AAT 2016
Demo Exercises

NOTE ABOUT TEST DATA

The data on the AAT demo server is limited in scope and may not resemble data from real university courses as we cannot use student data for public demonstrations. Instead, we have provided a small sample set that allows users to step through AAT's functions and produce results. These exercises are tailored to the sample data. In a real university scenario there may be hundreds of courses, thousands of students, and a much broader range of exams, quizzes, forum posts, etc. Student names in the sample data are randomly generated and do not represent real people. These exercises represent a few of the many ways in which AAT can be used. At the bottom of this document we have provided some details of our testing dataset to aid advanced users who may wish to do further exploration. Please use the contact link on our web site if you have questions.

The home page of the Academic Analytics Tool (AAT) is at:
http://www.academicanalytics.ca/

**To begin testing, go to AAT's website and select the
"Trying Out AAT" link, where you will find the
link to enter the AAT test site.**

Once you have completed the exercises, we ask that you please take a moment to fill out our short user survey. The responses you provide will help us plan for future development of the AAT tool and its user interface. A link to the survey is provided in the middle and at the end of this document.

AAT EXERCISE 1

GOAL: Find the overall number of forum posts from students between January 1 and June 30, 2016 in a single course: "Clear Writing".

Tip: Please make sure to give meaningful names to your Project, DataSet and Patterns so you can easily refer back to them if needed.

1. Start with creating a new **Project** and give it a name and short description.

2. Select the Learning Management System (**LMS**) to be Moodle 2.2.

3. Create a new **DataSet** that contains only the course, "Clear Writing". Save your DataSet with a meaningful name (e.g., Exercise 1 DataSet).

4. Begin a new **Pattern** by selecting "Create a new Pattern" then "Create an entirely new Pattern".

5. In Pattern Step A, select the following **Concepts** (types of data to explore):
   - *Active Student*
   - *Post*

6. In Pattern Step B, select your **Attributes** as follows:
   - From the POST grouping: *forum posts id* and *time forum post created*
   - From the USER grouping: *first name*, *last name* and *user id*

7. In Pattern Step C, to **Limit** the result set to only postings to the dates we want to view, set a limit on the Attribute "time forum post created" to BETWEEN "January 1, 2016" and "June 30, 2016".

8. Save the Pattern and name it. We now have a Pattern that will produce a list of all forum postings by students in the selected course, along with the dates of the postings, and the list is filtered to include only those postings in our desired date range. Our next step is to count the number of postings in the list by using the Analyze feature.

9. After you save your Pattern you are returned to the Pattern Manager screen. Select Create New Pattern again, but this time select the **Analyze** button on the next page.

10. Select the Pattern you just saved from the list of options, and Continue.

11. Select the option for an analysis with one value as a result, then select the COUNT feature and *forum posts id* from the dropdown. This will count all results in the forum post ID field and therefore will count all forum posts.

12. Before you can view the results, you can provide a name to refer to your result (i.e., Number of Posts) and you should name your analysis (i.e., Exercise 1 Analysis).

13. Now, to see the result, click "Perform Analysis." You should see output similar to the following image, representing the total number of posts in our Pattern results:

14. As a last step, the Analysis can be saved to access it at a later point.

AAT EXERCISE 2

GOAL: In the last exercise we tallied all posts for students in a single course during a given timespan. Now we would like to see the number of forum posts from students and teachers in a larger set of courses, and we want to tally the total number of posts for each user. For this exercise, we want to see results for the following courses: CLLN, Clear writing, Health Wellness and Aging, LNO Writing 2, LNO Writing 4 Home, MOVE Tutor Training, and OALCF.

1. To go back to the home page of AAT, click the Home button on the top navigation bar.

2. Start with creating a new **Project** and give it a name and short description.

3. Select the **LMS** (Moodle 2.2) and create a new **DataSet** with the following courses to be investigated:
   - CLLN
   - Clear writing
   - Health Wellness and Aging
   - LNO Writing 2
   - LNO Writing 4 Home
   - MOVE Tutor Training
   - OALCF

4. Begin a new **Pattern** by selecting "Create a new Pattern" then "Create an entirely new Pattern".

5. In Pattern Step A, select the following **Concepts** (types of data to explore):
   - *Active Student*
   - *Teacher*
   - *Post*

6. In Pattern Step B, select your **Attributes** as follows:
   - From the POST grouping: *forum posts id*
   - From the USER grouping: *first name*, *last name* and *user id*

7. No **Limits** are needed for this example so you may continue through that step. To finalize the Pattern, it needs to be named and saved, after which you will return to the Pattern Manager screen.

