ExamSoft®

Enterprise Portal

GETTING STARTED WITH CATEGORIES

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1. What Are Categories?

"Categories" is ExamSoft's unique item tagging feature that allows exam-makers and educators to connect individual exam items (questions and rubrics) to specific content areas such as cognitive levels, accreditation standards, learning outcomes, and programmatic objectives.

Categories are created in the Category Management folder under the ADMIN tab of your portal. Within this folder, ExamSoft's four types of Admin User accounts have different levels of access to categories based on their Category Permissions. For instance, Institution Administrators have full access across your institution, whereas Course Administrators only have access to the categories for their assigned departments and courses. Additionally, tagging and editing privileges for all users can be restricted to certain departments, courses, or even to specific categories. It is also possible to select categories for internal use only, so they are not included in any student-facing reports. Please contact your Institution Administrator if you require changes to your Category Permissions.

Within the Category Management folder, categories are arranged in a tree structure ▶

Each top-level item in the tree is known as the category type; this is the name of the collection of categories listed below it. The second level of the tree comprises parent categories; these are the primary categories, which are typically used to tag exam items. If you require further granularity, you may create child categories beneath parent categories, and sub-sub-categories beneath child categories. The following example shows how you can use this hierarchy to represent Bloom's Taxonomy ▶

Category type
- **Parent category**
  - Child category or sub-category
    - Sub-sub-category

Bloom's Taxonomy
- **Remember**
  - Define
  - Duplicate
  - List
  - Memorize
  - Repeat
  - State

The figure below illustrates how categories are displayed in the portal and provides an example of the Bloom's Taxonomy structure. The Questions column reports the total number of tagged questions for each category item and its sub-categories.

Category Management

IMPORT CREATE CATEGORY

Items per page: 50

Total Categories: 4

CATEGORY NAME	# OF CATEGORIES	QUESTIONS	
Blooms Taxonomy	6	1071	
NCLEX	94	2551	
Nursing Process	5	535	
QSEN Competencies	6	168	

Category Management
Blooms Taxonomy | ✎

CREATE CATEGORY

Items per page: 50

Total Categories: 6

	CATEGORY NAME ▲	# OF CATEGORIES	QUESTIONS	
☐	1 Remember	0	199	
☐	2 Understand	0	408	
☐	3 Apply	0	593	
☐	4 Analyze	0	146	
☐	5 Evaluate	0	46	
☐	6 Create	0	0	
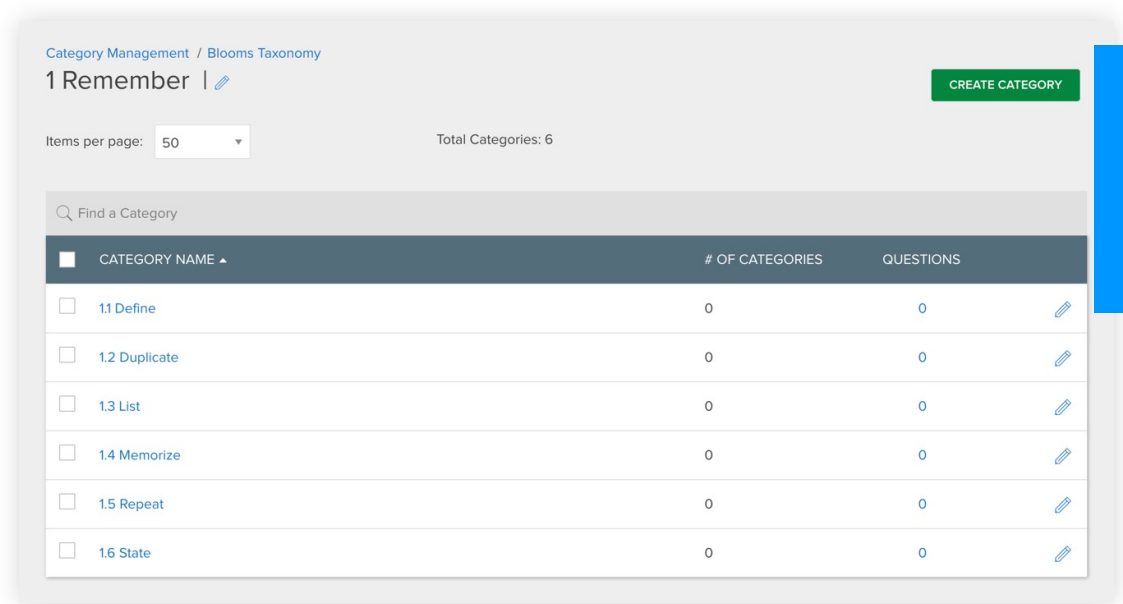
There is no limit to the number of category types you can create in your portal, and you can tag individual exam items to as many different parent categories and/or sub-categories as you wish. Since any text-based content can be converted into categories, the list of possible category types is endless. ExamSoft can also auto-populate a limited number of category structures on your behalf (please reach out to your primary ExamSoft contact for further details). To help you get started, some common category types to consider are:

- **Bloom's Taxonomy**
- **Entrance or licensure exam blueprint**
- **Course learning outcomes**
- **Functional, including:** ▼
    - Keywords/topics
    - Item author
    - Item source
    - Year
    - Question type (e.g., hotspot, ordering, pilot item)

- **Accreditation standards**
- **Professional competencies**
- **Program learning outcomes**
- **Institution learning outcomes**
    - Cohort
    - Instructional method
    - Course name/number
    - Lecture name/number
    - Exam name/number/type

2. Why Should I Use Categories?

Category tagging is combined with assessment data in ExamSoft's extensive suite of reports to provide you with actionable data to help improve student learning outcomes, course and program performance, and quality of instruction — all of which support accreditation efforts, student retention, and programmatic success. In brief, categories support your efforts to:

Improve student learning outcomes

- Help direct you and your students toward the subjects, competencies, and question types they need to focus their studies on the most, enabling them to use their study time effectively.

- Identify the areas your students excel in so they can make informed decisions about career paths.

- Share relevant categorization and assessment data with your students through the Strengths & Opportunities Reports so they can self-remediate, increasing their autonomy.

Improve accreditation preparation

- Tag exam items to accreditation standards to demonstrate where they are taught and assessed in your institution and programs, while also ensuring students are ready for their next academic or professional challenges.

- Demonstrate the attainment of educational outcomes, both in aggregate and at the individual student level.

- Provide evidence to accreditors that you continuously evaluate and improve your curriculum and teaching.

- Tag exam items to entrance/licensure exam content areas to obtain a clear understanding of student preparedness for these exams and help increase pass rates.

Improve your curriculum

- Identify and eliminate gaps in the content you teach.

- Provide proof that you have met your content goals with students.

- Ensure the topics you cover in each assessment are the same ones you covered in the classes and assignments leading up to the assessment.

- Strategically introduce repetition into your curriculum and courses to reinforce important concepts while avoiding redundancy.

Improve the quality of instruction

- Understand the distribution of time devoted to each topic in class so you can make sure you're not spending too much, or too little, time in one area.
- Know which subjects were poorly understood by students so you can return to them in class after assessments.
- See which instructional methods and teaching strategies are working and which aren't.

Improve assessment content

- Build exam blueprints to define exam content based on the subject areas covered in teaching.
- Use performance statistics to identify which exam items will best accomplish your assessment goals.
- Ensure all exams are well balanced, fair, and reliable by categorizing exam items to difficulty levels, such as Bloom's Taxonomy.

Satisfy internal standards of excellence

- Tag exam items to programmatic or institutional standards to track how your courses are performing internally.

