



E-Assessment Risk Mitigation Checklist

Recommendations of the BFH-IT department

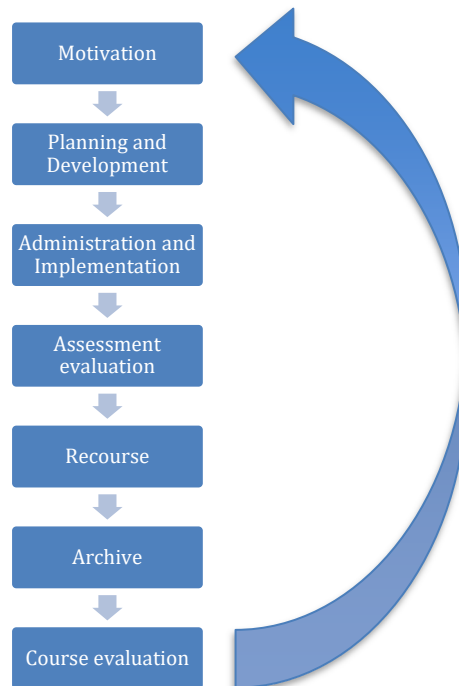
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Introduction

The purpose of this document is to guide educators into a successful implementation of assessments during a university semester. This includes going through a complete risk assessment and identifying possible mitigations. For this purpose, the right questions need to be considered before moving to the computation of the risks, while considering the mitigations which can be considered. Depending on the results of the risks, a well-informed decision can be taken.

1 Lifecycle

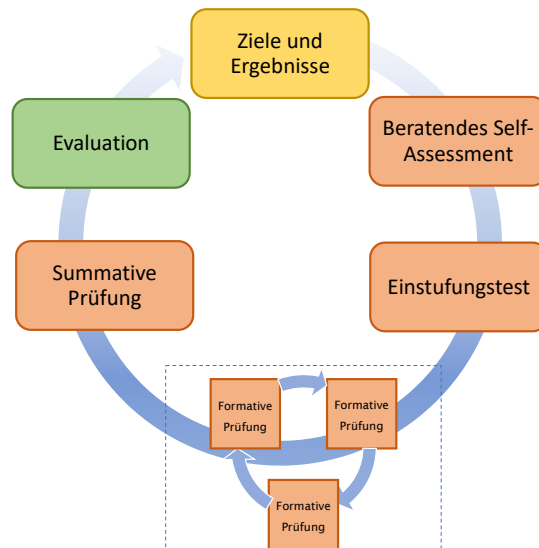
The lifecycle of an assessment can be subdivided into several steps, which can be considered independently. Nevertheless, the different steps are also related to each other, thus influencing the overall outcome. For the purpose of a risk assessment, an adapted form of the lifecycle of Merkt et al. will be considered. This lifecycle consists of the following steps.



[Ruedel2007]

The previous diagram illustrates the steps which need to be taken during one semester, regardless of the type of assessments implemented. Such a representation is used for the purpose of organising the several threats faced during the assessment periods.

A lifecycle more focused on the type of assessments is presented in the diagram bellow. Such an illustration is meant as a guide for educators planning the assessment periods during a semester. During the different steps of assessments, different types of assessments can be used, depending on the need for scalability or automation, among other criteria. A different type of assessment also brings different risks. This is where both approaches complete each other, thus providing a necessary tool to prepare for potential risks during different stages of the process.



2 Checklist – Questions

Check the box if the question is relevant to the situation.

Motivation

- Should e-assessments be used?
- Are there more than one possibility available?

Planning and Development

- Are the learning objectives clear?
- Are the learning objectives measurable?
- Are some colleagues also implementing e-assessments?
- Are the experiences of other colleagues known?
- Can I get support from the university?
- Are there clear instructions in case of technical difficulties?
- Are there workshops or trainings offered by the university for the implementation of e-assessments and the different technologies in use?
- Are there questions already available?
- Are there any guidelines for the preparation of a good e-assessment?
- Has enough time been planned for the assessment?
- Has enough time been planned for the preparation of the assessment?
- Can I avoid students to cheat?
- Can I test the assessment from a students' perspective?

