Developing Achievement Levels on the
2011 National Assessment of Educational Progress in
Grades 8 and 12 Writing

Final Submitted: May 20, 2014

BoWTIE Technical User Guide

Submitted to:
Munira Mwalimu
National Assessment Governing Board
800 North Capitol Street, NW, Suite 825
Washington, DC 20002-4233

This study was funded by the
National Assessment Governing Board
under Contract ED-NAG-10-C-0003.
Availability of Data – Open Data Policy

Pursuant to this guidance, and in accordance with Federal Acquisition Regulations, the National Assessment Governing Board (Governing Board) is providing access to software and data prepared in support of the Governing Board’s contract work on standard setting. This work was performed under the legislative authority of the Governing Board to set achievement levels, see http://www.nagb.gov/naep/naep-law.html. More information on the Governing Board’s work is available at www.nagb.gov.

Background
The National Assessment Governing awarded two contracts in Fiscal Year 2010 to conduct standard setting work. Contract number ED-NAG-10-C-0003 was awarded to Measured Progress to develop achievement levels for the 2011 and 2013 National Assessment of Educational Progress (NAEP) writing assessments. Measured Progress developed a computerized process for conducting the achievement levels process.¹ The second contract, ED-NAG-10-C-0004, was awarded to WestEd to conduct Judgmental Standard Setting Studies (JSS) to identify the NAEP scores at the 12th grade representing the knowledge and skills in reading and mathematics needed to qualify for entry-level credit-bearing college courses and for job training programs in five selected occupations.² WestEd subcontracted with Measured Progress to conduct the studies implementing a computerized standard setting method. Both contracts utilized software developed by Measured Progress under contract, as detailed in the final technical and process reports posted on the Governing Board website.

¹ See final reports available at http://www.nagb.gov/publications/achievement.html
² http://www.nagb.gov/what-we-do/preparedness-research/types-of-research/jss.html
Software Availability under the Federal Open Data Policy
The Governing Board is making the software developed under these two contracts—Computer-Aided Bookmarking (CAB) and Body of Work Technological Integration and Enhancements (BoWTIE) available for public use via our website with a link to an external site for the download. Technical guides and user manuals to accompany the software download are provided via the Governing Board’s website. Please note that the software used for the contracts has been modified to remove confidential and personally identifiable information based on federal privacy and security requirements that can be found at http://www2.ed.gov/notices/privacy/index.html and at http://www2.ed.gov/about/offices/list/om/fs_po/ocio/ias.html. This requirement also adheres to OMB Circular A-130 provisions on electronic information dissemination policies and guidelines available at http://www.whitehouse.gov/omb/circulars_a130_a130trans4.

Limitations:
The Governing Board contracted for final products and deliverables that were developed under contract. The custom software developed to conduct the work was proposed by the contractors and accepted by the Governing Board, and the work was conducted with federal funds. The software and source codes are being made available to the public, as developed for the specific purposes specified under the contract, without technical modifications. The contractors, WestEd and Measured Progress have not asserted copyright to the software.

Therefore the National Assessment Governing Board is making the software available to the public under its unlimited rights contract authority (for both referenced contracts) under Federal Acquisition Regulation (FAR) 52.227-17 Rights in Data—Special Works (DEC 2007). The National Assessment Governing Board grants the public the worldwide, non-exclusive, royalty-free, perpetual right to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, the software created pursuant to the Computer-Aided Bookmarking (under Contract number ED-NAG-10-C0004) and Body of Work Technological Integration and Enhancements (under Contract number ED-NAG-10-C-0003), in any manner and for any purpose, and to have or permit others to do so, subject to a right of attribution. Users of the data are required to acknowledge in any use of the works, or derivatives created therefrom, that the software was initially produced under contracts issued by the National Assessment Governing Board.