8. We now have a Pattern that draws all forum posts for students and teachers in our selected set of courses. To get a list of each person and a total of their number of forum posts, we will again create an **Analysis**.

9. Select Create New Pattern again, but this time select the Analyze button on the following page.

10. Select the Pattern you just saved from the list of options, and Continue.

11. Select the option for an analysis with one column as a result, then select the COUNT feature. From the dropdowns, select to count the *forum posts id* for every *user*. Since each forum posting will have a unique ID, this will count all posts for every student and teacher on the list.

12. Before you can view the results, you can provide a name to refer to your result (i.e., Post Count) and you should name your analysis (i.e., Exercise 2 Analysis).

13. Now, to see the result, click "Perform Analysis." You should see output similar to the following image:

Analysis Results   ✖

user_id	first_name	last_name	Post Count
217	Hunter	Ochoa	40
3	Sandra	Brown	126
128	Maria	Ponce	56
160	Jasmine	Todd	4
36	Caryn	Mcneil	7
152	Camilla	Crane	2
151	Penelope	Travis	1
37	Raj	Vasquez	40
248	Miles	Koch	6
252	Charlie	Morris	1
264	Camden	Francis	2
269	Riley	Buchanan	3
255	Leo	Riggs	2
230	Anthony	Poole	2
294	Emily	Burns	4
344	Sarah	Bradley	1
350	Audrey	Ashley	4

Close

14. As a last step, the Analysis can be saved to access it at a later point.
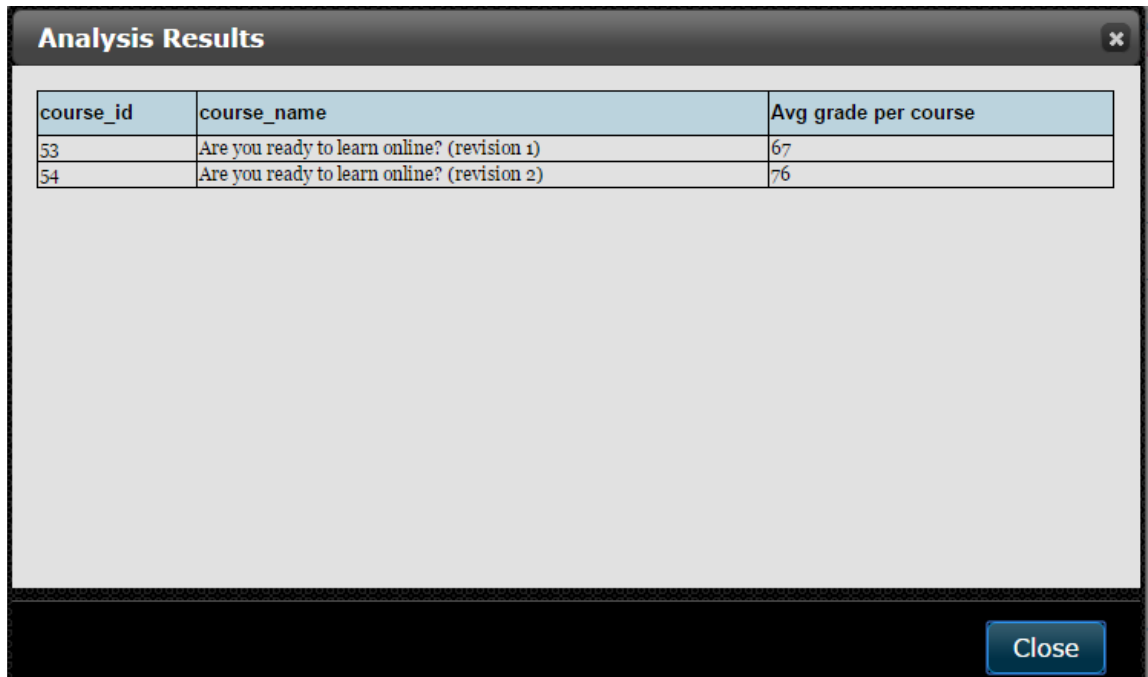
AAT EXERCISE 3

