2. Typical Workflow

2.1 Creating an exam

When an instructor needs to create a multiple choice exam, Teaching Assistant is used to print blank test sheets; one for each student. These blank test sheets are handed to the class at the start of the test. Test questions could be posted on a board or printed and distributed to the students along with the test sheets.

Students write their name and fill out their student ID (if applicable) in the space provided. Each question is answered by shading the corresponding bubble on the test sheet. After completing the test, students return their marked test sheets to the instructor.

Note: KYOCERA Document Solutions recommends that black pen or #2 pencil be used to fill in sheet for best results. Sheet bubbles should be marked as completely as possible.
2.2 Automated Test Grading

When printing the required number of test sheets, Teaching Assistant will also print out an instructors “answer key” master. This page is automatically printed; the instructor can then fill out the correct answers for each question on this designated “answer key” page.

![Mark Correct Answers](image)

When ready, the instructor scans all the test sheets, along with the answer key at the MFP into Teaching Assistant. Teaching Assistant scores each student’s test and prepares a report of the results from each student. The report s can be:

a. Printed at the MFP in summary or detailed form.
b. Sent to the instructor as a PDF in an e-mail attachment.
c. Saved to a USB flash drive as a PDF file.

![Scan Print](image)

Note: When the instructor exits the Teaching Assistant application, all the files are cleared from the MFP.
3. Operation

Teaching Assistant consists of two components: one component to print the tests, the second for automated grading. The grading component will only support tests printed from Teaching Assistant.

3.1 Creating Tests

1. Open the Applications screen (by pressing the ‘Application’ key on the panel).

2. Press ‘Print Test’ button.

3. Enter values for:
   a. Number of Questions to appear on the bubble sheet test page. Instructors can select from 2-500 questions.
   b. Number of Answer Choices for each question. Instructors can designate from 2-8 choices. All questions will have the same number of choices when printed. Note: Multiple choice/multiple answer test questions are valid. True/False questions are valid as well using the first two bubbles in the row.
   c. Number of Students taking the test. No limit is set for number of students.

4. Select additional options:
   a. Check ‘Print Answer Key’ if a blank answer key page is required for grading. Default mode for Teaching Assistant will automatically print an answer key.
b. Check the ‘Print Student ID bubbles’ checkbox if students are required to enter their IDs on the answer sheets. Default mode for Teaching Assistant will not enable this feature.

5. Press Green button to start printing (or touch the Print button on the panel, or press the Enter key on the keypad).
6. MFP will now print the blank test sheets.
7. Blank sheets (excluding the answer key page) are distributed to the class, along with the test questions.
8. Students select an answer by shading the corresponding bubble with either a pencil or pen.  
   Note: KYOCERA Document Solutions recommends that black pen or pencil be used to fill in sheet for best results. Sheet bubbles should be marked as completely as possible.

**Printing Options**

To temporarily change the test title, press the *Title* button. The test title can be changed to test-specific text such as “Math Exam – 5th Grade”. The title will be printed on all test sheets and will also appear on reports that are printed after grading. Changes made to the Title and Info fields are temporary and will revert to “Kyocera Teaching Assistant” every time the application is launched.

Up to 45 characters can be entered in the Title field. The Info field is printed in smaller font and can accommodate up to 70 characters of text.

Printing of test sheets can be tracked in a cost control system by entering a valid account code in the Account Code field. This code must correspond to a code setup on the MFP. The code could relate to a department, individual or function in the organization.

If Teaching Assistant is required to use an Account Code for all printing, it can be entered in the System Settings screen. To access the System Settings screen, please press the System Settings button and authenticate as an administrator.
3.2 Grading Tests
1. Teacher must fill out the correct answers on the ‘Answer Key’ page. Ensure all questions are answered.
2. Open the Applications screen (accessed by pressing the ‘Application’ key on the panel).

