

STAGE 4

Examination
Administration

MEASURE
LEARNING

— Meazure Learning Whitepaper



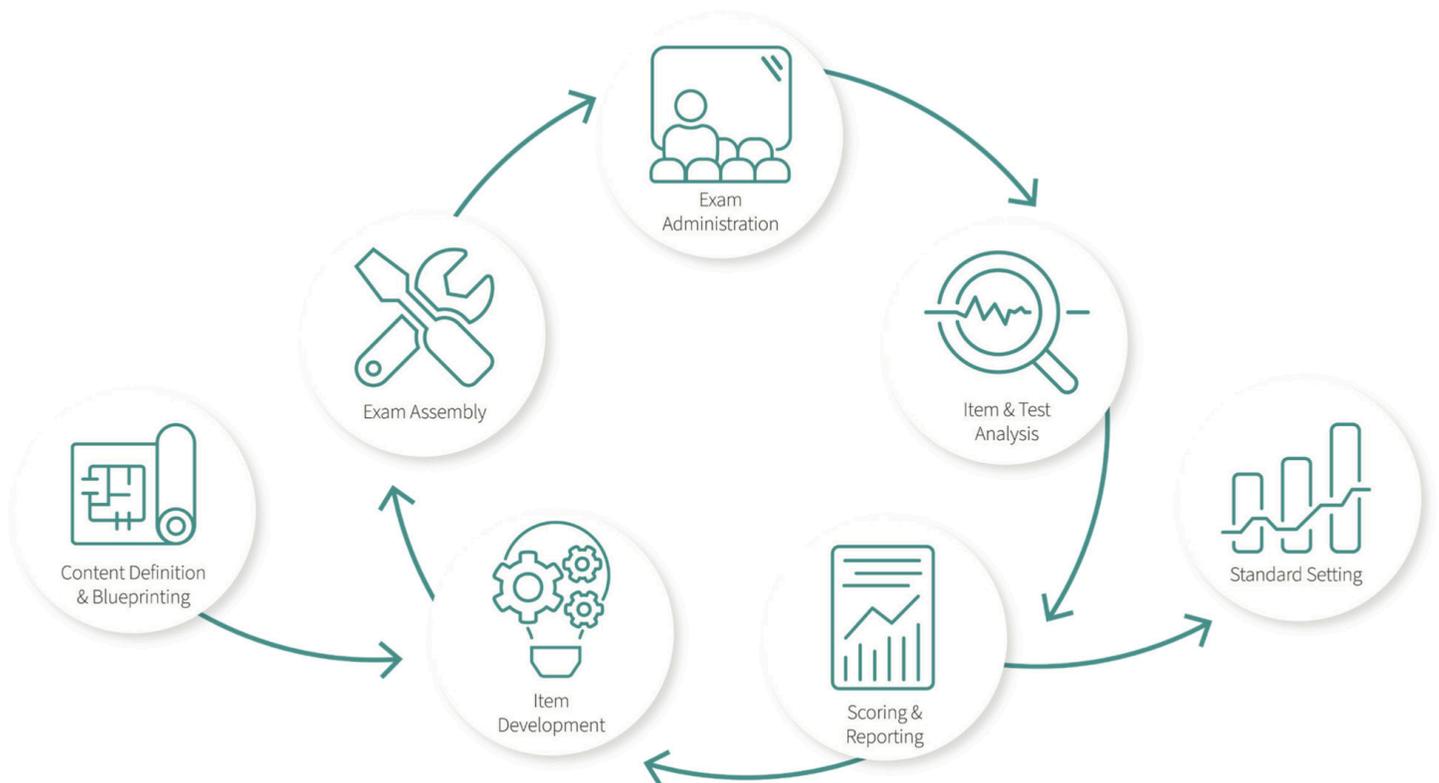


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Introduction

The Assessment Life Cycle is a way of organizing the processes involved in creating valid assessments into a series of easy-to-understand, logical stages.