THE NATIONAL ASSESSMENT GOVERNING BOARD IS PROVIDING THE SOFTWARE AS IT IS, AND MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND CONCERNING THE WORK—EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING WITHOUT LIMITATION WARRANTIES OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR THE PRESENCE OR ABSENCE OF LATENT OR OTHER DEFECTS, ACCURACY, OR THE PRESENCE OR ABSENCE OF ERRORS, WHETHER OR NOT DISCOVERABLE, ALL TO THE GREATEST EXTENT PERMISSIBLE UNDER FEDERAL LAW.
Technical Support
The Governing Board will not provide technical support to users, and will not respond to queries pertaining to the software based on the fact that this work was completed under contract, and was a tool used to provide contract deliverables. Both contracts have expired. In its current form, the software would require significant modification by end users, as detailed in the technical and user guides. The Governing Board therefore will not be providing any technical support regarding the software. To assist users of the software, user manuals and technical guides provide system requirements in detail, and step by step instructions on downloading the software.

Disclaimer: External Links
The data and external links provided in the software documentation and guides are solely for our readers’ use, information, and convenience. When readers select a link to an external website, they are leaving the ww.nagb.gov website and are subject to the privacy and security policies of the owners/sponsors of the external website.

The National Assessment Governing Board:

- Does not control or guarantee the accuracy, relevance, timeliness or completeness of information contained on a linked website.
- Does not endorse the organizations sponsoring linked websites or the views they express or the products/services they offer.
- Cannot and does not authorize the use of copyrighted materials contained in linked websites. Users must request such authorization from the sponsor of the linked website.
- Is not responsible for transmissions users receive from linked websites.
- Does not guarantee that external websites comply with Section 508 (Accessibility Requirements) of the Rehabilitation Act.

Trademarks

- Adobe, Acrobat, Reader, Air, Flash, and Flash Player are registered trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- SQL, .NET, Excel, ActiveX, Visual Studio, and Silverlight are registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Java is a trademark of Sun Microsystems, Inc. in the U.S. and certain other countries.
Table of Contents

Introduction ................................................................. 2
System Requirements ................................................... 3
System Diagram ............................................................ 4
Included Files .................................................................... 5
Installing the BoWTIE Software .............................. 6
  Setup the BoWTIE Database ........................................ 6
  Setup the WarRoom Application ................................. 7
  Setup the Panelist Application .................................... 9
Tables ........................................................................ 11
Uninstalling the Software ........................................... 12

Appendix .................................................................. 13

Import Item Statistics ........................................... 13
  Instruction Summary .............................................. 14
  Prepare Database .................................................. 15
  Review the Grade and Panel tables ......................... 15
  Load Data Item into the ItemStatistics Table .......... 15
  Populate Ancillary Tables from ItemStatistics ........ 18

Import Student Responses Overview .................. 19
  General Information .............................................. 19
  Instruction Summary .............................................. 19
  Prepare the Database ............................................. 20
  Load Data into the StudentResponseTable ............. 21
  Populate Ancillary Tables from StudentResponse ... 26
  Import EAP and ScaleScore .................................... 26
  General Information .............................................. 26
  Instruction Overview .............................................. 27

Database Diagrams Appendix ................................ 31
  Round and Rating Database Diagram .................... 31
ItemData Database Diagram.................................................................32
StudentData Database Diagram ..........................................................33
Session, Panel, Group, Table Database Diagram.................................34
Introduction

The BoWTIE Technical User Guide is intended to assist in the installation of the BoWTIE software on the server, administrator, and panelist computers.

This is a Windows application that was coded in C#. It connects to a Microsoft SQL 2005 database.
System Requirements

IMPORTANT: This is the known good environment that the software was developed on. The performed testing indicated that SQL Server® 2012 and Excel® 2010 will not work with the current version of the software. Development work will be required to upgrade the software to work with any new versions.

Server Requirements

- Microsoft® SQL Server 2005
- Microsoft Visual Studio® 2005

NOTE: All versions of .NET® Framework listed below are required.

- Microsoft .NET Framework 2
- Microsoft .NET Framework 3.5
- Microsoft .NET Framework 4
- Microsoft .NET 4 Extended

NOTE: Ensure that WebORB for .NET is included in the deployment package. WebORB for .NET licensing is for development mode only. Expanded usage will need a licensing agreement purchased from Midnight Coders. For more information visit [link](http://www.themidnightcoders.com/products/weborb-for-net/licensing.html).

