|  |
| --- |
| **E:\My Documents\Desktop\Logo_FPT_University_doc.jpgMinistry of education and training** |
| TLH Software Test Documentation |
| Teacher Lefthand Application |
|  |
| |  |  | | --- | --- | | **TLH Team** | | | **Group Members** | Lê Phương Giang – 60046 – GiangLP60046  Nguyễn Hồ Hải – 00268 – HaiNN00268  Nguyễn Quốc Hùng – 00267 – HungNQ00267  Tô Hồng Quân – 60061 – QuanTH60061 | | **Supervisor** | Teacher Lâm Hữu Khánh Phương | | **Ext Supervisor** |  | | **Capstone Project code** | TLH | |
| **Ho Chi Minh City, 13th March, 2011** |

**Record of Changes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Change Item** | **Description** | **By** | **Version** |
| 13 Mar 2012 | All | Create Document | QuanTH | 1.0 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# Table of Contents

[Table of Contents 2](#_Toc319824961)

[I. Introduction 3](#_Toc319824962)

[1. System Overview 3](#_Toc319824963)

[2. Test Approach 3](#_Toc319824964)

[II. Test Plan 4](#_Toc319824965)

[1. Features to be tested 4](#_Toc319824966)

[1.1 Manage Teaching Plan 4](#_Toc319824967)

[1.2 Manage Teaching Method 4](#_Toc319824968)

[1.3 Manage Knowledge Item 4](#_Toc319824969)

[2. Features not to be tested 4](#_Toc319824970)

[2.1 Text formatting 4](#_Toc319824973)

[2.2 Performance 4](#_Toc319824974)

[3. Test Cases 0](#_Toc319824975)

[3.1 Manage Teaching Plan 0](#_Toc319824979)

[3.2 Manage Teaching Method 5](#_Toc319824980)

[3.3 Manage Knowledge Item 8](#_Toc319824981)

[4. Checklists 11](#_Toc319824982)

[4.1 Checklist of Validation 11](#_Toc319824984)

[4.2 Submission Checklist 11](#_Toc319824985)

[III. Appendix A: Test Logs 13](#_Toc319824986)

[1. Test Results 13](#_Toc319824987)

[2. Incident Report 13](#_Toc319824988)

[2.1 [Incident Brief Description] 13](#_Toc319824990)

[2.2 [Incident Brief Description] 13](#_Toc319824991)

# Introduction

## System Overview

This document describes the approach and methodologies used by the testing group to plan, organize and manage the testing of this system. It describes implementation details of test cases or technical details of how the product features should work.

The system will be tested is also the system our team are currently developing. This system is developed based on MVVM framework. It is a WPF Application with the end-user is Primary School Teacher.

## Test Approach

The testing for this project will consist of Unit, System/Integration (combined) and Acceptance test levels. It is hoped that there will be at least one full time independent test person for system/integration testing. Most testing will be done by the test manager with the development team’s participation.

Unit Testing will be done by the developers and will be approved by the implementing team leader. All unit test information (sample, output, data printouts, and defect information…) will be managed by developers and it must be showed when team required.

System/Integration Testing will be performed by the test manager and implementing team leader with assistance from the individual developers as required.

Acceptance Testing will be performed by the test manager and development team leader. The acceptance test will be done for a period of 2 weeks after completion of the System/Integration test process. Programs will enter into Acceptance test after all critical and major defects have been corrected. A program may have one major defect as long as it does not obstruct testing of the program (There is a work around for the error). Prior to final completion of acceptance testing all open critical and major defects must be corrected.

# Test Plan

## Features to be tested

The following is a list of areas to be focus on during testing of application

### Manage Teaching Plan

Test all functions in Manage Teaching Plan Module includes: Create Teaching Plan, Update Teaching Plan, and Export Teaching Plan.

### Manage Teaching Method

Test all functions in Manage Teaching Method includes: Create Teaching Method, Update Teaching Method, Delete Teaching Method, and Search Teaching Method.

### Manage Knowledge Item

Test all functions in Manage Knowledge Item includes: Create Knowledge Item, Update Knowledge Item, Delete Knowledge Item, and Search Knowledge Item.

## Features not to be tested

The following is a list of the areas that will NOT be tested in this system:



### Text formatting

There wasn’t enough time and this feature is not so important, so we pass this case and assume that all the text is format correctly.

### Image formatting

There wasn’t enough time and this feature is not so important, so we pass this case and assume that all the image is not need to format correctly.

### Performance

There wasn’t enough time so we can’t optimize source code and improve performance. We can only ensure the system work well but not at its best performance.

