

DEEP LINK LTI INTEGRATION GUIDE FOR D2L

CONNECT FOR EDUCATION, INC.



Connect For Education Deep Link LTI Integration Guide Contents

Before Configuring Your Connect For Education Deep Link LTI Course in D2L	2
Step 1: Create OAuth 2.0 Connection	3
Step 2: Notify C4E	5
Step 3: Create Remote Plugin for C4E Deep Linking Tool	6
Step 4: Perform Deep Linking in D2L Course Shell	8
Step 5: Setting Up Your Gradebook	14
Making Changes in Your Course	18
Calculating Final Grades in D2L	20



Before Configuring Your Connect For Education Deep Link LTI Course in D2L

Important!

Step 1, 2 and 3 must be completed by a D2L Site Administrator. These first three steps will only need to be completed once, prior to the set-up of your school's first Connect For Education course using deep link integration.

The remaining steps will need to be completed by the course instructor and/or instructional design team and must be completed for each course shell each semester.

For any questions or concerns about this process, please contact the Connect For Education Technical Support Team for additional guidance.

REMINDER: You can proceed directly to Step 4 (skipping Steps 1 through 3), if your school has previously used Connect For Education deep link integration.



Step 1: Create OAuth 2.0 Connection

*This step must be completed by a D2L Site Administrator. This step will only need to be performed once. If your school has previously used deep link integration for Connect For Education courses, this step can be skipped.

1. Access 'Manage Extensibility' from the 'Admin Tools' menu.

B		iii d þ (DS D2L Support	Ø
External LearnL. Control Plugins of Protection of Plugins of Plugi	io Lasights Portal	User Related Profile Cards Users Organization Related Broken Links Comptency Service Jobs Content Service Data Purge Content Service Recycling Bin Customization Config External Learning Tools Final Grade Audit Recycling Bin Customization Config External Learning Tools Final Grade Audit Recycling External Learning Tools Final Grade Audit Recycling External Learning Tools Final Grade Audit Recycling Configuration Login Page Management Login Page Management Login Page Management Login Page Management Login Page Management Manage Workflow Sessions Metadata Administration Mobile Carrier Management Navigation & Themes	Org Unit Type Editor Organization Files Organization Tools Remote Plugins Shared Files Standards Student Success System System Log Video Note Captions Course Related Attendance Schemes Class Progress and User Progress Classific Tab Management Competencies Course Content Feedback Course Management Grade Schemes Learning Activity Library Rubrics View Copy Course History ePortfolio Forms Sharing Groups Tag Management Themes	Learning Repository Manage Repositories Publish Search IPSIS Administration IPSIS Section Association Security D2L WAYF Page Administration OpenID Connect Password Policy Roles and Permissions SAML Administration Trusted Sites Product/Tool Administration Bulk Tool Configuration View Product Versions D2L Administration Activation Diagnostics Custom Login Logic Configuration Health Checks Logging Configuration Plugin Management Queuro Recurning Tasks
		Org Unit Editor	Routing Information	

- 2. Select 'OAuth 2.0.'
- 3. Select 'Register an app.'
- 4. Complete the following fields:



D Key Authorization	OAuth 2.0	LTI Advantage	
his list contains OAuth 2.	0 applications reg	gistered by your institution.	
Application Name*			
Connect4Educati	on	8	39
a dias at 11011			_
https://ltianp	c.4elink.org	g/d2loauth2/callback	٦
https://ttapp.	c-tellink.org	B/uzioautitz/caliback	-
cope*			
content:*:* core:*	:* grades:*:*	quizzing:*:*	٦
			_
Access Token Lifetime	(seconds)*		
3600			
Description			

- A. Application Name: Connect4Education
- B. Redirect URI: <u>https://ltiapp.c4elink.org/d2loauth2/callback</u>
- C. **Scope**: content:*:* core:*:* grades:*:* quizzing:*:*
- 5. Click 'Save' to save your settings for the integration.



Step 2: Notify C4E

*This step will only need to be performed once. If your school has previously used deep link integration for Connect For Education courses, this step can be skipped.

Once the OAuth 2.0 Connection has been created in your D2L system (Step 1), please provide the Connect For Education Support Team with the following:

- Root Domain URL
- Client ID
- Client Secret



Connect For Education will need this information to add your college/university as a 'New D2L Client' to facilitate the remaining integration.

