deception involved and explain the rationale for the necessity of this deception: **Not applicable**

d) What information will be offered to the participant at point of **enrolment** (i.e. when he/she consents to participate)? (Attach written information given as (*Appendix 8/U-nn.9a*) and any oral information given as (*Appendix 8/U-nn.9b*)) **Not applicable**

e) Who will provide this information to the participant? (Give name and role)
Not applicable Data accessed is anonymised historical secondary data

f) Will the information provided be complete and accurate? **Yes**
If NO, describe the nature and extent of the deception involved and explain the rationale for the necessity of this deception: **Not applicable**

6. PRIVACY, ANONYMITY AND CONFIDENTIALITY OF DATA

a) Will the participant be identified by name in any component of the research? **No**
If YES, justify. If NO, specify the provisions made to protect the participant's rights to anonymity: **Data is anonymised**

b) Are provisions made to protect participant's rights to privacy and to preserve confidentiality with respect to data? **Yes**
If NO, justify. If YES, specify: **Data is anonymised**

c) Will data collected be stored in any way? **Yes**
If YES, please specify*: (i) By whom? (ii) How many copies? (iii) For how long? (iv) For what reasons? (v) How will the data be secured from unauthorised access? (vi) How are the consent/assent forms stored in relation to all other data collected? (vii) What will become of the data upon conclusion of the study (how will the data be disposed of)? (i) PRP (A N Other) (ii) 2 copies – one for each student to perform data analysis on (iii) For data analysis until end of January 2023, for record keeping for 5 years (iv) For data analysis, verification and validation purposes (v) Password protected (vi) Not applicable (vii) Destroyed (removed from PRPs computer)

* *Standard practice is that data should be stored by the PRP and supervisor for the purposes of verification and validation of such data. Deviation from standard practice requires motivation*.

d) Will stored data be made available for re-use in any subsequent research? **No**

If YES, how will participant's consent be obtained for such re-usage and how exactly will the data be re-used? **Not applicable**

e) Will any part of the data collection be conducted on private property (including shopping centres. Copies of permission to access private property **DRAFT*** letters to be included in *Appendix 8/U-nn.7*)? **No**

If YES, specify and state how consent* of property owner is to be obtained: **Not applicable**

* *Owners (or similar) of private properties shall not be approached for permission to conduct data collection activities on such properties until Ethics approval has been acquired. Upon Ethics approval being granted and thereafter owners (or similar) of private properties permission being received, copies of such completed permission letters must immediately be submitted to the REC-H secretariat prior to the commencement of data collection activities.*

f) Are there any contractual secrecy or confidentiality constraints on the data collected? **No**
If YES, specify: **Not applicable**

7. FEEDBACK

a) Will feedback be given to participants? **No**
If YES, specify whether feedback will be written, oral or by other means and describe how this is to be given (e.g. to each individual immediately after participation, to each participant after the entire project is completed, to all participants in a group setting, etc.): **Not applicable**
If NO, motivate reasons why it is not possible to provide participants with feedback. **Due to data being anonymised, no linkage with participants exists. Summarised feedback can be provided to L&T practitioners in the Department and Faculty**

b) If you are working in a primary/secondary school or other institutional setting, will you be providing teachers, school/institutional authorities or equivalent a report summarising your results*? **Not applicable**
If YES, specify, if NO, motivate:

* *A qualification manuscript, or a copy of treatise/dissertation/thesis is excluded from this response.*

8. ETHICAL AND LEGAL ASPECTS

a) The DoH Research Ethics Guidelines (2015) pp 12 lists a number of documents relevant to ethical and legal aspects of research studies. It is advised that the PI and supervisor (if applicable) peruse these documents and list below those that are deemed relevant to this study.

