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PALMs FAQs

The Concept

- **What is perceptual learning?**
  Perceptual learning refers to changes in the way we pick up information as a result of experience or practice and is achieved through exposure to varied examples. A characteristic of experts in any domain is that they selectively pick up relevant information, discover important patterns, and see key structure in new cases or situations. They are able to extract key patterns quickly and fluently with little effort (cognitive load), freeing up attention for higher-level problem solving. Expertise and perceptual learning are tightly interwoven. Our patented Perceptual Learning approach groups items into categories according to an underlying common pattern (e.g., diagnosis, species of animals, related set of mathematic problems) and presents a new exemplar each time a category is revisited. This allows the learners to master each category's underlying structure, rather than simply memorizing specific examples.

- **What is adaptive learning?**
  Adaptive Learning is a broadly-used term referring to approaches that individualize the sequence of problems presented to a leaner according to the learner's past performance and level of mastery. Our patented Adaptive Response-Time Based Sequencing dynamically adjusts content based on student proficiency, using both fluency and retention to create a uniquely efficient learning experience. Because learners have different learning needs, every PALM presents a different learning pathway for each learner, dynamically choosing which learning points to focus on and how much practice is necessary to reach optimal learning.

- **How does Adaptive Sequencing work?**
  Our algorithm takes into account both the accuracy and speed of the learner on every learning trial. Each category of items is tracked individually to determine the optimal order of learning material. Our automated sequencing procedures guarantee that items from the same category will not be presented too soon or too late—both of which can impede learning. Items from less well-learned categories will return sooner, whereas more well-learned categories are spaced further apart. These algorithms attempt to space out presentations for as long as possible, fostering long-term retention of the material.

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Administration

- **How do faculty get access?**
  When the account is set up, please provide the names and email addresses of the faculty members. We will set them up with full administration rights.

- **How do students get access?**
  Login to Anatomy.tv through STAT!Ref as you would normally and access PALMs on one of the tabs on the Anatomy.tv interface.

- **How do faculty organize their students into classes?**
  1. Faculty create as many classes as they require within Administration section of PALMS, each of which generates a unique class code.
  2. Faculty distribute class codes to relevant students
  3. Students enter the class code they've been given to join the class
  4. Faculty can also add students individually themselves

- **Can I incorporate the results into an LMS system?**
  Not currently, but this is something that we are working on for the future. It is worth noting however, the tools within the score reporter provide more analytics on the students' progress than a standard LMS.

- **Will PALMs be set up on the university IP address? If so can users access off campus? Or will each user need their individual logins to access PALMs?**
  If your STAT!Ref account is set-up via IP address access, then access to Anatomy.tv and the PALMs tab is authenticated through IP range.

- **Can the students' assessment scores be downloaded and exported off the product?**
  They can be exported as a CSV file.

- **How long are students' assessments scores saved on score reporter for?**
  Indefinitely.

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Content

- **How many images are there?**
  When completed, around 25,000

- **How many structures are included as learning points?**
  When completed, around 2,000

- **What level are the PALMs targeted at?**
  Undergraduate Medical Students

User Interface/Functions

Administration

- **Students**
  Here you will find a list of students within your institution. (Note New Student/Import/Settings will be disabled by launch)

- **Classes**
  Create any number of classes here. Once created, select the class to add students by name, or go to settings to create a class code. Distribute this code amongst the students you wish to join the class.

Score Reporter

- The score reporter is the inbuilt LMS. Here is a video here that explains how it works.
  https://med.insightlt.com/site/vid/scorereporter.mp4

Insights & Scores

- **What does the Overview tell me?**
  The overview tab gives information on the progress and mastery levels of the module. Detailed explanations are given on the site.
    - ***Mastery***, is an indication that a structure has been answered correctly three consecutive times, within the target response time of 12 seconds.

- **What will be in the Assessments tab?**
  Not currently live now (though can be seen in the Heart module), the Assessments tab will include pre- and post-tests, to assess the users' knowledge before and after they have completed the PALMs

- **What does the Learning History show?**
  The Learning History lists all the trials that have been completed within the module.
  - ***RT*** stands for "Response Time" and measures the time between when the image finishes loading and when the learner selects an answer.

  - ***Accuracy*** is a measure of whether you chose the correct answer (1 point if correct; 0 points if incorrect)

  - **Fluency** is a measure of whether the learner has answered a question both correctly and within the target response time of 12 seconds. In this sense "Fluency" has the same connotation as in speaking a language. For example, if you are able to speak a foreign language accurately and without hesitation, you are said to be "fluent".

- **What are the Learning Points?**
  The Learning Points list all the anatomical structures that are included in each module. Next to each structure is a record of how many times each structure has been seen, the average accuracy, average fluency and status. Status tracks from not seen, to in progress, to mastered.

Access

- **Can users access the PALMs from STAT!Ref?**
  Yes, login to Anatomy.tv through STAT!Ref as you would normally and access PALMs on one of the tabs on the Anatomy.tv interface.

Functionality

- **Is there any intention of creating a 'customisable PALM' system' to allow educators to tailor the structures included to specific learning outcomes?**
  Not currently.