Please Note: Once we have added your college/university, the Connect For Education Support Team will send you an email containing your **Client ID, Client Secret, and Launch Point URL,** which will be needed for the next step (Step 3: Create Remote Plugin for C4E Deep Linking Tool).

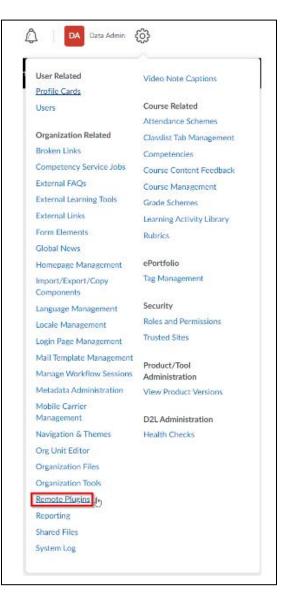


Step 3: Create Remote Plugin for C4E Deep Linking Tool

*This step must be completed by a D2L Site Administrator.

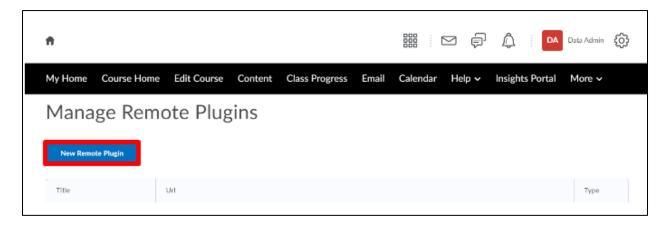
This step will only need to be performed once. If your school has previously used deep link integration for Connect For Education courses, this step can be skipped.

- 1. Access the Admin Tools menu.
- 2. Select 'Remote Plugins':





3. Select 'New Remote Plugin':



4. Update the following fields on the 'Create a new Remote Plugin' screen:

Plugin Type Quicklink (CIM)	Width	Height 600	
Name* Connect4Education		-	
Launčh Point URL * https://dev-ltiapp3.c	4elink.org/bs/1/launch		
LTI Key	LTI Secret		
L	Reset secret		
	-		
OAuth Signature Method HMAC-SHA1 ~			
_			

- a. **Plugin Type**: Select 'Quicklink (CIM)' (Note, be sure to select CIM, or Content-Item Message, for this field)
- b. Name: We suggest using 'Connect4Education'
- c. Launch Point URL: Enter the URL provided by the Connect For Education Support Team



- d. LTI Key and LTI Secret: Enter the Key and Secret provided by the Connect For Education Support Team
- e. OAuth Signature Method: Select HMAC-SHA1

Step 4: Perform Deep Linking in D2L Course Shell

- 1. Access your D2L course shell.
- 2. On the navbar, click 'Content.'



- 3. From the **Table of Contents** on the left, click into the '**Add a module...**' field.
- 4. Title your new module 'C4E App Launch' and press Enter.

Table of Contents	6
Course Syllabus	
Getting Started	4
Helpful Resources	2
Add a module	

5. Access the new module you created in the previous step. From the 'Existing Activities' dropdown, select the previously created 'Connect4Education' tool.



Connect Fo	r Education	~	🖨 Print	🔅 Settings
Add dates and restriction	ons			۲
Upload / Create 🗸	Existing Activities 🗸	🌮 Bulk Edit		
	Assignments	reate and upda	te topics	
Add a sub-module	Chat			
Add a sub module	Checklist			
	Connect4Education			
	Discussions			

6. When the tool is launched, you will be prompted to enter the 'Secret Key' for this specific course. This key will be provided to you by the Connect For Education Technical Support Team. Enter the 'Secret Key' for the course and click the 'Load the course' button.

Add Activity	×
(
Hello, You are going to import course material into Connect4Education-TEST COURSE . Please provide your secret key to access the course content: Secret key:	
Load the course	
Cancel	1.

Note: If you are running multiple courses and you have been provided with multiple 'Secret keys', please be sure to enter the 'Secret key' associated with the specific course shell you have accessed in D2L.

7. On the 'Add Activity' screen, check the 'Select/Unselect all' checkbox to select all items and import all course modules.



Add Activity	×
(m V	
C4E C4E LTI Deep Link App	^
Music Appreciation (Not Started)	
E GETTING STARTED	
System Check & Computer Setup page	
Course Preamble (page)	
Written Assignments page	
Discover Music List page	*
Cancel	h.