The following documents are relevant and will be included in the references of any publication emanating from this study. **Not applicable**

b) The supervisor(s) and PI(s) declare that they are familiar with at least the contents of the Belmont Report and that it will be included in the references: **Yes**
If NO, motivate: **Not applicable**

The supervisor(s) and PI(s) would like the REC-H to take note of the following additional information: **None**

9. DECLARATION

The supervisor(s) and PI(s) are aware that data collection for any sub-study will only commence once final approval for the umbrella study has been granted and the supervisor(s) and PI(s) are in receipt of an approval letter to this effect. Retrospective approval is not permitted.

I am not aware of potential conflict(s) of interest which should be considered by the Committee.
If affirmative, specify: **Not applicable**

SIGNATURE: **A N Other** (Supervisor)	**05 September 2022** Date
SIGNATURE: **Student Names** (Principal Investigator/Researcher)	**05 September 2022** Date

10. APPENDICES

In order to expedite the processing of this application, please ensure that all the required information, as specified below, is attached to your application. You are required to please clearly label each Appendix in the top right hand corner of all supporting documentation and retain the numbering order, transferring page numbers to the Supporting Documentation table on pp 2 of this application. Any deviation from this requirement may result in a delay in the review and approval of the application.

APPENDIX 8/U-*nn*.1: Sub-study(ies) research proposal (approved by FPGSC, mandatory)

Attach the full protocol and methodology to this application, as "Appendix 8/U-*nn*.1", where *nn* is the series of sub-study references for which this application is applicable.

APPENDIX 8/U-*nn*.2: Data collection instruments (mandatory, 1 set for a group of sub-studies that have instruments that are essentially the same)

Attach as "Appendix 8/U-*nn*.2", where *nn* is the series of sub-study references for which this application is applicable. Highlight in the instruments any minor differences between similar sub-studies.

APPENDIX 8/U-*nn*.3: Evidence of Researcher Expertise to conduct study for each sub-study in the group (if applicable)

If applicable, attach the required information to your application, as "Appendix 8/U-*nn*.3", where *nn* is the series of sub-study references for which this application is applicable.

APPENDIX 8/U-*nn*.4: Informed consent form(s) (mandatory, 1 set for a group of sub-studies that have consent forms that are essentially the same)

If no written consent is required, motivation is required. The intention is that you make sure you have covered all the aspects of informed consent as applicable to your work. Attach required information to your application, as "Appendix 8/U-*nn*.4", where *nn* is the series of sub-study references for which this application is applicable.

APPENDIX 8/U-*nn*.5: Informed assent form(s) (if applicable, 1 set for a group of sub-studies that have consent forms that are essentially the same)

Only required in the case of participants being minors. Attach required information to your application, as "Appendix 8/U-*nn*.5", where *nn* is the series of sub-study references for which this application is applicable.

APPENDIX 8/U-*nn*.6: Budget for reimbursement/remuneration/incentives (if applicable)

If applicable, attach required information to your application, as "Appendix 8/U-*nn*.6", where *nn* is the series of sub-study references for which this application is applicable.

APPENDIX 8/U-*nn*.7: Draft letters for institutional permissions, gatekeepers, access to private property, etc (mandatory, 1 set for a group of sub-studies that have institutional permissions, gatekeepers, access to private property, etc that are essentially the same)

Attach any draft letters required to carry out the research e.g. application for Department of Education permission for research carried out in schools, etc. Attach required information to your application, as "Appendix 8/U-*nn*.7", where *nn* is the series of sub-study references for which this application is applicable.

APPENDIX 8/U-*nn*.8: Written and/or Oral information given to human subject on recruitment (mandatory, 1 set for a group of sub-studies that have recruitment information that is essentially the same)
Attach required information to your application, as "Appendix 8/U-*nn*.8", where *nn* is the series of sub-study references for which this application is applicable. The intention is that you make sure you have covered all the aspects of written and/or oral information to be supplied to human subjects, as applicable to your work. This information must be made available at the point of recruitment and be transparent as to aspects such as inclusion/exclusion, risks/benefits, dissemination of findings, etc.
APPENDIX 8/U-*nn*.9: Written and/or Oral information given to volunteers prior to participation, at the point of enrolment (mandatory, 1 set for a group of sub-studies that have enrolment information that is essentially the same)
Attach required information to your application, as "Appendix 8/U-*nn*.9", where *nn* is the series of sub-study references for which this application is applicable.
APPENDICES 8/U-*nn*.10, 8/U-*nn*.11 and 8/U-*nn*.12: Any additional and relevant supporting documentation for the sub-study(ies) (if applicable)
If applicable, attach the required information to your application, as a clearly labelled Appendix and refer to such from within the application form.