## Test Cases

### GUI Test Cases

#### Main Ribbon Bar

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application. | | | | | |  |
|  | **Components.** | | | | | |  |
| GUI\_RB\_001 | Test Tabs | Look at the Ribbon bar on the top of the application. | The main ribbon bar is displayed including tabs from left to right:   1. File Tab: is unfocused. 2. Home Tab: is focused. 3. Edit Tab: is unfocused. 4. Insert Tab: is unfocused. 5. Format Tab: is unfocused. 6. Tool Tab: is unfocused. |  |  |  |  |
| GUI\_RB\_002 | Test File Tab | Click on File tab | The File tab is focused.  File panel is displayed including button from top to bottom:   1. New: is enable, contains child button. 2. Open: is enabled. 3. Close: is enabled. 4. Close All: is enabled. 5. Save: is enabled. 6. Save As: is enabled. 7. Save All: is enabled. 8. Export: is enabled, contains child button. 9. Exit: is enable |  |  |  |  |
|  | Test children buttons of New button. | Click on File tab.  Click on New button. | The File tab is focused. File panel is displayed including New button.  Display New Panel including:  + New Teaching Plan button: is enabled.  + New Knowledge Item button: is enabled.  + New Teaching Method button: is enabled. |  |  |  |  |
|  | Test children buttons of Export button. | Click on File tab.  Click on Export button. | The File tab is focused. File panel is displayed including Export button.  Display Export Panel including:  + Word button: is enabled.  + RTF button: is enabled.  + XPS button: is enabled. |  |  |  |  |
| GUI\_RB\_003 | Test Home Tab | Click on Home tab. | The Home tab is focused.  Home ribbon panel is displayed including button from left to right:   1. Compose Teaching Plan button: is enabled. 2. Manage Knowledge Item button: is enabled. 3. Manage Teaching Method button: is enabled. 4. Edit button group including:    1. Undo button: is disabled.    2. Redo button: is disabled.    3. Cut button: is enabled.    4. Copy button: is enabled.    5. Paste button: is enabled.    6. Delete button: is disable.    7. Select All button: is enabled. 5. Insert button group including:    1. Insert Image button: is enabled.    2. Insert From Text File button: is enabled.    3. Insert Table button: is enabled.    4. Insert Horizontal Line button: is enabled. 6. Format button group including:    1. Font combo box: is enabled.    2. Font size combo box: is enabled.    3. Font color button: is enabled.    4. Highlight color button: is enabled.    5. Bold button: is enabled.    6. Italic button: is enabled.    7. Underline button: is enabled.    8. Strikethrough button: is enabled.    9. Increase Indent button: is enabled.    10. Decrease Indent button: is enabled.    11. Format bullet list button: is enabled.    12. Format number list button: is enabled.    13. Left Align button: is enabled.    14. Center Align button: is enabled.    15. Right Align button: is enabled.    16. Justify Align button: is enabled. 7. Tools button group:    1. Spell Check button: is enabled. |  |  |  |  |
| GUI\_RB\_004 | Test Edit Tab | Click on Edit tab. | The Edit tab is focused.  Edit ribbon panel is displayed including button from left to right:   1. Compose Teaching Plan button: is enabled. 2. Manage Knowledge Item button: is enabled. 3. Manage Teaching Method button: is enabled. 4. Undo button: is disabled. 5. Redo button: is disabled. 6. Cut button: is enabled. 7. Copy button: is enabled. 8. Paste button: is enabled. 9. Delete button: is disable. 10. Select All button: is enabled. |  |  |  |  |
| GUI\_RB\_005 | Test Insert Tab | Click on Insert tab | The Insert tab is focused.  Insert ribbon panel is displayed including button from left to right:   1. Compose Teaching Plan button: is enabled. 2. Manage Knowledge Item button: is enabled. 3. Manage Teaching Method button: is enabled. 4. Insert Image button: is enabled. 5. Insert From Text File button: is enabled. 6. Insert Table button: is enabled. 7. Insert Horizontal Line button: is enabled. |  |  |  |  |
| GUI\_RB\_006 | Test Format Tab | Click on Format tab | The Insert tab is focused.  Format ribbon panel is displayed including button from left to right:   1. Compose Teaching Plan button: is enabled. 2. Manage Knowledge Item button: is enabled. 3. Manage Teaching Method button: is enabled. 4. Clear Formatting button: is enabled. 5. Font combo box: is enabled. 6. Font size combo box: is enabled. 7. Font color button: is enabled. 8. Highlight color button: is enabled. 9. Bold button: is enabled. 10. Italic button: is enabled. 11. Underline button: is enabled. 12. Strikethrough button: is enabled. 13. Increase Indent button: is enabled. 14. Decrease Indent button: is enabled. 15. Format bullet list button: is enabled. 16. Format number list button: is enabled. 17. Left Align button: is enabled. 18. Center Align button: is enabled. 19. Right Align button: is enabled. 20. Justify Align button: is enabled. 21. Line spacing button: is enabled. |  |  |  |  |
| GUI\_RB\_007 | Test Tool Tab | Click on Tool tab | The Tool tab is focused.  Tool ribbon panel is displayed including button from left to right:   1. Compose Teaching Plan button: is enabled. 2. Manage Knowledge Item button: is enabled. 3. Manage Teaching Method button: is enabled. 4. Spell Check button: is enabled. 5. Language combo box: is enabled. |  |  |  |  |
|  | **Screen Transition** | | | | | |  |
| GUI\_RB\_008 | Test **Compose Teaching Plan** Button |  |  |  |  |  |  |
| GUI\_RB\_009 | Test New Teaching Plan Button |  |  |  |  |  |  |
| GUI\_RB\_010 | Test Manage Knowledge Item Button |  |  |  |  |  |  |
| GUI\_RB\_011 | Test New Knowledge Item Button |  |  |  |  |  |  |
| GUI\_RB\_012 | Test Manage Teaching Plan Button |  |  |  |  |  |  |
| GUI\_RB\_013 | Test New Teaching Plan Button. | Click File Tabs.  Click New Teaching Plan Button |  |  |  |  |  |
| GUI\_RB\_014 | Test New Knowledge Item Button. | Click File Tabs.  Click New Knowledge Item Button. |  |  |  |  |  |
| GUI\_RB\_015 | Test New Teaching Method Button | Click File Tabs.  Click New Teaching Method button. |  |  |  |  |  |
| GUI\_RB\_016 | Test Insert Image Button |  |  |  |  |  |  |
| GUI\_RB\_017 | Test Insert Table Button |  |  |  |  |  |  |
| GUI\_RB\_018 | Test Insert Text File Button |  |  |  |  |  |  |
| GUI\_RB\_019 | Test Open Button |  |  |  |  |  |  |
| GUI\_RB\_020 | Test Save As Button |  |  |  |  |  |  |
| GUI\_RB\_021 | Test Export Word button. |  |  |  |  |  |  |
| GUI\_RB\_022 | Test Export RTF button. |  |  |  |  |  |  |
| GUI\_RB\_023 | Test Export XPS button. |  |  |  |  |  |  |
| GUI\_RB\_024 | Test Spell Check Button |  |  |  |  |  |  |
| GUI\_RB\_025 | Test Exit button |  |  |  |  |  |  |