User Workstation Configuration

- Microsoft Silverlight®
  [link](http://www.microsoft.com/silverlight)
- Microsoft Excel 2007
- Adobe® Flash® Player 11 for ActiveX
  [link](http://helpx.adobe.com/flash-player/kb/archived-flash-player-versions.html#playerglobal)
- Adobe Reader®
  [link](https://get.adobe.com/reader)
- BoWTIE Panelist or WarRoom Application
System Diagram
Included Files

The following files are provided:

- **BoWTIE.db.zip** – Compressed database baseline to restore
  - BoWTIE_backup_baseline.bak – database baseline including minimal information
  - Enable_Service_Broker_BoWTIE.sql – SQL query code used to enable the Service Broker

- **BoWTIE.deploy.zip** – Files used during setup
  - BoWTIE_IDrive folder – folder used to deploy directory structure to server and mapped on individual computers
  - MP.BoWTIE.WarRoom.Templates folder – template files used to import information

- **BoWTIE.src.zip** – Source code - All source files used for the BoWTIE development
Installing the BoWTIE Software

These instructions explain the procedures for installing the BoWTIE application including the database and server setup.

Software requirements: Each computer that will have the WarRoom administration software installed must have a copy of Microsoft Excel 2007 installed. The database server will need to have SQL 2005 installed.

NOTE: Each computer will need to be setup to work for their assigned task.

This section contains the following:

- Setup the BoWTIE Database
- Setup the WarRoom Application
- Setup the Panelist Application

Setup the BoWTIE Database

These instructions explain the procedures for setting up the BoWTIE server. This process should be completed prior to setting up the panelist or WarRoom computers.

Software requirements: The database server will need to have SQL 2005 installed.

IMPORTANT: The following database items must be performed by a professional database administrator and are only intended as guidelines to assist in making the software work.

1. Create a database (e.g. YOUR_DATABASE_NAME_HERE).

   NOTE: Make sure that **Mixed Mode authentication** is turned on before performing the next step.

2. Create a SQL login and give it db_owner rights to the database.

3. From the zip file **BoWTIE.db.zip**, restore the database backup **BoWTIE_backup_baseline.bak**.

4. Make note of the credentials and server name as you will need them when setting up the WarRoom and Panelist applications.
NOTE: The **Broker Service** must be enabled in SQL in order for the application to run. The following steps will enable the service.

5. Open the file `enable_service_broker_bowtie.sql` in SSMS.
6. Change the database name to the name from Step 1.
7. Execute the script to enable the service for the database.
8. Check the table shown to ensure the column **IsBrokerEnabled** shows a 1 next to the specified database.

In addition to the steps above, the folder **BoWTIE_IDrive** will need to be setup on a network location and mapped as the **I:** drive on each Panelist and Administrator computer.

**Setup the WarRoom Application**

These instructions explain the steps to setup the WarRoom application. The database setup must be completed prior to setting up the WarRoom and Panelist applications. See "Setup the BoWTIE Database" on page 6 for more information.

Software requirements: The WarRoom computer must have Microsoft Excel 2007 installed to make use of all application features.

**IMPORTANT:** You will need to know the user name and password for the BoWTIE server and the name of the server prior to completing the steps below.

**NOTE:** The configuration file changes can be made prior to copying the folder to the destination computer if desired.

1. An account with System Administrator rights will need to be used to edit the local Windows **hosts** file. Add an entry for the database host that says:
   
   ```
   [YOUR SERVER HOST IP ADDRESS]
   [YOUR SERVER HOST NAME #BoWTIE Host]
   ```
2. Unzip the folder **BoWTIE.deploy.zip**.
3. Open the **BoWTIE_IDrive** folder and drill down to the folder
   **BoWTIE\app\WarRoom**.
4. Using Microsoft Notepad or another text editor, edit the file **MP.BoWTIE.WarRoom.exe.config** and make the following changes in the section **BoWTIE_Entities** to change the connection string to:
   a. Set catalog = **[YOUR DATABASE NAME]**
   b. Set source = **[YOUR SERVER HOST NAME or IP ADDRESS]**
c. Set UID = [YOUR DATABASE CREDENTIALS]

5. In the file `MP.BoWTIE.WarRoom.exe.config`, make the following changes in the section `BoWTIE_Membership` to change the connection string to:

   a. Set catalog = [YOUR DATABASE NAME]
   
   b. Set source = [YOUR SERVER HOST NAME or IP ADDRESS]
   
   c. Set UID = [YOUR DATABASE CREDENTIALS]