Advance faculty development

- Tag exam items to the faculty who wrote them so you can pull faculty-specific reports and use performance statistics to assess any potential adjustments to your curriculum and item writing.
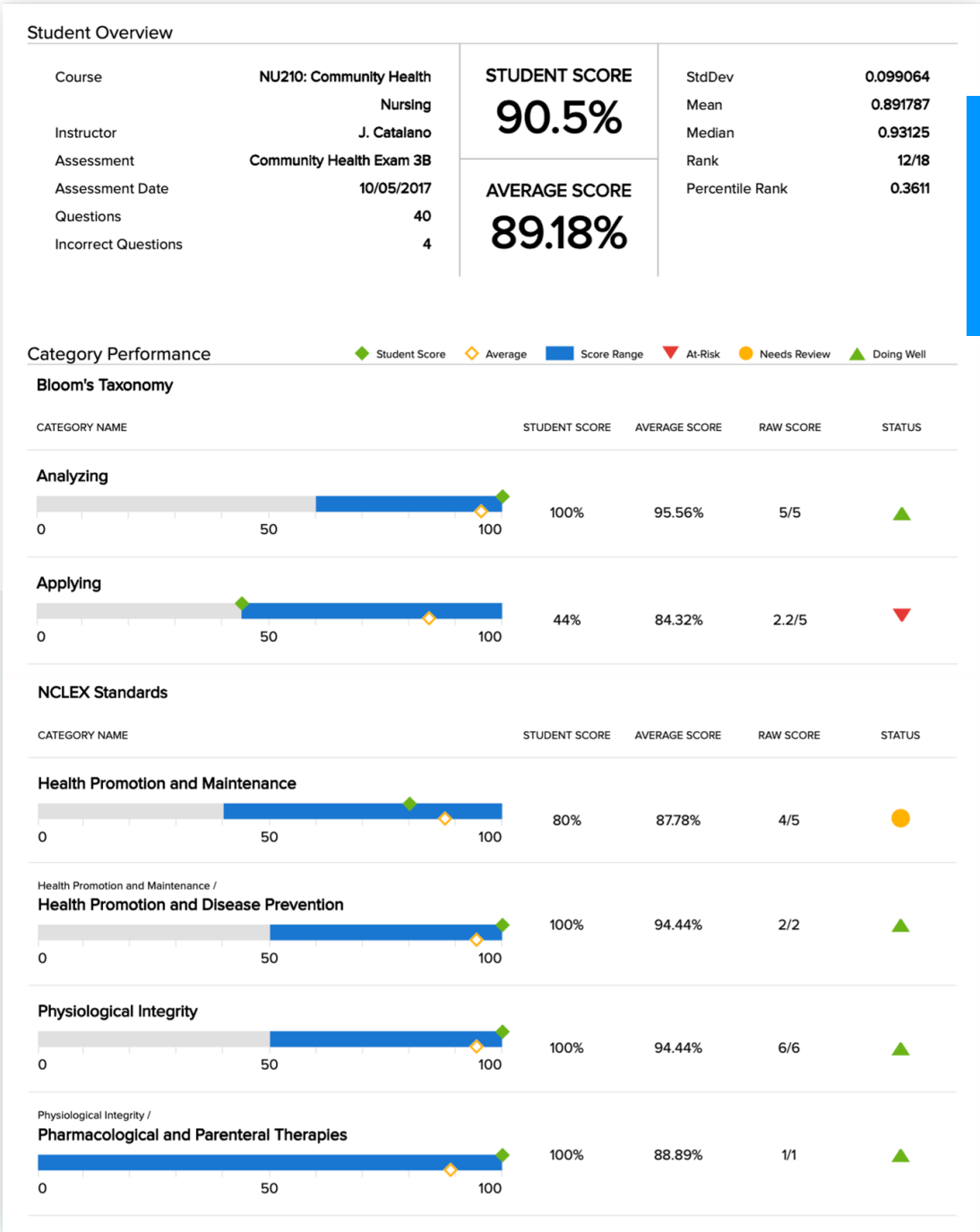- Create and administer assessments more efficiently.

Locate exam items in your item bank

- Filter on categories in your portal to quickly locate exam items based on content, author, question type, etc.

For further information on how categorization can help you, your students, and your program, please refer to the additional resources in [Section 5](#).

An example of ExamSoft's Strengths & Opportunities Report is shown in the figure below. This identifies how an individual exam-taker performed on an assessment overall and in each category, highlighting the areas requiring improvement.