![Application Screen]

3. Press ‘Grade Test’ button.
4. Arrange the test sheets so that they are all (a) facing the same side, (b) aligned the same way.
5. Place answer key on top of the stack. Note: Teaching Assistant will recognize the answer key no matter where it is placed in stack.
6. Place all the test sheets and answer key page in the document processor:
   a. Printed side face-up.
   b. Long-edge of the paper in the document processor. Pages must be fed in “portrait” position for processing.

![Document Processor Screen]

7. Press the Green button (or, the Enter key on the keypad, or the Scan button on the panel).
8. After scanning is completed, press the ‘Finished’ button on the panel (or press the enter key on the keypad). Once you have selected ‘Finished’, Teaching Assistant will begin analyzing scanned data.

9. After analysis and grading is completed automatically, four options are presented for report generation.
10. The Four Choices include: Print Summary; Print Details; Email Results; Save to USB.
   a. Press ‘Print Summary’ button to print result summary. This report will provide key information on student scores.
   b. Press ‘Print Details’ button to print a detailed summary. This report will include the graded tests with incorrect answers marked.
   Note: Additional information about the summary and detailed reports is in Section 4.
   c. Press ‘Email Results’ button to send the report to an email address. The MFP will prompt to enter the destination email address.
      (Note: SMTP settings must be configured as described in section 6.1 for this feature to work.)
   d. Press ‘Save to USB’ to save the results (as a PDF) to a USB flash drive. The USB drive must be inserted in the MFP prior to pressing the Save to USB button. After the files are saved, the drive must be ‘cleanly-ejected’ by pressing the ‘Remove’ button on the Job
Grading Options

Note: Changes made to these options are temporary and will revert to defaults each time Teaching Assistant is launched. To make permanent changes, refer to section on Configuring Grading Application.

To disable printing the correct answers on detailed reports, uncheck the “Print Correct Answers” check box. If grade letters are not required, uncheck the “Print Grade Letter” check box in the options screen. To edit the percentage threshold for each grade letter, press the grade button and edit the numeric value.
4. Reports
After the grading process is complete, Teaching Assistant will allow the instructor to either print the reports at the MFP or export them in PDF format. Exported reports can be sent directly to an instructor as e-mail attachments or saved to USB flash drives.

4.1 Summary Report
The Summary Report enables an instructor to tell at a glance how the students fared, the difficulty of the overall test and identifies the easiest and hardest questions for the students. Summary reports consist of the following elements.

Test Scores Table
Lists each student's score as points, percentage and percentile.

- The ‘No.’ column contains the student ID as marked on the ID bubbles.
- The ‘Name’ column contains student names as written by each student - in the student’s own handwriting.
- The table is ordered by score, ranking the highest scoring student first.
Test Scores Chart
Bar-graph of student scores ordered by student performance. Instructors can easily review opportunities for extra assistance and which students performed very well.

Histogram of grades
Shows the number of students who scored each grade letter: A, B, C, D and F. (Note: Grades in the histogram report will be based on the thresholds for each letter grade set at the device.)
Test Statistics
Statistics on test questions help the instructor focus on areas of the test where most students had difficulty.

- Lowest and highest scores.
- Average and Median scores.
- List of 10 hardest and 10 easiest questions, based on actual cumulative test results.

Response Frequencies
Table showing the percentage of students selecting a particular answer choice, for each question. This information is useful to analyze patterns in student responses.
4.2 Detailed Report

The Detailed Report is a copy of each student’s test sheet with incorrect responses highlighted. The total score is printed at the top of each page.

Note: On Color MFPs, the highlight boxes will be shown in red; on B&W MFPs, the highlight boxes and grade will show in grey.

4.3 CSV Files

In addition to PDF reports that are formatted for viewing and printing, the grading results are exported to a CSV (Comma Separated Values) format file. CSV files can be imported into spreadsheet applications such as Microsoft Excel for further tabulation and processing.

Grading Results

Following fields of information are saved in results.csv:

- Barcode number
- Student ID
- Correct answers
- Incorrect answers
- Percentage score
- Grade letter
**Student responses**

Student responses recognized by teaching assistant are exported as details.csv:

- Answers marked in answer key
- Answers selected by each student, one per line