6. In the file `MP.BoWTIE.WarRoom.exe.config`, make the following changes in the section `<appender name="AdoNet Appender">` to change the connection string to:

   a. Set catalog = [YOUR DATABASE NAME]
   
   b. Set source = [YOUR SERVER HOST NAME or IP ADDRESS]
   
   c. Set UID = [YOUR DATABASE CREDENTIALS]

7. Save your changes. You will make the same changes to the configuration file for the Panelist application.

8. Copy the `BoWTIE_IDrive` folder to the desired location on the hard drive of the destination computer. This can be the desktop, the C: drive, or the Program Files directory.

9. This folder needs to be mapped as the I: drive on the computer for the software to work correctly. This shared directory will be used on all panelist/WarRoom computers.

10. Create a shortcut on the desktop of the computer that points to the `MP.BoWTIE.WarRoom.exe` file.
Setup the Panelist Application

These instructions explain the steps to setup the Panelist application. The database setup must be completed prior to setting up the WarRoom and Panelist applications. See "Setup the BoWTIE Database" on page 6 for more information.

IMPORTANT: You will need to know the user name and password for the BoWTIE server and the name of the server prior to completing the steps below.

NOTE: The configuration file changes can be made prior to copying the folder to the destination computer(s) if desired.

NOTE: Step 1 is optional if you use the IP address for the server in steps 3, 4, and 5 below.

1. An account with System Administrator rights will need to be used to edit the local Windows hosts file. Add an entry for the database host that says: [YOUR SERVER HOST IP ADDRESS] [YOUR SERVER HOST NAME #]BoWTIE Host

2. Open the BoWTIE_IDrive folder and drill down to the folder BoWTIE\app\App.

3. Using Microsoft Notepad or another text editor, edit the file MP.BoWTIE.exe.config and make the following changes in the section BoWTIE_Entities to change the connection string to:
   a. Set catalog = [YOUR DATABASE NAME]
   b. Set source = [YOUR SERVER HOST NAME or IP ADDRESS]
   c. Set UID = [YOUR DATABASE CREDENTIALS]

4. In the file MP.BoWTIE.exe.config, make the following changes in the section BoWTIE_Membership to change the connection string to:
   a. Set catalog = [YOUR DATABASE NAME]
   b. Set source = [YOUR SERVER HOST NAME or IP ADDRESS]
   c. Set UID = [YOUR DATABASE CREDENTIALS]
5. In the file **MP.BoWTIE.exe.config**, make the following changes in the section `<appender name="AdoNet Appender">` to change the connection string to:

   a. Set catalog = [YOUR DATABASE NAME]
   b. Set source = [YOUR SERVER HOST NAME or IP ADDRESS]
   c. Set UID = [YOUR DATABASE CREDENTIALS]

6. Save your changes. You will make the same changes to the configuration file for the WarRoom application.

7. Copy the **BoWTIE_IDrive** folder to the desired location on the hard drive of the destination computer. This can be the desktop, the **C: drive**, or the **Program Files** directory.

8. This folder needs to be mapped as the I: drive on the computer for the software to work correctly. This shared directory will be used on all panelist/WarRoom computers.

9. Create a shortcut on the desktop of the computer that points to the **MP.BoWTIE.exe** file.
Tables

The following list provides the names of the tables in the database that can be modified to change the descriptions of selected items.

**BoWTIE WarRoom**

<table>
<thead>
<tr>
<th>Table</th>
<th>Modifies</th>
</tr>
</thead>
<tbody>
<tr>
<td>dbo.panelist</td>
<td>Set panelist Symbol / secret code</td>
</tr>
<tr>
<td>dbo.panel</td>
<td>Set grades that panelists can be assigned to</td>
</tr>
<tr>
<td></td>
<td>(i.e., 8 or 12)</td>
</tr>
<tr>
<td>dbo.group</td>
<td>Set groups that panelists can be assigned to</td>
</tr>
<tr>
<td></td>
<td>(i.e., Group A or Group B)</td>
</tr>
<tr>
<td>dbo.table</td>
<td>Set tables that panelists can be assigned to</td>
</tr>
<tr>
<td></td>
<td>(i.e, Table 1 or Table 2)</td>
</tr>
<tr>
<td>dbo.itinerary</td>
<td>Set the itinerary and description</td>
</tr>
<tr>
<td>dbo.grade</td>
<td>Set grades</td>
</tr>
</tbody>
</table>