Student Overview

Course	NU210: Community Health Nursing	
Instructor	J. Catalano	
Assessment	Community Health Exam 3B	
Assessment Date	10/05/2017	
Questions	40	
Incorrect Questions	4	

STUDENT SCORE
90.5%

AVERAGE SCORE
89.18%

StdDev	0.099064
Mean	0.891787
Median	0.93125
Rank	12/18
Percentile Rank	0.3611

Category Performance

Legend: ◆ Student Score ◇ Average ▬ Score Range ▼ At-Risk ● Needs Review ▲ Doing Well

Bloom's Taxonomy

CATEGORY NAME	STUDENT SCORE	AVERAGE SCORE	RAW SCORE	STATUS
Analyzing	100%	95.56%	5/5	▲
Applying	44%	84.32%	2.2/5	▼

NCLEX Standards

CATEGORY NAME	STUDENT SCORE	AVERAGE SCORE	RAW SCORE	STATUS
Health Promotion and Maintenance	80%	87.78%	4/5	●
Health Promotion and Maintenance / Health Promotion and Disease Prevention	100%	94.44%	2/2	▲
Physiological Integrity	100%	94.44%	6/6	▲
Physiological Integrity / Pharmacological and Parenteral Therapies	100%	88.89%	1/1	▲

3. Getting Started With Categories: Developing Your System

As you start to develop your category system, ExamSoft recommends thinking carefully about the following questions:

- **Which category types do you need to meet your reporting requirements?**

- **Who will be responsible for creating and managing categories in your portal?**

- **Do you need to adopt any specific naming conventions (e.g., for learning outcomes)?**

- **Is there a clear process for exam-makers to follow when tagging items?**

Remember, you can always edit and apply your categories retroactively, so even if you've already begun creating categories and tagging exam items, it's never too late to pause, consider, plan, and make changes to your system. However, the earlier you define your category-tagging strategy, the sooner and more efficiently you will be able to access the actionable data you require.

To help you get started using categories and reports in your portal, a collection of online resources is provided in Sections 5.5 and 5.6. There you will find two introductory, on-demand webinars for categories (The What, Why, and How of ExamSoft's Most Powerful Tool, Categories!) and reports (ExamSoft 101: Reporting & Review), together with links to detailed, step-by-step instructions for managing all aspects of categories and reports on our exam-maker community pages.

4. Best Practices

4.1 System Design and Implementation

- Create an implementation plan and communicate process logistics clearly to all stakeholders. Think carefully about the entire process from start to finish, including who will be involved, timeframes for completion and quality control.

- When designing a category system, choose team members who will be intimately involved in the assessment process. Include individuals responsible for creating or importing exam items and building assessments as well as faculty responsible for assessment, curriculum performance and accreditation data at course, program, and institution levels.

- Select only those category types that are relevant to your program and provide the actionable data you require.

- Create policies around item tagging that define the total number of categories and specific category types that each exam item must have, and when faculty should be tagging exam items (e.g., when creating or importing questions).

4.2 Category Structure

- To realize the full potential of categories, ExamSoft recommends using the following category types as a minimum ▼

  - **Bloom's Taxonomy (or alternative cognitive levels)**
  - **Accreditation standards (where appropriate)**
  - **Professional or other competencies**
  - **Exam blueprints/content**
  - **Course learning outcomes**
  - **Item author**