Alternately, you may select individual modules by clicking the checkboxes to the left of each desired module/item.

Add Activity	×
(m)	
SECTION 1: BASIC MUSICAL CONCEPTS	•
SECTION 1: BASIC MUSICAL CONCEPTS Page	
Class 1: Unity and Variety	
Unity and Variety page	
Unity and Variety Assessment quiz	
Standard Assignment 1: Identify Musical Ideas assign	
Class 2: The Performer's Role	
The Performer's Role page	•
Cancel	h.

Please also note, once all content has been pulled in the first time, this process should only be repeated for newly created items (i.e., new discussion forums created after the initial content pull). Importing content that has already been pulled will result in duplication.

8. Once you have selected the content you wish to import, click the '**Continue**' button (bottom-left).



+	~	
🗹 German	page	•
🗹 Latin Am	erica page	
Serialism	and Aleatoric Music page	
🗹 A Brief L	pok at Jazz page	
🗹 Contem	porary Period Assessment quiz	
Class 41: FIN	AL EXAM	
Final Example	m quiz	
Continue		
		-

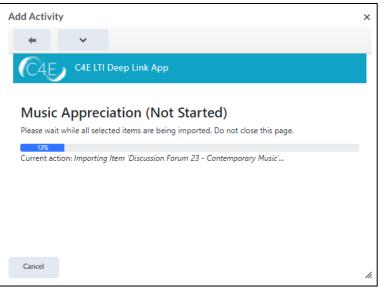
This will bring you to a confirmation screen, allowing you to review the selected content.

Add Activit	ý	
+	~	
Fran	ce	
Gern	lany	
Latin	America	
Seria	lism and Aleatoric Music	
A Bri	ef Look at Jazz	
Cont	emporary Period Assessment	
Class 41:	FINAL EXAM	
Final	Exam	
Back	Confi	rm & Create
		-
Cancel		

9. If any adjustments are necessary to the content being imported, simply click the 'Back' button to return to the content selection screen. Otherwise, click 'Confirm & Create' to start the content creation process. As a reminder, depending on the amount of content selected, this process may take some time.

A status bar will display the progress of the import:

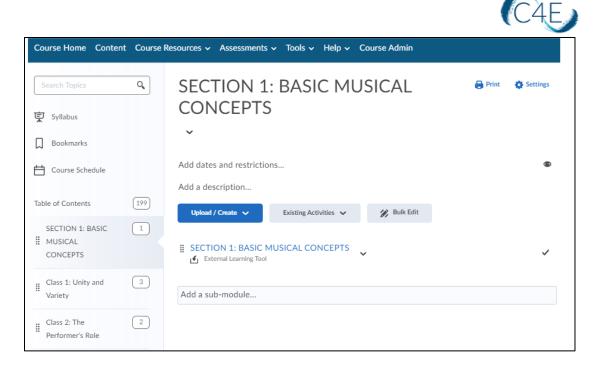




10. Once complete, a confirmation message will be displayed. Click '**Cancel**' to return to the course to view the imported content.

Ad	ld Activity	×
	4 1 ~	
		^
	The import has successfully completed. Please close this window to access the course content.	
	Music Appreciation	
	Getting Started	
	Course Preamble	
	System Check & Computer Setup	
	OnMusic Appreciation Course Description Guide	
	Discover Music List	
	SECTION 1: BASIC MUSICAL CONCEPTS	
	SECTION 1: BASIC MUSICAL CONCEPTS	
	Class 1: Unity and Variety	
		*
C	Cancel	h.

Course content will look similar to the following (Note: You may need to refresh your browser to view the imported content.):



11. Once the content has populated, the 'C4E App Launch' module will need to be removed. Click the downward arrow within the 'C4E App Launch' module and select '**Delete Module**.'

C4E App Laun	ch 🗸	🖨 Print 🛛 🔅 Settings
Add dates and restrictions	Edit Title	©
Add a description	Hide from Users	
Upload / Create 🗸 🛛 Exi:	Set Default Path	it
,	Set All Completion	
Drag a	nd dro Move Down	update topics
Add a sub-module	Move To	
	Delete Module	ty

12. Select the option to 'Permanently delete and remove all nested modules, topics, and all associated files and activities from the course' and click the 'Delete' button.