GOAL: In this exercise, we want to find the average grade on the assignment "*Online learning is ... what do you think?*" from different revisions of a course. For this exercise, we will use revision 1 and revision 2 of the course *Are you ready to learn online?*

1. To go back to the home page of AAT, click the Home button on the top navigation bar.

2. Start with creating a new **Project** and give it a name and short description.

3. Select the **LMS** (Moodle 2.2) and create a new **DataSet** with the following courses to be investigated:
    *   Are you ready to learn online? (revision 1)
    *   Are you ready to learn online? (revision 2).

4. Begin a new **Pattern** by selecting "Create a new Pattern" then "Create an entirely new Pattern".

5. In Pattern Step A, select the following **Concepts** (types of data to explore):
    *   Course
    *   Assignment

6. In Pattern Step B, select your **Attributes** as follows:
    *   From the ASSIGNMENT grouping: *assignment name* and *assignment submissions grade*
    *   From the COURSE grouping: *course name*

7. The selected courses have two assignments each, but we are looking for results for only a single assignment: *Online learning is ... what do you think?* To include just this one assignment, we must set a **Limit** as our final Pattern step.

8. Set the Limit on Assignment Name to include names that are LIKE "Online." Click UPDATE after you set the limit and the sample results should now only include that one assignment.
    NOTE: You could accomplish the same thing by using the "Equals" operator and entering the full title of the assignment, but you would have to enter it precisely. In a case like this, where we have two assignments with different starting words, it is easier to just enter the first word or a few letters to filter the results.

9. We now have a Pattern that draws all assignment grades for the two versions of this course. To find the average grade for each course, we will again create an **Analysis**.

10. Select Create New Pattern again, but this time select the Analyze button on the following page.

11. Select the Pattern you just saved from the list of options, and Continue.

12. Select the option for an analysis with one column as a result, then select the AVG (Average) feature. From the dropdowns, select *assignment submissions grade* for every *Course* to show the average grade in each course.

13. Before you can view the results, you can provide a name for your result column (i.e., Avg grade per course) and you should name the Analysis (i.e., Example 3 Analysis).

14. Now, to see the result, click "Perform Analysis." You should see output similar to the following image:

Analysis Results

course_id	course_name	Avg grade per course
53	Are you ready to learn online? (revision 1)	67
54	Are you ready to learn online? (revision 2)	76

Close

You can see that the average grade on the given assignment is higher in the second revision of the course.

15. As a last step, the Analysis can be saved to access it at a later point.

Reminder: please take a few moments to share your feedback about AAT. We have a short user survey online at: http://tinyurl.com/gofp25k

Here are a few more exercises if you would like to continue exploring AAT:
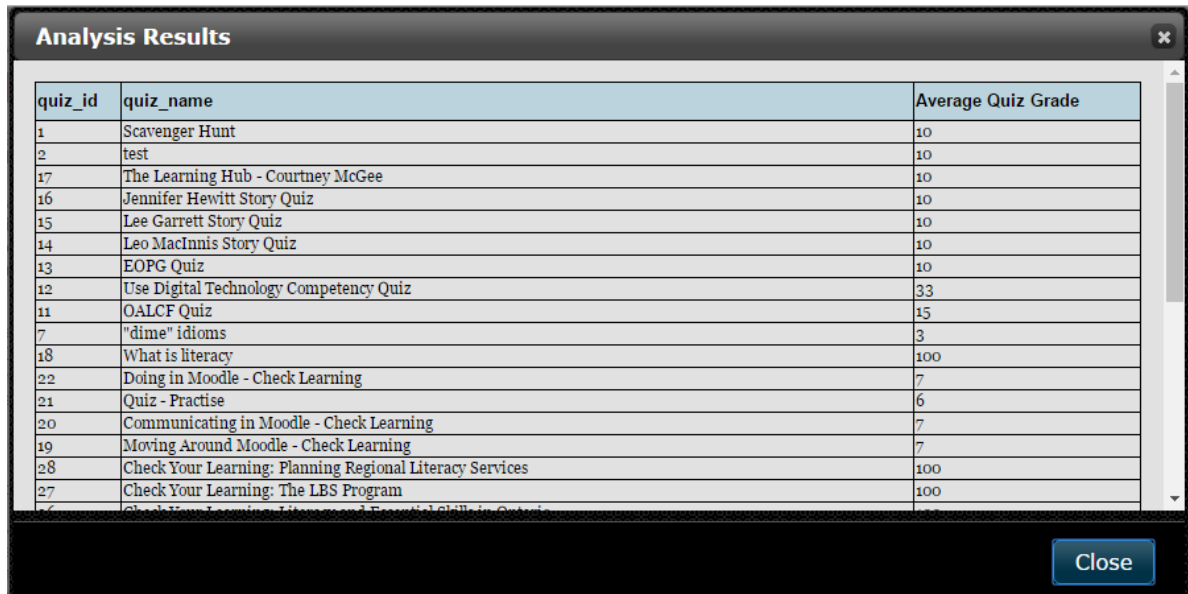
EXERCISE 4