#### Compose Teaching Plan Screen

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application.  2. Click Compose Teaching Plan Button on the Main Ribbon Bar. | | | | | |  |
|  | **Components.** | | | | | |  |
|  | Test Knowledge List |  |  |  |  |  |  |
|  | Test Knowledge Item Thumbnail |  |  |  |  |  |  |
|  | Test Teaching Method List |  |  |  |  |  |  |
|  | Test Teaching Method Thumbnail. |  |  |  |  |  |  |
|  | Test Teaching Plan Composing Area Components. |  | + Tab header: editable, default text “New Teaching Plan”.  + Composing Date Picker: enable.  + Teaching Date Picker: enable.  + Class Level Picker: enable, mark required.  + Subject text field: disable.  + Session Number Inputter: enable.  + Week Inputter: enable, mark required.  + Topic Number Inputter: disable  + Topic text field: disable  + Objective text field: disable  + Preparation text field: disable  + Experience Note text field: disable  + Activity field: disable |  |  |  |  |
|  | **Screen Transition** | | | | | |  |
|  | Test Knowledge Item List Expander button. |  |  |  |  |  |  |
|  | Test Search Knowledge Item Expander button. |  |  |  |  |  |  |
|  | Test Instantly Create new Knowledge context menu. |  |  |  |  |  |  |
|  | Test Instantly Update Knowledge Item context menu. |  |  |  |  |  |  |
|  | Test Teaching Method List Expander button |  |  |  |  |  |  |
|  | Test Search Teaching Method Expander button. |  |  |  |  |  |  |
|  | Test Instantly Create New Teaching Method context menu. |  |  |  |  |  |  |
|  | Test Instantly Update Teaching Method context menu. |  |  |  |  |  |  |

#### Teaching Method Management Screen

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application.  2. Click Manage Teaching Method button on Main Ribbon Bar. | | | | | |  |
|  | **Components.** | | | | | |  |
|  | Test Teaching Method Search Panel |  |  |  |  |  |  |
|  | Test Teaching Method List View |  |  |  |  |  |  |
|  | Test Teaching Method View |  |  |  |  |  |  |
|  | **Screen Transition** | | | | | |  |
|  | Test Insert Knowledge Item Holder button |  |  |  |  |  |  |
|  | Test Save button |  |  |  |  |  |  |
|  | Test Cancel button |  |  |  |  |  |  |

#### Teaching Method Popup Screen

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application.  2. Click on Compose Teaching Plan Ribbon button  3. Right Click on Teaching Method List View  4. Click Create button. | | | | | |  |
|  | **Components.** | | | | | |  |
|  | Test Header |  |  |  |  |  |  |
|  | Test Formatting bar |  |  |  |  |  |  |
|  | Test Teaching Method View. |  |  |  |  |  |  |
|  | **Screen Transition** | | | | | |  |
|  | Test Insert Knowledge Item Holder button |  |  |  |  |  |  |
|  | Test Save button |  |  |  |  |  |  |
|  | Test Cancel button |  |  |  |  |  |  |

#### Knowledge Item Management Screen

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application. | | | | | |  |
|  | **Components.** | | | | | |  |
|  | Test Knowledge Item Search Panel |  |  |  |  |  |  |
|  | Test Knowledge Item List View |  |  |  |  |  |  |
|  | Test Knowledge Item View |  |  |  |  |  |  |
|  | **Screen Transition** | | | | | |  |
|  | Test Save button |  |  |  |  |  |  |
|  | Test Cancel button |  |  |  |  |  |  |

#### Knowledge Item Popup Screen

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application. | | | | | |  |
|  | **Components.** | | | | | |  |
|  | Test Header |  |  |  |  |  |  |
|  | Test Formatting bar |  |  |  |  |  |  |
|  | Test Teaching Method View. |  |  |  |  |  |  |
|  | **Screen Transition** | | | | | |  |
|  | Test Save button |  |  |  |  |  |  |
|  | Test Cancel button |  |  |  |  |  |  |

#### Insert Image Screen

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application. | | | | | |  |
|  | **Components.** | | | | | |  |
|  | Test Header |  |  |  |  |  |  |
|  | Test Insert Image Controls |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | **Screen Transition** | | | | | |  |
|  | Test Add button |  |  |  |  |  |  |
|  | Test Cancel button |  |  |  |  |  |  |
|  | Test OK button |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

#### Insert Table Screen

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application. | | | | | |  |
|  | **Components.** | | | | | |  |
|  | Test Header |  |  |  |  |  |  |
|  | Test Insert Table Controls |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | **Screen Transition** | | | | | |  |
|  | Test border Color button |  |  |  |  |  |  |
|  | Test Cancel button |  |  |  |  |  |  |
|  | Test OK button |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

#### Localization Table

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | Steps 1. Start the application.  2. Select on Tool ribbon tabs. | | | | | |  |
|  | **Test localization.** | | | | | |  |
|  | Test Change Language | Click on Language combo box  Select English option. |  |  |  |  |  |
|  |  | Click on Language combo box  Select Vietnamese option. |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **English Terms** | **Vietnamese Terms** | **Note** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