To change the Achievement Level Descriptions (ALDs), a developer will need to edit the PolicyDefinitionsView.xaml file in the MP.BoWTIE.PanelistModule source code.
Uninstalling the Software

To uninstall BoWTIE, unmap the I: drive and delete the shortcut from the desktop of the panelist and WarRoom computers.
IMPORTANT: The following appendix items are intended for use by a professional database administrator and are only intended as guidelines to assist in making the software work. Please note that the original developer was the only one able to make these scripts work.

**Import Item Statistics** ................................................................. 13

- **Instruction Summary** ................................................................. 14
- **Prepare Database** ...................................................................... 15
  - **Review the Grade and Panel tables** ........................................ 15
- **Load Data Item into the ItemStatistics Table** ............................ 15
- **Populate Ancillary Tables from ItemStatistics** ............................ 18

**Import Student Responses Overview** ................................. 19

- **General Information** ................................................................. 19
  - **Instruction Summary** ................................................................. 19
- **Prepare the Database** ................................................................. 20
- **Load Data into the StudentResponseTable** ............................. 21
- **Populate Ancillary Tables from StudentResponse** ................. 26
- **Import EAP and ScaleScore** ................................................... 26
  - **General Information** ................................................................. 26
  - **Instruction Overview** ................................................................. 27

**Database Diagrams Appendix** ........................................... 31

- **Round and Rating Database Diagram** .................................. 31
- **ItemData Database Diagram** .................................................. 32
- **StudentData Database Diagram** ............................................ 33
- **Session, Panel, Group, Table Database Diagram** ............... 34
Import Item Statistics

This document explains how to properly load the various BoWTIE database item tables from the spreadsheet files received by the Psychometrics department.

You will need Microsoft Excel 2007 and Microsoft SQL Server 2005 Management Studio version 11.0.3128.0, and the following Excel files:

- **Item Statistics Template.xls** – Template file given to the Psychometrician to be populated
- **Item Statistics.xls** – Populated **Item Statistics Template.xls** file used to import data into the BoWTIE database

**IMPORTANT:** All columns are required to have a value.

**Instruction Summary**

**Prepare Database**

- Clear existing data in the database prior to loading new data
- Check relevant tables for correct data needed

**Load spreadsheet data into ItemStatistics table**

Loads data into a single table named ItemStatistics

**Populate ancillary tables from ItemStatistics**

Pulls data from ItemStatistics and populates several other Item related tables

Affects the following tables:

- [dbo].[ItemStatistics]
- [dbo].[ItemData]
- [dbo].[DParameter]
Prepare Database

1. In Microsoft SQL Server 2005 Management Studio, execute the following SQL commands, in order:

   Use YOUR_DB_NAME_HERE
   DELETE FROM ItemStatistics
   DELETE FROM ItemData
   DELETE FROM DParameter

   IMPORTANT: Make sure you are pointing to the correct database on the server.

2. Press F5 to run the SQL commands. This clears out the tables that will be populated with new data in the following steps.

3. Check relevant tables for correct data needed:

   Review the Grade and Panel tables

   Grade:

   1. In SS2005MS run select * from grade.
   2. Verify that table contains the correct grades for the data you are importing.

   Panel:

   1. In SS2005MS run select * from Panel.
   2. Verify that table contains the correct grades for the data you are importing.

   IMPORTANT: If you entered new Grades into the Grade table, you will have to make the appropriate entry in the Panel table.

Load Data Item into the ItemStatistics Table

You must load data from ItemStatistics.xls into ItemStatistics table.

Use SQL Server Management Studio for this step, which will import spreadsheet data.
1. Right-click on database name, select **Tasks**, select **Import Data**.

2. Change **Data Source** to Microsoft Excel and enter the path and file name of the Excel spreadsheet.

3. Make sure **First row has column names** check box is checked, then click **Next**.
4. Select the **Server Name**, in this example, *(local)SQLEXPRESS*. Usually MSQL11A is correct.