- Minimize the number of different sub-levels you use under each category type; simple structures allow users to locate individual categories faster and lead to more efficient reporting processes.
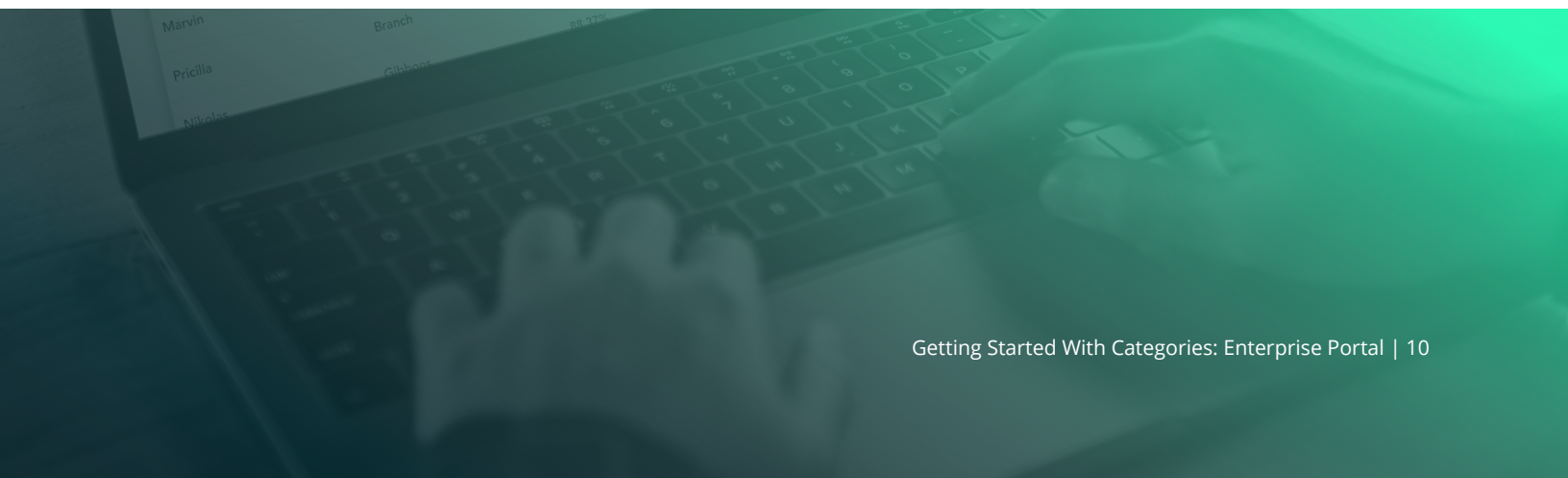
- Maintain a consistent structure for similar category types.

- Avoid duplication of the same categories in different parts of your structure. Also, don't use different variations of the same category (e.g., Remember and Remembered for Bloom's Taxonomy).

- Create individual category types for each set of course learning outcomes ▶

Course 1 learning outcomes
- Learning outcome 1
- Learning outcome 2

Course 2 learning outcomes
- Learning outcome 1
- Learning outcome 2

This allows you to control the department tagging privileges of each set of learning outcomes at the course level, so that team members only see and tag the categories relevant to them and don't have to scroll through the full list of course learning outcomes in the portal.

To help illustrate these points and further inspire you, a real example of the category system for a Nursing program is shown below ▼

CATEGORY NAME	# OF CATEGORIES
Bloom's Taxonomy	6
CLO NURS 101	9
CLO NURS 102	7
Item Author	12
NCLEX	93
Nursing Process	5
Program Learning Outcomes	8
QSEN Competencies	6
Subject Areas	25

4.3 Category Names

- Use consistent naming conventions for similar category types.

- When naming your categories, be as concise as possible and stay within the 500-character limit.

- For course, program, and institution learning outcomes, avoid using generic names, such as LO1. Try to use a detailed description of each outcome in the category name that will be meaningful to team members and exam-takers when it is included in reports.

- If you have more than one department, consider including a reference to the department in the name of each category type (e.g., DEPT Course 1 Learning Outcomes). This helps identify which categories relate to each department. For shared category types, such as Bloom's Taxonomy, you have the option of creating a single category type across all departments or separate category types for each department (e.g., DEPT Bloom's Taxonomy). The option you select will depend on your reporting requirements.

4.4 Item Tagging

- Be consistent in your approach to tagging exam items.

- Where possible, try to get into the habit of tagging exam items when creating or importing them.

- Ensure team members have the correct permissions to be able to tag exam items with the required categories.