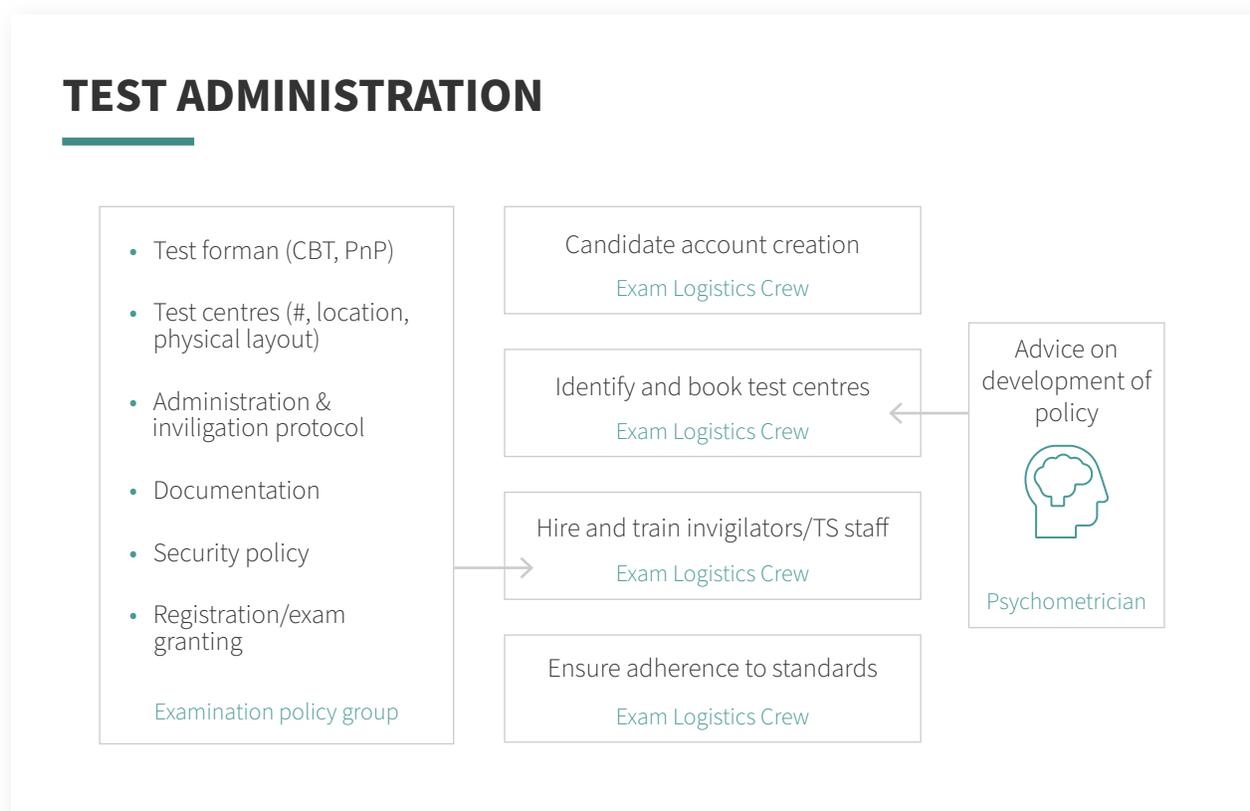
The stages we've covered so far have taken your examination from a simple idea all the way to a complete and valid examination form (or forms), which you can use to defensibly assess candidate's knowledge in a given area (as operationalized in your examination blueprint). Stage Four of the Assessment Life Cycle involves taking this newly-created and validated examination, and ensuring it is properly administered to your candidates.

Although this may sound simple, examination administration is careful work; and a good deal of planning goes into ensuring it is handled correctly. The central concern at this point in the Assessment Life Cycle is making sure that your examination is administered under the proper testing conditions; and that sensitive data pertaining to the examination content and candidates' responses are handled appropriately. If this is done correctly, the tasks subsumed under Stage Four ensure that your examination will be administered in a way that respects the stakes (or 'seriousness') of the situation - bolstering the validity and defensibility of your assessment program at large.

Stage Four of the Assessment Life Cycle involves several specific tasks, including:

- Making examination policy group decisions concerning examination administration
- Creating candidate accounts
- Identifying and booking test centres
- Setting guidelines and standards for test centres
- Setting guidelines and standards for examination proctors
- Overseeing test centre and proctoring administration logistics

To get a broad-level overview of the various elements involved at Stage Four (and the parties that are primarily responsible for each) see the figure below:



1 | Making examination policy group decisions concerning examination administration

Any disruption to proper examination administration conditions can threaten the overall validity and defensibility of your examination. Consequently, careful thought and attention needs to be given to developing administration documents and processes that will minimize the possibility of any such disruptions from occurring. Therefore, before actually administering an examination, a number of decisions need to be made concerning the way in which the examination will be presented to candidates. These decisions are traditionally handled by the examination policy group, and often centre on the following key questions:

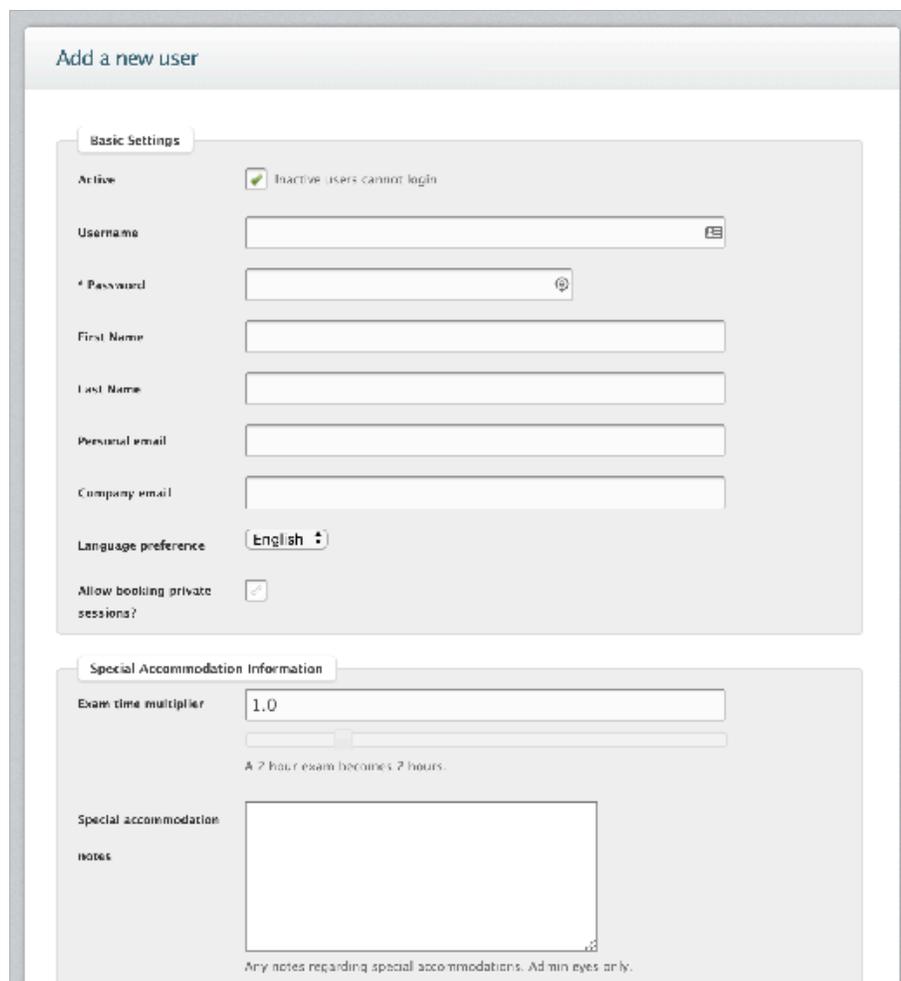
- Test format: Should the examination be paper-based or computer-based? If the latter, should the examination follow a static form approach or an adaptive approach?
- Test centres: Given the expected candidate volume, how many test centres are required (and in what specific areas)?
- Registration/examination granting: Who should be taking the examination (e.g., should it be restricted to candidates who are enrolled at an accredited institution?)? How should the listing of eligible candidates move between systems?
- Administration and invigilation protocol: How can the examination administration best conform to accepted guidelines and standards for high-stakes assessment?
- Documentation: What is the best approach to producing templates and protocols surrounding administration irregularities (e.g., “in/out” reporting, proctor statements of understanding, proctor guides, etc.)?
- Security policy: How will examination security be handled? If candidates are cheating or stealing examination content, the validity of candidate scores are called into question (undermining the defensibility of the testing program). Consequently, promoting test security is critical to ensuring the validity of the scores obtained from candidates.

In addition to the examination policy group, other parties are often involved in this decision-making process. For instance, a psychometrician normally provides review and expert guidance to the policy group. In addition, the examination engineering group may provide test security analyses (e.g., collusion detection, test centre performance analyses, etc.) in order to diagnose if and where examination security breaches may have occurred. Finally, the examination logistics crew coordinates the various processes surrounding examination booking, test centre set-up, and defensible administration.