### Functional Test Cases

#### Manage Teaching Plan

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | **Create  Teaching Plan** |  |  |  |  |  |  |
|  | Steps 1. Start the application  Click Teaching Plan Module button. | | | | | | |
| TC\_TP\_001 | Test Create New Teaching Plan button. | Click Create New Teaching Plan Button. | Display new Teaching Plan Tab including:  + Tab header: editable, default text “New Teaching Plan”.  + Composing Date Picker: enable.  + Teaching Date Picker: enable.  + Class Level Picker: enable, mark required.  + Subject text field: disable.  + Session Number Inputter: enable.  + Week Inputter: enable, mark required.  + Topic Number Inputter: disable  + Topic text field: disable  + Objective text field: disable  + Preparation text field: disable  + Experience Note text field: disable  + Activity field: disable  Knowledge Item List: disable.  Teaching Method List: disable. |  |  |  |  |
| TC\_TP\_002 | Test Header optional fields. | 1) Execute test case TC\_TP\_001 successfully.  Click Teaching Date Picker.  2) Select date. | 1) Show calendar, default date is current day.  2) Show selected day in text. | TC\_TP\_001 |  |  |  |
| TC\_TP\_003 | Test Header required fields. | 1) Select Class Level, Choose **5**  2) Select Subject, select **Toán**.  3) Input topic number, input topic  4) Input Week  5) Input Session Number. | 1) Subject, mark required, load subject related to class level 5 fields are enabled.  2) Enable topic number, topic text field, teaching Method list, load Teaching Methods related to **Toán**.  Mark topic as required.  3) Enable Knowledge Item list, load Knowledge Item related to topic or topic number.  Enable Objective text field, Preparation text field, Experience Note text field, Activity field.  Add a blank Activity. |  |  |  |  |
| TC\_TP\_004 | Test Saving Teaching Plan Exception | 1) Delete topic (or any required field).  2) Click Save. | No save.  Notify “Missing required topic fields”. |  |  |  |  |
| TC\_TP\_005 | Test Activity Input | 1) Click Add new Activity button.  2) Delete either Purpose text field or Team size text field.  3) Click Add new Activity button.  4) Click delete Activity button. | 1) Append new Activity to Activity field, including:  + Purpose text field: enable, delete-able  + Team size text field: enable, delete-able + Content field: enable  2) Collapse deleted text field (either Purpose text field, Team size text field).  3) Append new Activity to Activity field.  4) Delete selected Activity. |  |  |  |  |
| TC\_TP\_006 | Test Drag drop Teaching Method | 1) Drag a Teaching Method from Teaching Method list and  2) drop to an Activity’s Content field. | 1) Enable Allow Drop properties of Activities’ Content fields only.  2) Insert Content of dropped Teaching Method to the drop point. Enable Teaching Method’s KI Holders.  Display suggestion for Activity’s Team size, suggestion content is TM’s Team Size.  Display suggestion for Preparation text field, suggestion content is TM’s Preparation. |  |  |  |  |
| TC\_TP\_007 | Test modifying drag-dropped Teaching Method in Activity. | Modify Teaching Method’s Actions. | Accept modifying. |  |  |  |  |
| TC\_TP\_008 | Test Drag Drop Knowledge Item | 1) Drag a Knowledge Item from Knowledge Item list and  2) drop to a Teaching Method’s KI holder in an Activity. | 1) Enable Allow Drop Properties of KI’s Holders only.  2) Insert Knowledge Item Content to drop target at drop point. |  |  |  |  |
| TC\_TP\_009 | Test modifying drag-dropped Knowledge Item in Activity. | Modify Knowledge Item | Accept modifying. |  |  |  |  |
| TC\_TP\_010 | Test Saving Teaching Plan. | 1) Fill all required fields.  2) Press Save button (or press Ctrl + S)  3) Press Save | 1) Display Saving dialog. Default file name is in format  [ClassLevel]\_[Week]\_[Subject]\_[Topic]\_[Teaching Date].tlhx  2) File appears at target folder. Close Saving dialog. |  |  |  |  |
|  | **Update  Teaching Plan** |  |  |  |  |  |  |
|  | Steps 1. Open an .tlhx file  Or  1. Start application  2. Click Open Teaching Plan Button | | | | | | |
| TC\_TP\_011 | Test open file | Open a Teaching Plan. | + Load all the teaching plan content.  + Enable all fields. + Load Knowledge Item list and Teaching Method list with Item related to Teaching Plan Header. |  |  |  |  |
| TC\_TP\_012 | Test update Heading optional fields | Select Teaching Date Picker, select update date.  Or Select Composing Date Picker, select update date. | 1) Display Calendar.  2) Display selected date in text. |  |  |  |  |
| TC\_TP\_013 | Test update Heading required field. | 1) Select Class Level, Choose **4.**  2) Select Subject, update **Toán**.  3) Delete Topic Number, topic.  4) Update topic number, input topic.  5) Update Week  6) Update Session Number. | 1) Enable Subject, mark required, load subject related to class level 5. Disable Topic and Topic Number. DO NOT clear the Topic, Topic Number content.  2) Enable topic number, topic text field, teaching Method list, load Teaching Methods related to **Toán**.  3) Mark topic as required.  4) Enable Knowledge Item list, load Knowledge Item related to topic or topic number.  Enable Objective text field, Preparation text field, Experience Note text field, Activity field. |  |  |  |  |
| TC\_TP\_014 | Test update Teaching Method | 1) Drag a Teaching Method from Teaching Method list and  2) Drop to an Activity’s Content field. | 1) Enable Allow Drop properties of Activities’ Content fields only.  2) Insert Content of dropped Teaching Method to the drop point. Enable Teaching Method’s KI Holders.  Display suggestion for Activity’s Team size, suggestion content is TM’s Team Size.  Display suggestion for Preparation text field, suggestion content is TM’s Preparation. |  |  |  |  |
| TC\_TP\_015 | Test Update Knowledge Item | 1) Drag a Knowledge Item from Knowledge Item list and  2) Drop to a Teaching Method’s KI holder in an Activity. | 1) Enable Allow Drop Properties of KI’s Holders only.  2) Insert Knowledge Item Content to drop target at drop point. |  |  |  |  |
| TC\_TP\_016 | Test Saving Teaching Plan. | 1) Fill all required fields.  2) Press Save button (or press Ctrl + S)  3) Press Save | 1) Display Saving dialog. Default file name is the current file name. Default saving folder is current’s file folder.  2) File appears at target folder. Close Saving dialog. |  |  |  |  |
| TC\_TP\_017 | Test Saving As Teaching Plan. | 1) Fill all required fields.  2) Press Save As button  3) Press Save | 1) Display Saving dialog. Default file name is in format  [ClassLevel]\_[Week]\_[Subject]\_[Topic]\_[Teaching Date].tlhx  2) File appears at target folder. Close Saving dialog. |  |  |  |  |
|  | **Export  Teaching Plan** |  |  |  |  |  |  |
| TC\_TP\_018 | Steps 1. Create a New Teaching Plan.  Or Update a Teaching Plan. | | | | | | |
| TC\_TP\_019 | Test Export File | 1) Fill all required field. Click Export button.  2) Select .Docx file format. Name the file Press OK.  3) Open the file with MS Word. | 1) Display Exporting dialog. Default file name is in format : [ClassLevel]\_[Week]\_[Subject]\_[Topic]\_[Teaching Date]  2) Export file to .docx format.  3) Display file with correct content. |  |  |  |  |
|  | Test Export File Exception. | 1) Fill all required field. Click Export button.  2) Select .Docx file format.  Left the file name blank.  Press OK. | 1) Display Exporting dialog.  2) Display Notification of blank File name. |  |  |  |  |