- Block users from tagging questions with certain category types by selecting the "lock the ability" option under the permissions for each category type.
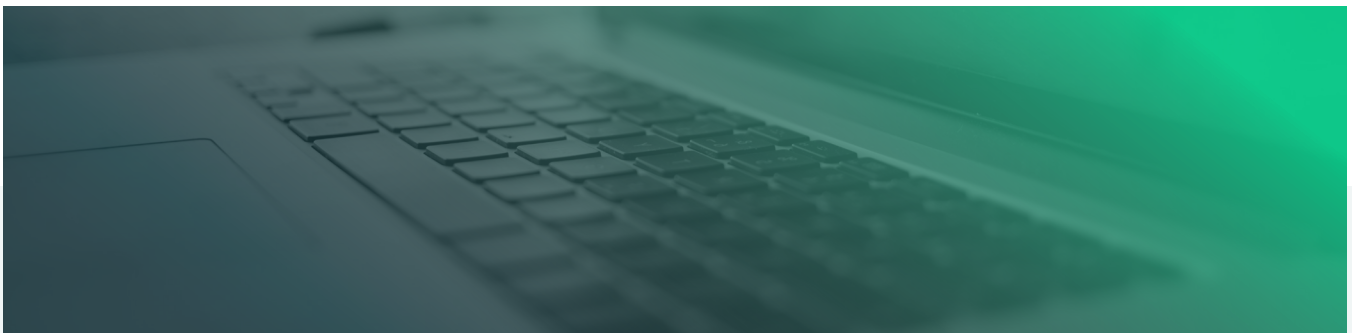
4.5 Permissions

- Maintain system integrity and avoid accidental changes by using Category Permissions for Admin Users and category-specific permissions to control who can view, edit, and tag categories.

- Restrict editing rights to a small number of faculty only.

4.6 Editing Categories

- Review your category system periodically to ensure your categories are up to date and your exam items are tagged with the correct categories. You can continuously edit the categories assigned to exam items without creating new item revisions, even after they have been used in assessments.

- If the categories you use and the reports you require change over time, you might consider applying new or updated categories not only to new exam items, but also to exam items used in past assessments. This way, you can run retroactive reports to analyze how the new categories performed historically.

- Should you wish to remove categories from some exam items and replace them with new ones, ExamSoft recommends the following procedure ▼

1. **Create the new categories in your portal.**

2. **Filter your exam items on one of the categories you wish to replace.**

3. **Bulk-add the new category to the relevant exam items.**

4. **Repeat steps 2 and 3 for the remaining categories.**

5. **Remove the obsolete categories from the relevant exam items.**

- Only delete categories from your portal if they are not tagged to any exam items or you are certain you won't need to report on that data in the future.

4.7 Reporting

- Develop a process for reporting your assessment data. Decide which ExamSoft reports you will use, when and how often you will run each report, which team members will be responsible, and with whom the data will be shared (e.g., exam-takers, faculty, department chair). Also, include a plan for training faculty in how to interpret their data.

- Maintain question integrity by releasing category performance data to exam-takers but not genuine question information, such as question title, text, and answer choices.

- Exclude from reports any category types you don't wish exam-takers to see (e.g., item author) by selecting the "internal use only" option under the permissions for each category type.

5. Additional Resources

5.1 Blogs

- How Category Tagging Can Help You, Your Students, and Your Program

- Why You Should Use Categories for Curriculum Guidance

- Curriculum Mapping: Are You Teaching What You're Supposed To?

- How to Improve Teaching Strategies Through Student Assessment

- Creating an Appropriate Exam Creation Workflow Using Blueprinting

- Student Economics: Allowing Your Students to Maximize Their Study Time

- Bloom's Taxonomy (Part 1): Bloom's Basics

- Bloom's Taxonomy (Part 2): Using Bloom's Taxonomy in Assessment

- Bloom's Taxonomy (Part 3): Writing Learning Objectives That Measure Up

5.2 White Papers

- [Improving Student Learning Outcomes through Exam Item Categorization](#)

- [Using Assessment Data to Affect Curricular Change and Increase Licensure Exam Scores](#)

- [Exam Quality Through the Use of Psychometric Analysis](#)

5.3 eBooks

- [Six Essentials of Assessment Data](#)

5.4 Case Studies

- [D'Youville College – School of Pharmacy:](#) Adopting ExamSoft and implementing category tagging in a new school.