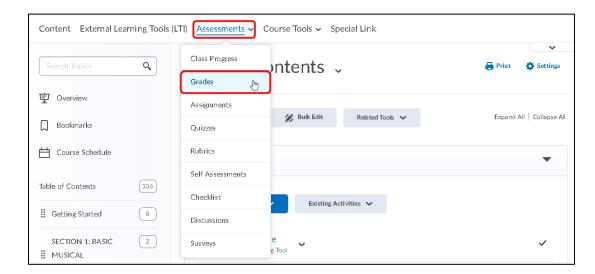


Delete Module		×			
Choose whether to remove from the Content view only or permanently delete from the course.					
Remove the module and all nested modules and topics from Content but keep al associated files and activities in the course.					
Permanently delete and remove all nested modules, topics, and all associated files and activities from the course.					
		tivities will be deleted from the course issions exist. This is irreversible.			
Delete	Cancel				
		1			

Step 5: Setting Up Your Gradebook

Once your course content has been pulled into your D2L course shell, you will need to setup your Gradebook to mirror the weights/values of the Connect For Education Gradebook. This will ensure the accuracy of all grades being passed back and ensure that the final grade reflects the expected grading structure. *Please note that this process may vary, if your Connect For Education Gradebook is set to a flat gradebook and does not feature any weighted categories.*

1. Select the 'Assessments' menu from the course navigation bar and then select the 'Grades' option.



2. Select the 'Settings' option.

				(
nter Grades Manage Grades	Schemes Setup Wizard		C	🔅 Settings 🕜 Help
Import Export	Switch to Spreadsheet View	More Actions 🗸		
Search For Q	Show Search Options			
	Final Grades			
Last Name 🔺 , Fírst Name	Final Calculated Grade 🛛 🗸	Unity and Variety Ass	essment 🗸	Performer's Role Assessmen
🎙 🛃 Student1, Support 🗸 🗸	-%		-%	

3. Select the 'Calculation Options' tab.

Content External Learning	Tools (LTI)	Assessments 🗸	Course Tools 🗸	Special Link
Personal Disp	lay O	ptions		
	1			
Personal Display Options	Org Uni	Display Options	Calculation Opt	ions
Managing View D	Display	Options		
User Details				
Username 📀				
Org Defined ID				

4. From the '**Calculation Options**' tab, select the '**Weighted**' option for the course Grading System and click the '**Save**' button.

Calculation O	otions					
Personal Display Options	Org Unit Display Options	Calculation Options				
Grading System						
Grading System						
• Weighted						
Assignments Category (20% - Assignment 1 Item (50% o - Assignment 2 Item (50% o	Example: Assignments Category (20% of final grade) - Assignment 1 Item (50% of Assignments) - Assignment 2 Item (50% of Assignments) Final Exam Item (80% of final grade) Final Grade: /100%					
Points 👔						
Example:						
Assignments Category (40 p	Assignments Category (40 points)					
- Assignment 1 Item (20 poi						
Assignment 2 Item (20 poi Save I Close bints						

5. Click 'Yes' at the confirmation prompt to save your changes.





- 6. Click the '**Close**' button to return to the gradebook.
- 7. When the course items are imported from your Connect For Education course, they are initially imported with no grade category. In order for the Grade Center to calculate grades using weighted categories, you will need to assign each item an appropriate 'Category.' In order to do so, you will need to first create the appropriate categories for your coursework items.

From the 'Manage Grades' area of the course gradebook, click the 'New' button and select 'Category' from the drop-down menu.

Content	t External Learning Tools (LTI) Assessments \backsim Course Tools \backsim	Special Lir	ık					
Enter Gra	ades Manage Grades Schemes Setup Wizard			🔅 Settings	? Help			
ltem Catego	New V More Actions V Item de' sums to 700%, not 100%. Verify the total weight of all top level categories and items is 100%.							
🌮 Buli	κ εσιτ							
	Grade Item	Туре	Association	Max. Points	Weight			
	Unity and Variety Assessment 🗸 🗸	Numeric	External Learning Tool 💡	100	10			
	Performer's Role Assessment 🗸	Numeric	External Learning Tool 💡	100	10			

8. Enter 'Assessments' or 'Quizzes' at the 'Name' field and enter a value for the weight of the category at the 'Weight' field. Select the 'Distribute weights by points across all items in the category' prompt to ensure that D2L automatically weights the items based on their relative point values. Click the 'Save and New' button to save your changes and proceed with creating your next category.