#### Manage Teaching Method

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | **Create Teaching Method** |  |  |  |  |  |  |
|  | Steps 1. Start the application. | | | | | | |
| TC\_TM\_001 | Test invoke Creating new Teaching Method from Teaching Plan Compose Screen | 1) Right-click on Teaching Method List. Select Create New | Display pop-up dialog to new Teaching Method , including:  + Header: text is “Adding Teaching Method”.  + Teaching Method Name text field: enable, blank.  + Team size combo box: enable, default 1.  + Equipment text field: enable, blank  + Prefer Subject multiple selection field: enable, current subject is selected.  + Prefer Class Level combo box: enable, current class level is selected.  + Note text field: enable, blank.  + Content field: enable, blank.  + Formatting bar including:  - Save, Cancel button: enable  - Cut, Copy, Paste button  - Insert KI Holder button: enable  - Paragraph format buttons.  - Font format buttons. |  |  |  |  |
| TC\_TM\_002 | Test Manage Teaching Plan Screen | Click Teaching Method Button. | Display the Teaching Method Screen including:  + ?  + ? |  |  |  |  |
| TC\_TM\_003 | Test invoke Creating new Teaching Method from Teaching Method Screen. | 1) Click New button. | Enable new Formatting bar and Teaching Method view, including:  + Teaching Method Name text field: enable, blank, and mark as required.  + Team size combo box: enable, default 1.  + Equipment text field: enable, blank.  + Prefer Subject multiple selection field: enable, blank, mark as required.  + Prefer Class Level combo box: enable, default 1, mark as required.  + Note text field: enable  + Content field: enable, blank. |  |  |  |  |
| TC\_TM\_004 | Test input Teaching Method non-Content field | 1) Type “**Phương pháp học toán theo nhóm**” into Teaching Method Name text field.  2) Select team size = 3.  3) Type “**bảng con**” into Equipment text field.  4) Select “**Toán**” from Preferred Subject field.  5) Select Preferred Class Level **2**.  6) Type “**phương pháp củng cố kiến thức**” into Note text field. | Display inputted information. |  |  |  |  |
| TC\_TM\_005 | Test input Teaching Method non-content field exception. | 1) Delete Teaching Method Name. | 1) Display notification message box about missing required field. |  |  |  |  |
| TC\_TM\_006 | Test input Teaching Plan Content field. | 1) Type “Giáo viên chia lớp thành các nhóm 3 học sinh.  Giáo viên viết lên bảng lớn”.  2) Click insert KI Holder button.  3) Continue to type “Học sinh thảo luận nhóm và ghi kết quả đúng vào bảng con”.  4) Click insert KI Holder button.  5) Click X button on current inserted KI Holder. | 1) Display inputted information at caret position.  2) Insert and display KI holder.  3) Display appending inputted information.  4) Insert and display KI holder at the current caret position.  5) Remove KI Holder. |  |  |  |  |
| TC\_TM\_007 | Test save Teaching Method. | 1) Fill all required fields.  Click Save button. | 1) Save and display created Teaching Methods. |  |  |  |  |
| TC\_TM\_008 | Test save Teaching Method Exception | 1) Delete Teaching Method Name.  Click Save button | 1) Display notification message box about missing required field. |  |  |  |  |
| TC\_TM\_009 | Test save Cancel Button | 1) Click Cancel | 1) Cancel all inputs, display previous screen. |  |  |  |  |
| TC\_TM\_010 | Test find added Teaching Plan. | 1) Type “**phương pháp học toán**” into Search Teaching Method text field.  Click Search. | Display list of result including Teaching Method “**phương pháp học toán theo nhóm**”. |  |  |  |  |
|  | **Update Teaching Method** |  |  |  |  |  |  |
|  | Steps  1. Start application | | | | | | |
| TC\_TM\_011 | Test invoke Update Teaching Method from Teaching Plan Compose Screen | 1) Right-click on a Teaching Method in Teaching Method List.  Select Update | Display pop-up dialog to new Teaching Method , including:  + Header: text is “Update Teaching Method”.  + Teaching Method Name text field: disable, current Teaching Method Name.  + Team size combo box: enable, current teaching method value.  + Equipment text field: enable, current teaching method value.  + Prefer Subject multiple selection field: enable, current teaching method values.  + Prefer Class Level combo box: enable, current teaching method value..  + Note text field: enable, current teaching method value.  + Content field: enable, current teaching method value.  + Formatting bar including:  - Save, Cancel button: enable  - Cut, Copy, Paste button  - Insert KI Holder button: enable  - Paragraph format buttons.  - Font format buttons. |  |  |  |  |