2 | Creating Candidate Accounts

Although the specific tasks involved in creating and managing candidate accounts can vary across different assessment platforms, for the sake of illustration let's assume that the examination involves a computer-based roster or database where personal and admissibility information is maintained. In this case, the database will authenticate each candidate against an “eligibility list” of candidates who have been authorized (that is, granted permission to take the examination).

Candidate records may be entered into a central database using an interface like the one shown below:



The screenshot displays a web interface for adding a new user, titled "Add a new user". It is divided into two main sections: "Basic Settings" and "Special Accommodation Information".

Basic Settings:

- Active:** A checked checkbox labeled "Inactive users cannot login".
- Username:** A text input field with a search icon on the right.
- * Password:** A text input field with a password strength icon on the right.
- First Name:** A text input field.
- Last Name:** A text input field.
- Personal email:** A text input field.
- Company email:** A text input field.
- Language preference:** A dropdown menu currently set to "English".
- Allow booking private sessions?:** A checked checkbox.

Special Accommodation Information:

- Exam time multiplier:** A text input field containing "1.0", with a slider below it. A note below the slider reads: "A 2 hour exam becomes 2 hours."
- Special accommodation notes:** A large text area for notes. A note at the bottom reads: "Any notes regarding special accommodations. Admin eyes only."

Once cleared by the system, authorized candidates will then be provided with a username and password; which they can use to book their examination at the test centre of their choice (and on the date and time within the examination window that works best for them).

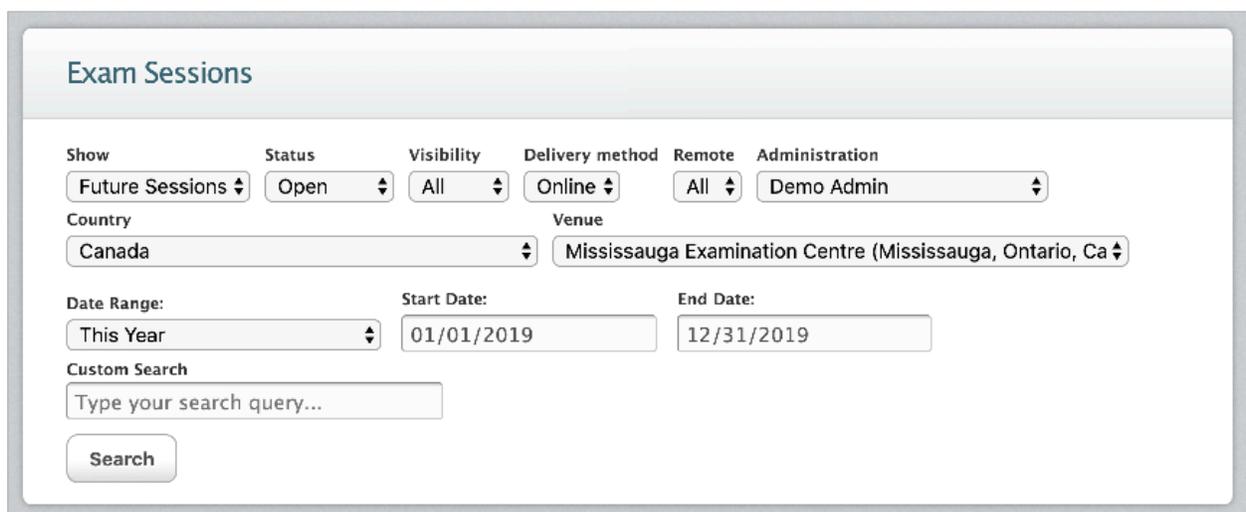
3 | Identifying and Booking Test Centres

One of the key issues that the examination policy group must decide on is where test centres will be located. Test centres refer to physical testing locations (e.g., computer labs, classrooms) that are monitored by professional proctors. Proctors are there to ensure that only authorized candidates write the examination; and that these candidates are afforded a non-distracting and secure testing environment.

Based on candidate volume, there may need to be several test centres, dotted across several specific geographical regions. Many organizations opt to have test centres available to candidates within a maximum driving distance of each school or program from which there are graduates who will be writing the examination. For example, for a dental hygiene assessment program, the credentialing body may dictate that there should always be a test centre located within a two-hour drive of any accredited dental hygiene school in the country.