GOAL: Because AAT can collate data from across different faculties, it is possible to generate a list of all quizzes in all courses in the LMS. For this exercise we want a list with the name of all quizzes for all courses, and the average grade received on each of these quizzes for all learners.

TIPS: The quiz grades are stored in "quiz instance grade". Also, the Concept user or student does not need to be chosen (but could be chosen). When no Concept user or student is chosen, then every quiz grade is considered.

1. To go back to the home page of AAT, click the Home button on the top navigation bar.

2. Start with creating a new **Project** and give it a name and short description.

3. Select the **LMS** (Moodle 2.2) and create a new **DataSet** that includes all of the courses in the LMS (use the *Select All Courses* on top of the list to select all courses with a single click).

4. Begin a new **Pattern** by selecting "Create a new Pattern" then "Create an entirely new Pattern".

5. In Pattern Step A, select the following **Concepts** (types of data to explore):
   - Course
   - Quiz

6. In Pattern Step B, select your **Attributes** as follows:
   - From the COURSE grouping: *course name*
   - From the QUIZ grouping: *quiz instance grade* and *quiz name*

7. No **Limits** are needed for this exercise so you may continue through that step. To finalize the Pattern, it needs to be named and saved, after which you will return to the Pattern Manager screen.

8. We now have a Pattern that draws every person's quiz grade from all quizzes in all courses. To get the average grade received for each quiz, we will again create an **Analysis**.

9. Select Create New Pattern again, but this time select the Analyze button on the following page.

10. Select the Pattern you just saved from the list of options, and Continue.

11. Select the option for an analysis with one column as a result, then select the AVG feature. From the dropdowns, select *quiz instance grade* for every *quiz* to get the average quiz grade for each quiz*.

12. Before you can view the results, you can provide a name to refer to your result (i.e., Average Quiz Grade) and you should name your analysis (i.e., Exercise 4 Analysis).

13. Now, to see the result, click "Perform Analysis." You should see output similar to the following image:

quiz_id	quiz_name	Average Quiz Grade
1	Scavenger Hunt	10
2	test	10
17	The Learning Hub - Courtney McGee	10
16	Jennifer Hewitt Story Quiz	10
15	Lee Garrett Story Quiz	10
14	Leo MacInnis Story Quiz	10
13	EOPG Quiz	10
12	Use Digital Technology Competency Quiz	33
11	OALCF Quiz	15
7	"dime" idioms	3
18	What is literacy	100
22	Doing in Moodle - Check Learning	7
21	Quiz - Practise	6
20	Communicating in Moodle - Check Learning	7
19	Moving Around Moodle - Check Learning	7
28	Check Your Learning: Planning Regional Literacy Services	100
27	Check Your Learning: The LBS Program	100

Analysis Results

14. As a last step, the Analysis can be saved to access it at a later point.

AAT EXERCISE 5

GOAL: This is a two-part exercise.

First, find out how many activities/actions (in terms of visits to any LMS page) have been done overall by any type of students (active, past contract end date, challenge, early access, withdrawn and hold) in the course "Beyond Statistics" since January 1st, 2014. The result of this part of the exercise should be one value.