| TC\_TM\_012 | Test invoke Update Teaching Method from Teaching Method Screen. | 1) Click a Teaching Method where?. | Enable new Formatting bar and Teaching Method view, including:  + Teaching Method Name text field: enable, current teaching method values.  + Team size combo box: enable, current teaching method values.  + Equipment text field: enable, current teaching method values.  + Prefer Subject multiple selection field: enable, current teaching method values.  + Prefer Class Level combo box: enable, current teaching method values.  + Note text field: enable, current teaching method values.  + Content field: enable, current teaching method values.. |  |  |  |  |
| TC\_TM\_013 | Test update Teaching Plan non-Content field | 1) Delete Teaching Method Name  2) Type “**Phương pháp học toán theo cặp**” into Teaching Method Name text field.  2) Change team size = 3.  3) Append “**mẫu báo cáo**” into Equipment text field.  4) Select “**Toán**” from Preferred Subject field.  5) Select Preferred Class Level **2**.  6) Type “**phương pháp củng cố kiến thức**” into Note text field. | 1) Mark Teaching Method Name text field required.  2) Display inputs. |  |  |  |  |
| TC\_TM\_014 | Test input Teaching Plan Content field. | 1) Modify “Giáo viên chia lớp thành các nhóm 3 học sinh.  Giáo viên viết lên bảng lớn”. into “Giáo viên chia lớp thành các **căp 2 học sinh**.  Giáo viên phát mẫu báo cáo cho mỗi cặp”  2) Click X button on current inserted KI Holder. | 1) Display inputted information at caret position.  5) Remove KI Holder. |  |  |  |  |
| TC\_TM\_015 | Test save updated Teaching Method. | 1) Fill all required fields.  Click Save button. | 1) Save and display created Teaching Methods. |  |  |  |  |
| TC\_TM\_016 | Test save Cancel Button. | 1) Click Cancel | 1) Cancel all update, display previous screen. |  |  |  |  |
|  | **Search Teaching Method** |  |  |  |  |  |  |
| TC\_TM\_017 | Steps 1. Start the application  2. Add 5 difference Teaching Methods (from test data). | | | | | | |
| TC\_TM\_018 | Test blank search | Let the search text field blank. Click Search button, or press Enter key. | Do nothing. |  |  |  |  |
| TC\_TM\_019 | Test Normal Search. | 1) Input search key “**củng cố kiến thức**” into search text field.  Click Search button, or press Enter key. | 1) Display 3 Teaching Methods:  + One contains search key in Name,  + One contains search key in note  + One contains search key in content. |  |  |  |  |
| TC\_TM\_020 | Test Team size filter | Set team size **2**.  Click Search button. | Display 1 Teaching Method with the team size is **2**. |  |  |  |  |
| TC\_TM\_021 | Test prefer class level filter. | Set preferred class level **5**.  Click Search button. | Display 1 Teaching Method with the preferred class level is **5**. |  |  |  |  |
| TC\_TM\_022 | Test prefer subject filter. | Set preferred subjects **“Toán”**.  Click Search button. | Display 2 Teaching Method with the preferred Subject is “**Toán”**. |  |  |  |  |
| TC\_TM\_023 | Test equipment filter | Type “**bảng con**” into equipment.  Click Search button. | Display 1 Teaching Method with the equipment content is “**bảng con**”. |  |  |  |  |
|  | **Delete Teaching Method** |  |  |  |  |  |  |
|  | Steps 1. Start the application  2. Add a Teaching Method. | | | | | | |
| TC\_TM\_024 | Test delete Teaching Method from Teaching Plan Compose Screen. | 1) Create a new Teaching Plan.  2) Filling Teaching Plan Header.  3) Select a Teaching Method, Press Delete, or click on X button on selected Teaching Method. | 1) Display new Teaching Plan  2) Load Teaching Method list related to header.  3) Remove selected Teaching Method from the list. |  |  |  |  |
| TC\_TM\_025 | Test delete Teaching Method from Teaching Method Screen. | 1) Open Teaching Method Screen.  Select a teaching Method.  Press Delete or Click on delete button.  2) Click Yes. | 1) Display Delete notification including “Yes/No” button, message “Are you sure want to delete this Teaching Method”.  2) Delete selected Teaching Method from the database. |  |  |  |  |
| TC\_TM\_026 | Test delete Teaching Method from Teaching Method Screen. | 1) Open Teaching Method Screen.  Select a teaching Method.  Press Delete or Click on delete button.  2) Click No. | 1) Display Delete notification including “Yes/No” button, message “Are you sure want to delete this Teaching Method”.  2) Cancel Deletion. |  |  |  |  |