5. Select the database. For example, BoWTIE_Dev.

6. Click **Next**.

7. Defaults to **Copy data from one or more tables or views**. Keep this setting and click **Next**.
8. Select the worksheet in the Excel spreadsheet that contains the item statistics.

**IMPORTANT: Do not click Next yet.**

9. In the **Destination** column, change the name from **[dbo].[ItemStatistics$]** to **[dbo].[ItemStatistics]** (the actual name of the database table).

10. Click **Next**.

11. Click **Next**.

12. Click **Finish**.

If the load is successful, the following window appears showing no errors:

![Successful Load Window]

Data is now in the ItemStatistics table in the database. This table is not used directly by the BoWTIE application, but is a **staging** table for the next set of steps that populate item related data into various tables that will be used by the application.

**Populate Ancillary Tables from ItemStatistics**

Run the following SQL scripts, in order, using SSMS. To get the script into SSMS, use File > Open, or drag and drop the .sql file from Windows Explorer onto the SSMS window. Make sure that the correct database is selected.

- FillItemDataFromItemStatistics.sql
- FillDParameterFromItemStatistics.sql
Import Student Responses

Overview

This document explains how to properly load the various BoWTIE database Student tables from the spreadsheet files received by the Psychometrics department. Another document explains how to load the item tables.

General Information

Tools Used

- Microsoft Excel 2007
- Microsoft SQL Server 2005 Management Studio version 11.0.3128.0

Required Files

- ItemStatisticsTemplate.xls – Template file given to the Psychometrician to be populated
- ItemStatistics.xlsx – Populated Item Statistics Template.xls file used to import data into the BoWTIE database

IMPORTANT: All columns are required to have a value.

Instruction Summary

Database preparation

- Clear existing data in the database prior to loading new data

Loading data from spreadsheet into StudentResponse table

- Loads data into a single table named StudentResponse

Populate ancillary tables from StudentResponse

- Pulls data from StudentResponse and populates several other Student related tables

Loading of EAP and ScaleScore data from spreadsheet

The final step is to load additional spreadsheet data into a temporary table and update the StudentData table with EAP and ScaleScore data.
Affects the following tables:

- [dbo].[StudentData]
- [dbo].[StudentResponse]
- [dbo].[StudentPrompt]
- [dbo].[StudentRawScore]

Response File Format – PromptId_StudentId(10 dig)_PromptedScore(1 dig).pdf

Question File Format – etsId.jpg

## Prepare the Database

Execute the following SQL commands, in order, using SQL Server Management Studio (SSMS).

**IMPORTANT:** Make sure you are pointing to the correct database on the server.

- DELETE FROM StudentResponse
- DELETE FROM StudentPrompt
- DELETE FROM StudentRawScore
- DELETE FROM StudentData

This clears out the tables that will be populated with new data in the following steps.
Load Data into the StudentResponseTable

Use SSMS for this step, which will import spreadsheet data.

1. Right-click on the database name, select Tasks, and select Import Data.

2. Change Data Source to Microsoft Excel and enter the path and filename of the Excel spreadsheet.

3. Make sure First row has column names check box is checked, then click Next.
4. Select the **Server Name**, in this example, *(local)*SQLExpress. Usually **MPSQL11A** is correct.

5. Select the **Database**. For example, **BoWTIE_Dev**.

6. Click **Next**.

7. Defaults to **Copy data from one or more tables or views**. Keep this setting and click **Next**.
8. Select the worksheet in the Excel spreadsheet that contains the student responses.

![Image of SQL Server Import and Export Wizard]

9. In the **Destination** column, change the name from `[dbo].[student response]$` to `[dbo].[StudentResponse]` (the actual name of the database table).

10. Click **Edit Mappings**.

![Image of Column Mappings]
11. On this screen, change the **Destination** of the Student ID column to **StudentUniqueID**. Because the column name in the spreadsheet does not match the column name in the table, the Import Wizard cannot automatically match the source to the destination, and it needs to be done manually.

12. If you have correctly entered the table name from the previous step, you should see that **Append rows to the destination table** radio button is selected. If not, go back and fix the Destination table name on the previous screen.