Administration and Implementation

- Is there an infrastructure for e-assessment?
- Are the offered technologies known?
- Are other technologies necessary?
- Should the assessments be held on site?
- Should the assessments be held at home?
- Are there enough workstations for the students?
- Can the students be told to bring their own devices?
- Are these devices enough equipped or they need to install some software?
- Should some hardware be rented?
- Do all students have access to the e-assessment environment?
- Is an internet connection necessary?
- Can the connection be secured against any external manipulation?
- Are there guidelines in case of difficulties?
- Is there a technical support available during the assessment?
- Are there enough rooms for all students?
- Is there a test center?
- Are the invigilators known?

3 Checklist – Relevant Risks

Check the box if the risk is relevant to the situation.

Motivation

- Academic staff leaving the system because of complete test redesign each academic year
- Lack of interest from academic staff
- Staff not convinced of benefit
- Lack of commitment from management
- Unrealistic budgets for delivery of CBA
- CBA system not cost effective

Planning and Development

- Assessment method not integrated into the curriculum
- CBA for a particular degree programme not acceptable to the relevant professional bodies
- Unsuitable or badly designed questions
- Examination contains errors
- Students very anxious about new assessment method
- CBA exam unacceptable to a student
- No availability of past papers for revision
- The need to use different moderation procedures for CAA not recognized
- Errors in questions
- Unrealistic schedules for delivery of CBA system
- Personnel skills shortfall (academic)
- Personnel skills shortfall (support)
- Different invigilation requirements for CAA not recognized
- Students with special needs (screen readers etc), not accommodated
- Staff try to use system with inadequate training
- No trained invigilators
- Roles and responsibilities not clear
- Students not consulted on introduction of new technologies
- Errors in wording appear, open questions
- Errors in wording appear, closed questions
- Students un-enrol themselves from the course
- Students make changes after end of exam
- Use of questions already known to students from previous exams
- Workstation collapse during exam
- Server collapse during exam
- Answer files not being stored or updated
- Answer files lost once exam complete
- A badly designed user front end

Administration and Implementation

- Students accessing CBA papers breaking network security
- Students that cannot take the exam on a computer or need more time are not accommodated
- Computer workstations too close to each other encourage viewing adjacent screens
- Module size too large for number of workstations available
- Student starts to take the wrong exam
- Student arrives late for the exam
- Inadequate access to workstations
- Unauthorised access to answer files
- Students NOT taking CBA affected by lack of access to computing resources during exam period
- Student attends correct exam but wrong session
- Students not familiar with system
- Student not registered on module, so no test available
- Past papers/practice tests available during exam
- Different exam procedures (e.g., registration and id checking) not recognized
- Communication between sets of students not addressed (between sittings of the same exam or during the exam)
- Students keep copies of exam questions
- Students distribute copies of their exam question answers - in room
- Students distribute copies of their exam question answers - external
- Students create screenshots for communication
- Leak of exam questions
- Students use other documents than allowed
- Students not submitting quiz at the end
- Computer becomes disconnected
- Student Laptop failure
- Student browser incompatibility
- Student software problem (Excel, Eclipse, ...)
- External access on students' computers (TeamViewer etc.)
- Authentication of login across internet not secure
- Different authentication between on-campus and off-campus (web based) use not recognized
- External Examiners unable to access exams across web
- Students accessing inappropriate materials (e.g., web-based) during assessment
- Students using different technical platforms (between sites, at home, Macs?)
- Students using different browsers (compatibility issues)
- Network load too high
- Spurious network failure (WIFI lost)
- E-Learning availability failure (< 10 minutes)
- E-Learning availability failure (> 10 minutes)
- Network persistently slow

Assessment evaluation

- An unbelievable result

Recourse

- No copy of individual exam in case of appeal by student available
- Students not saving files after upload on Moodle

Appendix

Each risk has been assigned one of seven categories. The category indicates at which moment during the lifecycle the given risk should be assessed.