- [William Carey University – School of Pharmacy:](#) Using categories to generate performance reports, provide targeted feedback, and streamline the accreditation process.

- [Northern Arizona University – Physician Assistant Program:](#) Analyzing programmatic performance by category, improving the quality of exam content, and identifying opportunities for remediation and retention.

- [University of Nebraska Medical Center – College of Medicine:](#) Exploring new methods of category tagging to track and manage course curricula, learning objectives, and accreditation compliance.

5.5 On-demand Webinars

- [The What, Why and How of ExamSoft's most powerful tool, Categories!](#) (60 minutes)

- [ExamSoft 101: Reporting & Review](#) (36 minutes)

- From Conception to Execution: Strategies for Designing and Implementing a Comprehensive Category System (58 minutes)

- Using Assessment Data to Improve Curriculum Mapping and Assessment Practices - EAC 2021 (37 minutes)

- ExamSoft Data Benefits: Accreditation, Teaching and Learning, Student Success - EAC 2021 (44 minutes)

- Accreditation from Three Perspectives (60 minutes)

5.6 Exam-maker Community Pages

5.6.1 Managing Categories

- Getting Started with Questions and Categories: Information to help you get started adding and managing categories, importing questions, adding and managing questions, and assigning categories to questions.

- Category Permissions: View the permissions available to each type of Admin User account for the categories feature.

- Creating Categories: How to add, edit, and remove categories, and set category-specific permissions in your portal.

- Importing Categories: How to create a complete category structure in Excel and import it into your portal.

- Assigning Categories to Questions: How to assign categories to individual questions and bulk-tag multiple questions with the same category.

- Assigning Categories to Rubrics: How to assign categories to the dimensions of a rubric for a performance assessment (step 9 of Create a Rubric).

- Importing Questions tagged with Categories: How to import questions tagged with categories using a Word or RTF file.

5.6.2 Managing Reports

- Getting Started with Reporting: Information to help you start learning about the various reports that are available in your portal.

- **Basic Class Report:** View the class results for an assessment. This report displays a variety of statistics for the class as a whole and each question in the assessment.

- **Item Analysis Report:** Evaluates question performance, response frequencies, and performance history on all past assessments to improve your exam questions and other aspects of your courses.

- **Category Performance Report:** Shows category performance across multiple assessments over a selected time period. You can configure this report to display data for a single course or multiple courses, which enables you to identify at-risk categories and trends in category performance.

- **Student Category Performance Report:** Shows exam-taker performance in selected categories across multiple assessments over a selected time period. You can configure this report to display data for a single course or multiple courses, which enables you to identify at-risk categories and trends in category performance for each exam-taker.

- **Course Performance Report:** Shows how individual or multiple courses have performed over a selected time period. This enables you to identify which courses are performing well and which are at-risk. You also can drill down to view an exam-taker's performance on each assessment.

- **Strengths & Opportunities Report:** Identifies how an individual exam-taker performed on an assessment overall and in each category. You can print this report and share it with the exam-taker.

- **Summary Report for Question Bank Assessments:** Provides an overview of how a class performed on a question bank assessment and in each category.

- **Performance Assessment Reports:** How to view class, individual exam-taker, and summary reports for performance assessments.

- **Combined Report for Linked Assessments:** Generate a report that aggregates statistics across all linked assessments.

- **Releasing Exam-Taker Results:** Describes how to release assessment results to the exam-taker portal and send a Strengths & Opportunities Report to each exam-taker, empowering them to monitor their own progress and adjust their learning strategies.

- **A Guide to the Statistics:** How to interpret the data in ExamSoft reports: mean, median, standard deviation as well as KR-20, difficulty index, discrimination index, Point Bi-Serial, and more.