#### Manage Knowledge Item

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected Output** | **Inter-test case Dependence** | **Result** | **Test date** | **Note** |
|  | **Create Knowledge Item** |  |  |  |  |  |  |
|  | Steps 1. Start the application. | | | | | | |
| TC\_KI\_001 | Test invoke Creating new Knowledge Item from Teaching Plan Compose Screen | 1) Right-click on Knowledge Item List. Select Create New | Display pop-up dialog to new Knowledge Item , including:  + Header: text is “Adding Knowledge Item”.  + Class Level combo box: enable, mark as required.  + Subject editable combo box: enable, value is current Subject.  + Topic Number numeric input: enable, current topic number.  + Topic text field: enable, current Topic.  + Type editable combo box: enable, mark as required.  + Content field: enable, blank.  + Formatting bar including:  - Save, Cancel button: enable  - Cut, Copy, Paste button  - Insert Image, Table button.  - Paragraph format buttons.  - Font format buttons. |  |  |  |  |
| TC\_KI\_002 | Test Manage Teaching Plan Screen | Click Knowledge Item Button. | Display the Knowledge Item Screen including:  + ?  + ? |  |  |  |  |
| TC\_KI\_003 | Test invoke Creating new Knowledge Item from Knowledge Item Screen. | 1) Click New button. | Enable new Formatting bar and Knowledge Item view, including:  + Class Level combo box: enable, mark as required.  + Subject editable combo box: enable, mark as required.  + Topic Number numeric input: enable.  + Topic text field: enable, mark as required.  + Type editable combo box: enable, mark as required.  + Content field: enable, blank.  + Formatting bar including:  - Save, Cancel button: enable  - Cut, Copy, Paste button  - Insert Image, Table button.  - Paragraph format buttons.  - Font format buttons. |  |  |  |  |
| TC\_KI\_004 | Test input Knowledge Item non-Content field | 1) Set Class Level to **5**.  2) Type “**Toán**” into Subject.  3) Set Topic Number to 12.  4) Type “**Luyện Tập Chung**” into Topic.  5) Type “**Bài Tập**” into Type. | Display inputted information. |  |  |  |  |
| TC\_KI\_005 | Test input Knowledge Item non-content field exception. | 1) Delete Knowledge Item Topic.  2) Delete Knowledge Item Subject. | 1) Display notification message box about missing required Topic.  2) Display notification message box about missing required Subject. |  |  |  |  |
| TC\_KI\_006 | Test input Teaching Plan Content field. | 1) Type “***a) 2 + 6 = ? b) 3 – 2 = ?***  ”.  2) Click Insert Image button.  Select Image to insert, click OK. | 1) Display inputted information at caret position.  2) Display Insert Image Dialog.  Insert image inline at the caret position. |  |  |  |  |
| TC\_KI\_007 | Test save Knowledge Item. | 1) Fill all required fields.  Click Save button. | 1) Save and display created Knowledge Items. |  |  |  |  |
| TC\_KI\_008 | Test save Knowledge Item Exception | 1) Delete Knowledge Item Content.  Click Save button | 1) Display notification message box about missing required field. |  |  |  |  |
| TC\_KI\_009 | Test save Cancel Button | 1) Click Cancel | 1) Cancel all inputs, display previous screen. |  |  |  |  |
| TC\_KI\_010 | Test find added Teaching Plan. | 1) Type “**luyện tập**” into Search Knowledge Item text field.  Click Search. | Display list of result including Knowledge Item “***a) 2 + 6 = ? b) 3 – 2 = ?”*** |  |  |  |  |
|  | **Update Knowledge Item** |  |  |  |  |  |  |
|  | Steps  1. Start application | | | | | | |
| TC\_KI\_011 | Test invoke Update Knowledge Item from Teaching Plan Compose Screen | 1) Right-click on a Knowledge Item in Knowledge Item List.  Select Update | Display pop-up dialog to new Knowledge Item , including:  + Header: text is “Updating Knowledge Item”.  + Class Level combo box: current Knowledge Item class level.  + Subject editable combo box: current Knowledge Item subject.  + Topic Number numeric input: current Knowledge Item topic number.  + Topic text field: current Knowledge Item Topic.  + Type editable combo box: current Knowledge Item type.  + Content field: current Knowledge Item Content.  + Formatting bar including:  - Save, Cancel button: enable  - Cut, Copy, Paste button  - Insert Image, Table button.  - Paragraph format buttons.  - Font format buttons. |  |  |  |  |
| TC\_KI\_012 | Test invoke Update Knowledge Item from Knowledge Item Screen. | 1) Select a Knowledge Item. | Enable new Formatting bar and Knowledge Item view, including:  + Class Level combo box: current Knowledge Item class level.  + Subject editable combo box: current Knowledge Item subject.  + Topic Number numeric input: current Knowledge Item topic number.  + Topic text field: current Knowledge Item Topic.  + Type editable combo box: current Knowledge Item type.  + Content field: current Knowledge Item Content.  + Formatting bar including:  - Save, Cancel button: enable  - Cut, Copy, Paste button  - Insert Image, Table button.  - Paragraph format buttons.  - Font format buttons. |  |  |  |  |
| TC\_KI\_013 | Test update Teaching Plan non-Content field | 1) Delete Topic.  2) Set Topic Number to **11**.  3) Type “**Luyện Tập**” into Topic. | 1) Mark Knowledge Item Topic text field required.  2) Display inputs. |  |  |  |  |
| TC\_KI\_014 | Test input Teaching Plan Content field. | 1) Modify “***a) 2 + 6 = ? b) 3 – 2 = ?***” into  “***7m 9dm = ? m A. 7m B. 7m C. 9m***”  into Knowledge Item Content. | 1) Display inputted information at caret position. |  |  |  |  |
| TC\_KI\_015 | Test save updated Knowledge Item. | 1) Fill all required fields.  Click Save button. | 1) Save and display created Knowledge Items. |  |  |  |  |
| TC\_KI\_016 | Test save Cancel Button. | 1) Click Cancel | 1) Cancel all update, display previous screen. |  |  |  |  |
|  | **Search Knowledge Item** |  |  |  |  |  |  |
| TC\_KI\_017 | Steps 1. Start the application  2. Add 5 difference Knowledge Items (from test data). | | | | | | |
| TC\_KI\_018 | Test blank search | Let the search text field blank. Click Search button, or press Enter key. | Do nothing. |  |  |  |  |
| TC\_KI\_019 | Test Normal Search. | 1) Input search key “**luyện tập**” into search text field.  Click Search button, or press Enter key. | 1) Display 3 Knowledge Items:  + One contains search key in Name,  + One contains search key in note  + One contains search key in content. |  |  |  |  |
| TC\_KI\_020 | Test Class Level filter | Set Class Level **5**.  Click Search button. | Display 1 Knowledge Item with the Class Level is **5**. |  |  |  |  |
| TC\_KI\_021 | Test Subject filter. | Set subjects **“Toán”**.  Click Search button. | Display 1 Knowledge Item with the Subject is “**Toán”**. |  |  |  |  |
| TC\_KI\_022 | Test Type filter. | Set Type **“Bài tập”**.  Click Search button. | Display 2 Knowledge Item with type is “**Bài Tập**”. |  |  |  |  |
|  | **Delete Knowledge Item** |  |  |  |  |  |  |
|  | Steps 1. Start the application  2. Add a Knowledge Item. | | | | | | |
| TC\_KI\_023 | Test delete Knowledge Item from Teaching Plan Compose Screen. | 1) Create a new Teaching Plan.  2) Filling Teaching Plan Header.  3) Select a Knowledge Item, Press Delete, or click on X button on selected Knowledge Item. | 1) Display new Teaching Plan  2) Load Knowledge Item list related to header.  3) Remove selected Knowledge Item from the list. |  |  |  |  |
| TC\_KI\_024 | Test delete Knowledge Item from Knowledge Item Screen. | 1) Open Knowledge Item Screen.  Select a Knowledge Item.  Press Delete or Click on delete button.  2) Click Yes. | 1) Display Delete notification including “Yes/No” button, message “Are you sure want to delete this Knowledge Item”.  2) Delete selected Knowledge Item from the database. |  |  |  |  |
| TC\_KI\_025 | Test delete Knowledge Item from Knowledge Item Screen. | 1) Open Knowledge Item Screen.  Select a Knowledge Item.  Press Delete or Click on delete button.  2) Click No. | 1) Display Delete notification including “Yes/No” button, message “Are you sure want to delete this Knowledge Item”.  2) Cancel Deletion. |  |  |  |  |