A risk evaluation and the mitigations can be evaluated using the risk/action evaluation matrix.

Risks categories: Pedagogic (P), Operational (O), Technical and not web-based(T), Web-based (W), Financial (F), Legal (L), Stakeholder Management (M)

The risks for each step are outlined in the following tables.

Motivation

P4	Academic staff leaving the system because of complete test redesign each academic year
P7	Lack of interest from academic staff
P9	Staff not convinced of benefit
F1	Lack of commitment from management
F2	Unrealistic budgets for delivery of CBA
F3	CBA system not cost effective

Planning and Development

P1	Assessment method not integrated into the curriculum
P2	CBA for a particular degree programme not acceptable to the relevant professional bodies
P3	Unsuitable or badly designed questions
P5	Examination contains errors
P6	Students very anxious about new assessment method
P8	CBA exam unacceptable to a student
P10	No availability of past papers for revision
P11	The need to use different moderation procedures for CAA not recognized
P12	Errors in questions
O1	Unrealistic schedules for delivery of CBA system
O2	Personnel skills shortfall (academic)
O3	Personnel skills shortfall (support)
O17	Different invigilation requirements for CAA not recognized
O18	Students with special needs (screen readers etc), not accommodated
O19	Staff try to use system with inadequate training
O20	No trained invigilators
O21	Roles and responsibilities not clear

O24	Students not consulted on introduction of new technologies
O33	Errors in wording appear, open questions
O36	Errors in wording appear, closed questions
O37	Students un-enrol themselves from the course
O38	Students make changes after end of exam
O39	Use of questions already known to students from previous exams
T1	Workstation collapse during exam
T2	Server collapse during exam
T3	Answer files not being stored or updated
T4	Answer files lost once exam complete
T5	A badly designed user front end

Administration and Implementation

O4	Students accessing CBA papers breaking network security
O5	Students that cannot take the exam on a computer or need more time are not accommodated
O6	Computer workstations too close to each other encourage viewing adjacent screens
O7	Module size too large for number of workstations available
O8	Student starts to take the wrong exam
O9	Student arrives late for the exam
O11	Inadequate access to workstations
O12	Unauthorised access to answer files
O13	Students NOT taking CBA affected by lack of access to computing resources during exam period
O14	Student attends correct exam but wrong session
O15	Students not familiar with system
O16	Student not registered on module, so no test available
O22	Past papers/practice tests available during exam
O23	Different exam procedures (e.g., registration and id checking) not recognized
O25	Communication between sets of students not addressed (between sittings of the same exam or during the exam)
O27	Students keep copies of exam questions
O28	Students distribute copies of their exam question answers - in room
O29	Students distribute copies of their exam question answers - external
O30	Students create screenshots for communication
O31	Leak of exam questions
O32	Students use other documents than allowed
O34	Students not submitting quiz at the end
T7	Computer becomes disconnected
T8	Student Laptop failure

T9	Student browser incompatibility
T10	Student software problem (Excel, Eclipse, ...)
T11	External access on students' computers (TeamViewer etc.)
W1	Authentication of login across internet not secure
W2	Different authentication between on-campus and off-campus (web based) use not recognized
W3	External Examiners unable to access exams across web
W4	Students accessing inappropriate materials (e.g., web-based) during assessment
W5	Students using different technical platforms (between sites, at home, Macs?)
W6	Students using different browsers (compatibility issues)
W7	Network load too high
W8	Spurious network failure (Wifi lost)
W9	E-Learning availability failure (< 10 minutes)
W10	E-Learning availability failure (> 10 minutes)
W11	Network persistently slow

Assessment evaluation

T6	An unbelievable result
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Recourse

O26	No copy of individual exam in case of appeal by student available
O35	Students not saving files after upload on Moodle

References

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