Second, find out how many activities/actions have been done by each student (active, past contract end date, challenge, early access, withdrawn and hold) in the course "Beyond Statistics" since January 1st, 2014. Create a list that includes as columns the first name and last name of the student and the number of activities this student has done since January 1st, 2014.

1. To go back to the home page of AAT, click the Home button on the top navigation bar.

2. Start with creating a new **Project** and give it a name and short description.

3. Select the **LMS** (Moodle 2.2).

4. Create a new **DataSet** that contains only the course "Beyond Statistics". Save your DataSet with a meaningful name (e.g., Exercise 5 DataSet).

5. Begin a new **Pattern** by selecting "Create a new Pattern" then "Create an entirely new Pattern".

6. In Pattern Step A, select the following **Concepts** (types of data to explore):
   - *active student*
   - *student past contract due date*
   - *challenge student*
   - *early access student*
   - *withdrawn student*
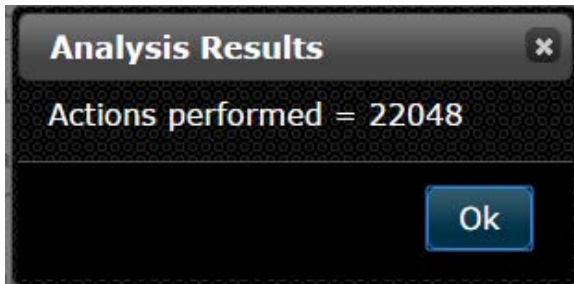   - *hold student*
   - *log*

   NOTE: Every time a student moves from one page in the LMS to another, such activity/action is stored in the log table.

7. In Pattern Step B, select your **Attributes** as follows:
   - From the LOG grouping: *log id* and *log time*
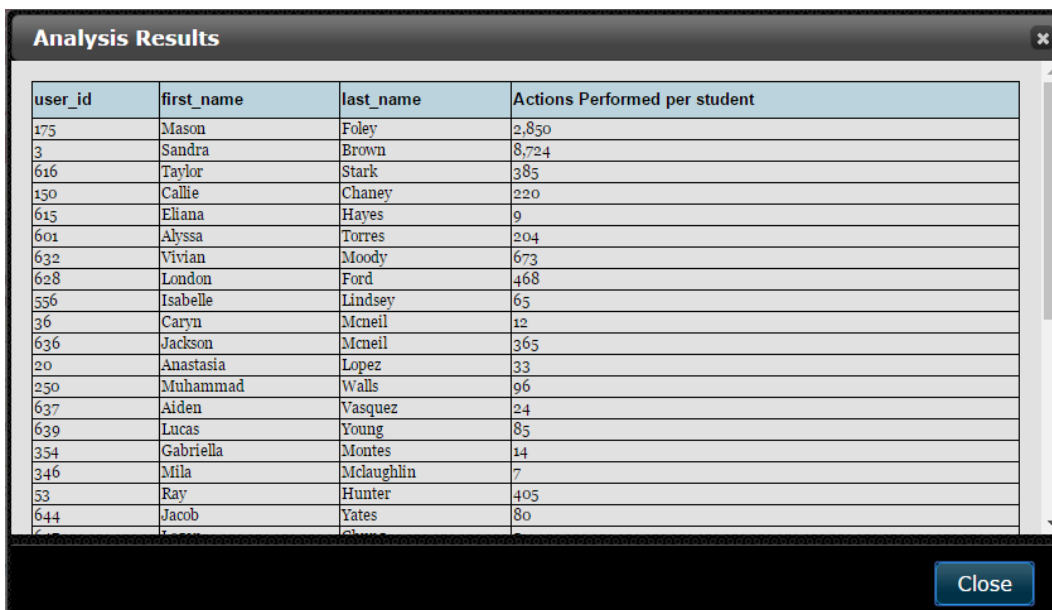   - From the USER grouping: *first name* and *last name*

   NOTE: The log_time will tell you when a student did a certain action. You will see in the sample results that the log time is a large number. That is the way the date is stored in the database. However, when you enter a limit to only see records since January 1st, 2014, you can just enter a regular date (and the date will be translated internally to such large number).

8. In Pattern Step C, to **Limit** the result set to only actions performed since January 1, 2014, set a limit on the Attribute "log time" to LATER THAN "January 1, 2014".