## Checklists



### Checklist of Validation

|  |  |  |  |
| --- | --- | --- | --- |
| Question | Yes | No | N/A |
| 1. Does a failure of validation on every field cause a sensible user error message? |  |  |  |
| 2. Is the user required to fix entries which have failed validation tests? |  |  |  |
| 3. Have any fields got multiple validation rules and if so are all rules being applied? |  |  |  |
| 4. If the user enters an invalid value and clicks on the SAVE button (i.e. does not TAB off the field) is the invalid entry identified and highlighted correctly with an error message? |  |  |  |
| 5. Is validation consistently applied at screen level unless specifically required at field level? |  |  |  |
| 6. For all numeric fields check whether negative numbers can and should be able to be entered. |  |  |  |
| 7. For all numeric fields check the minimum and maximum values and also some mid-range values allowable? |  |  |  |
| 8. For all character/alphanumeric fields check the field to ensure that there is a character limit specified and that this limit is exactly correct for the specified database size? |  |  |  |
| 9. Do all mandatory fields require user input? |  |  |  |
| 10. If any of the database columns don't allow null values then the corresponding screen fields must be mandatory. (If any field which initially was mandatory has become optional then check whether null values are allowed in this field.) |  |  |  |

### Submission Checklist

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | | Yes | No | N/A |
| TABLES AND FIGURES | | | | |
| 1 | Does every table column, including the stub column, have a heading? |  |  |  |
| 2 | Are all tables referred to in text? |  |  |  |
| 3 | Are the elements in the figures large enough to remain legible after the figure has been reduced to the width of a journal column or page? |  |  |  |
| 4 | Is lettering in a figure no smaller than 8 points and no larger than 14 points? |  |  |  |
| 5 | Are the figures being submitted in a file format acceptable to the publisher? |  |  |  |
| 6 | Has the figure been prepared at a resolution sufficient to produce a high-quality image? |  |  |  |
| 7 | Are all figures numbered consecutively with Arabic numerals? |  |  |  |
| 8 | Are all figures and tables mentioned in the text and numbered in the order in which they are mentioned? |  |  |  |
| REFERENCES | | | | |
| 1 | Are references cited both in text and in the reference list? |  |  | x |
| 2 | Do the text citations and reference list entries agree both in spelling and in date? |  |  | x |
| 3 | Are journal titles in the reference list spelled out fully? |  | x |  |
| 4 | Are the references (both in the parenthetical text citations and in the reference list) ordered alphabetically by the authors’ surnames? |  | x |  |
| 5 | Are inclusive page numbers for all articles or chapters in books provided in the reference list? |  | x |  |
| 6 | Are references to studies included in your meta-analysis preceded by an asterisk? |  | x |  |
| FORMAT | | | | |
| 1 | Have you checked the journal’s website for instructions to authors regarding specific formatting requirements for submission? |  | x |  |
| 2 | Is the entire manuscript—including quotations, references, author note, content footnotes, and figure captions—double-spaced? Is the manuscript neatly prepared? |  | x |  |
| 3 | Are the margins at least 1 in. (2.54 cm)? |  |  | x |
| 4 | Are the title pages, abstracts, references, appendices, content footnotes, tables, and figures on separate pages (with only one table or figure per page)? Are the figure captions on the same page as the figures? Are manuscript elements ordered in sequence, with the text pages between the abstract and the references? |  |  | x |
| 5 | Are all pages numbered in sequence, starting with the title page? | x |  |  |
| PARAGRAPHS AND HEADINGS | | | | |
| 1 | Is each paragraph longer than a single sentence but not longer than one manuscript page? |  |  | x |
| 2 | Do the levels of headings accurately reflect the organization of the paper? | x |  |  |
| 3 | Do all headings of the same level appear in the same format? | x |  |  |

# Appendix A: Test Logs

## Test Results

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Module code | Pass | | | Fail | | Untested | | N/A | | Number of test cases | |
| Total | |  |  | |  | |  | | 70 | |
| Manage Teaching Plan | |  |  | |  | |  | | 19 | |
| Manage Teaching Method | |  |  | |  | |  | | 26 | |
| Manage Knowledge Item | |  |  | |  | |  | | 25 | |

## Incident Report



### [Incident Brief Description]

**Description:** ….

**Reason**: ….

**Solution**: ….

### [Incident Brief Description]

**Description:** ….

**Reason**: ….

**Solution**: ….