In most cases, candidates use an online booking system to select the test centre where they would like to write the examination; as well as the date and time that they would like to take the examination. An example of one such online booking system is provided below:

Although candidates are usually given some choice as to when they write their examination, it is worth noting that, in many cases, these exams are only offered during specific ‘testing windows’ (e.g., three sessions may be offered each year, each over a three-day period). It is certainly possible to offer examinations on-demand (e.g., during normal test centre business hours any time during the year).



The screenshot shows a web interface titled "Exam Sessions" with various search filters. The filters are organized into rows and columns:

- Show:** Future Sessions (dropdown)
- Status:** Open (dropdown)
- Visibility:** All (dropdown)
- Delivery method:** Online (dropdown)
- Remote:** All (dropdown)
- Administration:** Demo Admin (dropdown)
- Country:** Canada (dropdown)
- Venue:** Mississauga Examination Centre (Mississauga, Ontario, Ca) (dropdown)
- Date Range:** This Year (dropdown)
- Start Date:** 01/01/2019 (text input)
- End Date:** 12/31/2019 (text input)
- Custom Search:** Type your search query... (text input)
- Search:** Search button

However, maintaining an on-demand model typically requires having many parallel examination forms of the examination in question (or using a computerized adaptive testing model), in order to keep the examination content secure.

Once a candidate selects a testing location, date, and time, they apply to take the examination. The test centre processes this request and confirms the candidate's information; after which, the candidate arrives at the designated test centre on the appropriate day and with the appropriate documents (e.g., government-issued photo ID, a copy of their examination approval letter, etc.).

4 | Setting Guidelines and Standards for Test Centres

Once a network of test centres has been established, it is crucial to ensure that each of these centres conforms to best practice standards and guidelines for high-stakes assessment. Ensuring that all test centres uphold these standards will go a long way towards ensuring the integrity of the exam administration process.

Thankfully, you don't have to develop these best practice guidelines from scratch. Many test centres – as well as organizations that manage several centres – are members of National College Testing Association (NCTA). As part of its mandate, the NCTA has outlined a series of best practices (which are subsumed under their Professional Standards and Guidelines for Test Centres). In this document, the NCTA outlines a series of over 50 criteria that need to be met by a test centre in order to conform to the most stringent of best practice standards. These include standards surrounding:

- The location of test centres (and access to them)
- The test area environment
- The security of test centre room(s)
- The security of examination content and other testing materials
- The proper use of computer-based testing equipment and space



5 | Setting Guidelines and Standards for Exam Proctors

In addition to test centre guidelines, there are also best practice guidelines for examination proctors. Proctors assist with the examination administration process by invigilating examinations at the various test centres. In doing so, these individuals play a key role in ensuring the smooth delivery of the examination.

The proctor's role is multifaceted in nature; and involves many specific tasks. Proctors receive candidates; and confirm each candidate's identity and eligibility to write the examination (e.g., checking each candidate's photo ID card against a candidate roster). Proctors also make sure that each candidate is provided with all of the materials they need to complete the examination prior to the examination starting (this may include logging a candidate into an online examination portal). Prior to the examination starting, the proctor also clarifies candidate expectations by reading a statement that covers what is expected of candidates, how long the examination will take, what the candidate should do if they finish the examination early, etc.

During the examination, the proctor's job continues. Proctors monitor candidates to ensure that they are not cheating, disturbing other candidates, or otherwise violating any rules that were outlined prior to the examination starting. Proctors also help candidates who encounter problems during the examination (for example, computer failure). If any irregularities do occur, it is the proctor's job to document these in an "irregularities report", which is reported back to the examination stakeholders (e.g., the company that oversees the test centre network).

To be successful in their role, proctors must provide professional, consistent, ethical, and courteous service to test-takers (many of whom come to the examination with some amount of anxiety) the NCTA provides a set of best practice standards for proctors. These include standards in the following areas:

- What constitutes professional and courteous behaviour in the proctor role
- The level of training that should be given to proctors
- How to handle (perceived or actual) conflicts of interest that the proctor may have (for example, if a proctor is the family member of a candidate)

6 | **Overseeing Test Centre Proctoring Admin Logistics**

If an examination is administered well, then it should appear seamlessly-coordinated from the candidates' perspective. But of course, this isn't something that occurs naturally. To run smoothly, there are a number of examination logistics that occur "behind the scenes" of the administration. This includes several individual processes that occur before, during, and after the actual examination session; and involves several different parties (including the proctors and the examination stakeholders).

Depending on whether the examination is paper-based or computer-based, the physical logistics will vary. However, there are a number of themes that are common to most examination administrations.