When done, this screen should look like this:

![Column Mappings](image1.png)

13. Click **OK**.
14. Click **Next**.

15. If you receive a warning message, click **Next** to continue.

16. Click **Next** on the next screen.

17. Click **Finish**.

18. Your screen should look similar to this, with no errors:
Data is now in the **StudentResponse** table in the database. This table is not used directly by the BoWTIE application, but is a ‘staging’ table for the next set of steps that populate student related data into various tables that will be used by the application.

**Populate Ancillary Tables from StudentResponse**

Run the following SQL scripts, in order, using SSMS. To get the script into SSMS, use File > Open, or drag and drop the .sql file from Windows Explorer onto the SSMS window. Make sure that the correct database is selected.

- FillStudentDataFromStudentResponse.sql
- FillRawScoreFromStudentResponse.sql
- FillStudentPromptFromFromItemStudentResponse.sql

**Import EAP and ScaleScore**

This final step occurs twice. Psychometrics sends two spreadsheet files containing EAP and ScaleScore data - one for 8th grade and one for 12th grade. The process is the same, but with different Excel files.

First, using SSMS, make sure that a temporary table named Sheet1$ does not exist in the database to be updated. If there is a table named Sheet1$, run the following SQL command: DROP TABLE [Sheet1$]. This will delete the table.

The next step is to use the Import Wizard to load the first spreadsheet and then run a SQL script to update the StudentData table. The process is very similar to what was done previously when importing the StudentResponse data from the spreadsheet.

**General Information**

**Tools Used**

- Microsoft Excel 2007
- Microsoft SQL Server 2005 Management Studio version 11.0.3128.0

**Required Files**

- Item Statistics Template.xlsx – Template file given to the Psychometrician to be populated
- Item Statistics.xlsx – Populated Item Statistics Template.xlsx file used to import data into the BoWTIE database

**NOTE:** All columns are required to have a value.
Instruction Overview

- Database preparation
- Clear existing data in the database prior to loading new data
- Loading of EAP and ScaleScore data from spreadsheet
- The final step is to load additional spreadsheet data into a temporary table and update the StudentData table with EAP and ScaleScore data
- Affects the following tables:
  - [dbo].[StudentData]
  - [dbo].[StudentResponse]
  - [dbo].[StudentPrompt]
  - [dbo].[StudentRawScore]

1. Start the Import Wizard as before (right-click on database name, select Tasks, select Import Data).

2. Change Data Source to Microsoft Excel and enter the path and file name of the Excel spreadsheet.
3. Make sure **First row has column names** check box is checked, then click **Next**.

4. Select the **Server Name**. In this example, *(local)*SQLEXPRESS. Usually MPSQL11A is correct.

5. Select the **Database**. For example, **BoWTIE_Dev**, and click **Next**.
6. Leave the default selection **Copy data from one or more tables or views** and click **Next**.

7. Select the proper worksheet from the spreadsheet file. In this example, there is only one.

8. Change the table name of the **Destination** table to **Sheet1$**, as shown above.

9. Click the **Edit Mappings...** button.
10. Check to make sure the source and destination are correct, and that the **Create Destination table** radio button is selected.

11. Click **OK**.

12. Click **Next**.

13. Click **Finish**.

The Import Wizard will now process the spreadsheet file and display a summary screen:

If there are no errors, there is now a table named **Sheet1$** containing the data from the spreadsheet.

14. Next, run the following SQL script file from within SSMS, which will add EAP and ScaleScore data:

   **FillStudentDataWithEAPAndScaleScore.sql**

15. Finally, run the above process a second time, using the second spreadsheet. The example above was 8th grade data. Do the same process again for the 12th grade data.

   **NOTE:** The SQL script will automatically delete the Sheet1$ table after the update completes. There should not be a Sheet1$ table after running the script the first time.

   The spreadsheets can be imported and processed in any order.
Database Diagrams Appendix

The database diagrams included in this appendix are included for informational purposes only. There is no intent that these diagrams will be used to create a database from scratch. Please follow the installation instructions for the server included in “Setup the BoWTIE Database” on page 6.

**Round and Rating Database Diagram**

![Diagram](image)
ItemData Database Diagram
StudentData Database Diagram
Session, Panel, Group, Table Database Diagram