Analysis of Moodle Logfiles for Learning Analytics

Rationale for the Study

Moodle logfiles record the online behaviour of students when interacting with Moodle sites (for example, date and time of access, duration of activity interaction, frequency of activity interaction). This data can be harvested and analysed to provide insight into the learning behaviour of individuals as well as groups of students. The analysis results have the potential to influence future learning and teaching techniques. In particular, this data can be used to provide students and educators with a summarised dashboard of current and future predicted academic progress (Sub-study 1) as well as be used to predict the preferred learning style of students (Sub-study 2), the latter of which can be used to customise future learning and teaching interventions.

Study Objectives

The main objective is to analyse the historical data in Moodle logfiles for 2 selected modules in order to answer the following questions:

- How can Moodle logfile data be used to inform students and educators via a dashboard of the current and future predicted overall academic progress (Sub-study 1)?
- How can Moodle logfile data be used to determine the preferred learning style of students (Sub-study 2)?

Methodology

Both sub-studies require access to the same set of historical secondary data, anonymised to remove all links with student individuals. The set of Moodle logfile data to be accessed is that for the period 2019 – 2021, and for the modules Module 101 and Module 102. These modules have been selected since they use a representative and diverse sample of Moodle activities upon which the analysis of the sub-studies will rely.

Permission for access to the anonymised Moodle logfile data will be requested from ICT Services (Appendix 4). Upon receiving the data, the PI of each sub-study will make use of customised digital tools for the analysis of the data. The PI of Sub-study 2 requires a mapping of each module activity to learning style characteristic(s) in order to determine preferred learning styles from the Moodle logfile data. This information will be provided by the lecturer of the modules for the period 2019 – 2021. No other data, personal or otherwise, will be collected from the lecturer of the modules.

Sub-study 1 will result in a dashboard being created to present the current and future predicted academic progress of students (resulting from the analysis of the logfile data) in a visual format. Sub-study 2 will result in a presentation of the preferred learning style of students (resulting from the analysis of the logfile data).

The Senior Specialist: Business Analyst

Mr Greg Saunders

Re: Request for access to anonymised Moodle logfile data

Good day Mr Saunders

Two of our students from the 2022 Honours cohort in Some Department are developing systems for their qualification, each of which is reliant on access to a large volume of historical secondary data that currently exists in Moodle logfiles. Neither system requires access to any personal information of students. Each system will be analyzing the data and providing results/visualisations that has the potential to contribute to the learning analytics for the selected modules. No data will be shared with the lecturer or anyone else. The results will take the form of summaries and will only published in the submitted Honours treatise as a proof of concept.

If you are agreeable, would it be possible to have access to the following data at your earliest convenience (and preferably by September 2022):

1. Anonymised Moodle logfiles (for the purposes of valid analysis to be conducted, we require the linkages in the logfiles that currently exists in the form of student numbers between logfile entries to be retained, but to not be in the form of identifiable student numbers)
2. Historical Moodle logfiles for modules Module 101 and Module 102 only.
3. Moodle logfiles for the above listed modules for the period 2019 – 2021.

All logfile data will only be used for the purposes of this study and will be destroyed upon completion of the study (end of January 2023).

Any questions can be directed to A N Other (email@mandela.ac.za), who is the supervisor of the two students.

Many thanks for considering this request in a positive light.

Regards

_____

A N Other