Weeks (or even months) before the examination is administered, physical or electronic session materials should be sent to test centre locations. These may include:

- Proctor agreement forms
- Candidate rosters
- Proctor examination interface login information and instructions (for computer-based examinations)
- Proctor examination day guides
- Templates for reporting any examination irregularities that occur
- Resources that need to be provided to candidates during the examination

During the actual administration, there is often near-constant contact between the test centres and the examination stakeholders regarding how the examination is proceeding – and whether any irregularities have occurred (e.g., candidates arriving late, Internet disruptions, etc.).

When irregularities do occur, they are generally dealt with using pre-established examination administration protocols. For example, imagine that a candidate experiences a hard drive failure that requires them to switch computers partway through the examination. There may be a protocol in place to grant the candidate a few minutes of extra time, in order to compensate for time lost due to the disruption. For computer-based examinations, the software will usually "remember" where a candidate left off during an examination. That way, when the candidate moves to another computer, they can continue from where they left off.

After the examination is administered, the test centre staff will generally check each candidate out of the examination, ensuring that they do not leave with any scrap paper or other materials that could compromise the security of the examination content. The test centre staff will also report back to the examination stakeholders regarding all irregularities that occurred; and send back all relevant documents.

Once this is all taken care of, a final test security analysis will often be conducted. To facilitate this process, a psychometrician analyzes all of the data collected from the test centres; and flags any potentially-aberrant behavior for further investigation (i.e., collusion detection).





Next Stage | Assembling your Test

The next stage in the Assessment Life Cycle involves analyzing the data collected during the administration process, in order to determine the examination's psychometric defensibility. During this stage, candidate data (i.e., data on how test takers responded to each question on the examination) are analyzed to determine how well each item is contributing the overall quality of the assessment. To facilitate this process, a psychometrician will analyze the data using various statistical indices to ensure that the examination does indeed serve as a valid assessment of the material in question. This stage will be discussed in more detail in the next white paper in this series.

Conclusion

In summary, the Assessment Life Cycle is a way of organizing the processes involved in creating valid assessments into a series of easy-to-understand, logical stages. The focus of this whitepaper was to detail the fundamental steps and key processes that are involved in the fourth of these stages (i.e., examination administration). As covered, this involves a number of specific steps, including:

- Making examination policy group decisions concerning examination administration
- Creating candidate accounts
- Identifying and booking test centres
- Setting guidelines and standards for test centres
- Setting guidelines and standards for examination proctors
- Overseeing test centre and proctoring administration logistics

Following these best practice steps – and the Assessment Life Cycle in general – will help ensure that your assessment program is valid and defensible; affording the greatest possible benefit to both your test-takers and your organization.

Let Meazure Learning help you apply the Assessment Life Cycle to your assessment program. Meazure Learning offers a full range of products and services that cover every step and process. Our clients agree: we know testing; and we will work hard to make sure that your testing program is the best that it can be.

To explore this opportunity—or for more information—please feel free to contact us at:
meazurelearning.com/services

List of psychometric services offered in Assessment Life Cycle Stage 4

At Meazure Learning, we provide a host of services to our clients that encompass each of the Assessment Life Cycle stages. Below is a list of psychometric services that Meazure Learning offers specifically for **Stage 4: Exam Administration**:

Service

Description

Paper-based to computer-based transition planning

Administering paper-based examinations is a well-established vector for examination administration. However, computer-based examination administration is increasingly-common; and affords many advantages (e.g., rapid results reporting; less printing, shipping, and storage of paper materials; and the possibility of using interactive assessment formats that are not feasible with a paper-based format).

At Meazure Learning, we have ample experience helping our clients transition from paper-based examination formats to computer-based formats. We have successfully migrated dozens of organizations from their legacy paper-based administration processes to more cutting-edge computer-based examination administration processes.

Bubble sheet design and result analysis

If you offer your examination in a paper-based format, Meazure Learning can help you with ‘bubble sheet’ design and analysis services. This can make the scanning and data processing of your candidates’ answers much simpler and more straightforward.

Collusion detection and test security analyses

Candidate cheating, and content theft can threaten the validity of any assessment program. Fortunately, there are statistical methods available that can detect whether cheating has likely occurred (and which specific test centres and candidates may have been involved).

At Meazure Learning, we have experts in collusion detection on staff; and offer a host of collusion detection and test security analyses that can help shed light on any potential security issues.