9. Save the Pattern and name it. We now have a Pattern that will produce a list of log actions performed by students since January 1, 2014, including the full name of each student, and the log id and time for each action. We can now proceed to create a separate analysis for each of the two tasks in this exercise.

10. After you save your Pattern you are returned to the Pattern Manager screen. Select *Create New Pattern* again, but this time select the **Analyze** button on the next page.

11. Select the Pattern you just saved from the list of options, and Continue.

12. **Task one:** Select the option for an analysis with one value as a result, then select the COUNT feature and *log id* from the dropdown. This will count all log ids and therefore will count all logged actions by all students.

13. Before you can view the results, you can provide a name to refer to your result (i.e., Actions performed) and you should name your analysis (i.e., Exercise 5 Analysis 1).

14. Now, to see the result, click "Perform Analysis." You should see output similar to the following image, representing the total number of actions by all students:

15. As a last step, the Analysis can be saved to access it at a later point.

16. **Task two:** Again, from the Pattern Manager screen, select Create New Pattern, followed by Analyze, and select the Pattern you created at the start of this exercise to continue.

17. This time, select the option for an analysis with a column as a result, then select the COUNT feature and *log id* for every *user* from the dropdowns. This will count all log ids for each student, and produce a table of results.

18. Before you can view the results, you can provide a name to refer to your result (i.e., Actions Performed per student) and you should name your analysis (i.e., Exercise 5 Analysis 2).

19. Now, to see the result, click "Perform Analysis." You should see output similar to the following image, representing the total number of actions per student:

Analysis Results

user_id	first_name	last_name	Actions Performed per student
175	Mason	Foley	2,850
3	Sandra	Brown	8,724
616	Taylor	Stark	385
150	Callie	Chaney	220
615	Eliana	Hayes	9
601	Alyssa	Torres	204
632	Vivian	Moody	673
628	London	Ford	468
556	Isabelle	Lindsey	65
36	Caryn	Mcneil	12
636	Jackson	Mcneil	365
20	Anastasia	Lopez	33
250	Muhammad	Walls	96
637	Aiden	Vasquez	24
639	Lucas	Young	85
354	Gabriella	Montes	14
346	Mila	Mclaughlin	7
53	Ray	Hunter	405
644	Jacob	Yates	80

20. As a last step, the Analysis can be saved to access it at a later point.

LIST OF TESTING DATA AVAILABLE FOR CONTINUED EXPLORATION

Our dataset for public testing is limited due to privacy restrictions on real student data. If you wish to explore further, consult the table below for details of which courses contain adequate test data for various types of student activities:

COURSE NAME	AVAILABLE DATA*[†]
ARE YOU READY TO LEARN ONLINE? (REVISION 1)	Assignments
ARE YOU READY TO LEARN ONLINE? (REVISION 2)	Assignments
BEYOND STATISTICS	Logs, Resources, Books and Book Chapters
BOARD ORIENTATION	Quizzes (including Questions and Answers)
CLEAR WRITING	Forums
CLLN FORUM	Forums
DEAFBLINDNESS INTERVENTION	Books and Book Chapters
E-LEARNING	Resources
GRAVENHURST	Resources, Quizzes (including Questions and Answers)
LG	Books and Book Chapters
LITERACY	Resources, Quizzes (including Questions and Answers)
LNH TRAINING	Resources
LNO WRITING 2	Forums
LNO WRITING 4 HOME	Forums
NEW TO MOODLE	Books and Book Chapters, Quizzes (including Questions and Answers)
OALCF	Forums, Resources, Quizzes (including Questions and Answers)
PUBLIC SPEAKING	Quizzes (including Questions and Answers)
QUESTIONS	Resources, Books and Book Chapters
SMLN ORIENTATION FOR PROGRAM MANAGERS	Books and Book Chapters
TRANSLITERACY	Resources, Quizzes (including Questions and Answers)
TUTOR TRAINING	Resources, Books and Book Chapters
WHAT CAN YOU DO?	Resources
ALL COURSES	**Course** and **User** concept data are available for all courses in our sample.

* In our LMS, resources refers to a variety of learning materials including links, html pages, files (documents, power points, etc.), and audio/video files.
† Please note that when you are exploring books, any query that draws all of the book chapter attribute (i.e., the full text of the chapter) can take a very long time to process if your DataSet is large.