Note: In the example below, the Quizzes category will be worth 37% of the student's final grade.



New Category
Properties Restrictions
General
Name* Quizzes
Short Name
Show Description Grading
Weight 37 🖉
Allow category grade to exceed category weight
Manually assign weight to items in the category Sistribute weights by points across all tems in the category Distribute weight even yarvas all items
Number of highest non-bonus items to drop for each user
0 Number of lowest non-bonus items to drop for each user
Display Options
Save and Ocre Save and Hew Save Cancel

- Repeat Step 8 to create any additional categories needed for your course gradebook (i.e. Written Assignments, Midterm Exam, Final Exam). Click 'Save and Close' when all categories have been created.
- 10. From the 'Manage Grades' area, use the 'Select All' checkbox at the top of the checkbox column to select all graded coursework items in the course, then click the 'Bulk Edit' option.

Content	iontent External Learning Tools (LTI) Assessments 🗸 Course Tools 🗸 Special Link						
Enter Gra	des Manage Grades Schemes Setup Wizard			🔅 Settings	🕐 Help		
New	✓ More Actions ✓						
🄗 Bulk	c Edit						
	Grade Item	Туре	Association	Max. Points	Weight		
	Unity and Variety Assessment 🗸 🗸	Numeric	External Learning Tool 🕖	100	10		
	Performer's Role Assessment 🗸 🗸	Numeric	External Learning Tool 🥝	100	10		
	Structure of Music Assessment 🗸 🗸	Numeric	External Learning Tool 🥥	100	10		
	Purpose of Music Assessment 🗸 🗸	Numeric	External Learning Tool 🥥	100	10		

11. From the '**Bulk Edit**' function, select the appropriate category for each graded item in the '**Category**' column. The category drop-down menu should reflect the grade categories and associated grade percentages that you created in the previous steps.



Content External Learning Tools (LTI) Assessments v Course Tools v Special Link									
Bul	k Edit Items and Ca	tegories							
*	Name*	Short Name	Туре	Max Points*	Weight*	Bons	Can Exceed	Grade Scherne	Category
1	Unity and Variety Asse		Numeric	100	10			··· Default Scheme ··· (Percentage) ··· ··	Quizzes (37% of final grade)
2	Performer's Role Asses		Numeric	100	10			··· Default Scheme ··· (Percentage) ··· v	Quizzes (37% of final grade)
3	Structure of Music Ass-		Numeric	100	10			··· Default Scheme ··· (Percentage) ··· v	None
4	Purpose of Music Asse		Numeric	100	10			··· Default Scheme ··· (Percentage) ··· ·	None Quizzes (37% of final grade)
5	Types of Listeners Ass		Numeric	100	10			· · De fault Scheme ·· (Percentage) ··	Written Assignments (17% of final grade) Midterm Exam (23% of final grade)
6	Duration Assessment		Numeric	100	10			· · Default Scheme ·· (Percentage) ··	Final Exam (23% of final grade)
7	Pitch Assessment		Numeric	100	10			·· Default Scheme ·· (Percentage) ··	None

12. Click the 'Save' button to save your changes once each item has been assigned a category.

Once each item is a member of a category, it will appear indented below the category name:

Midterm Exam 🗸 🗸			100	23
Midterm Exam 🗸 🗸	Numeric	External Learning Tool 🖉	100	10
Final Exam 🗸			100	23
Final Exam 🗸 🗸	Numeric	External Learning Tool 🥥	100	10
Quizzes 🗸			900	37
Quitzes 🗸 Unity and Variety Assessment 🗸	Numeric	External Learning Tool 🥥	900 100	37 10
•	Numeric Numeric	External Learning Tool 🥥		

Note: Once your coursework items have been imported and appear in your D2L Gradebook, the Max. Points for each item will be displayed as 100 points, with the values synced as percentages out of 100%.

Making Changes in Your Course

- Prior to importing content into your D2L course shell, we encourage you to complete any customizations to your Connect for Education course on the C4E LTI course site (<u>https://lti.c4elink.org/</u>).
- Please note, once all content has been imported the first time, this process should only be repeated for newly created items (i.e., new discussion forums created after the initial content pull). Pulling content that has already been pulled will result in duplication.
- With LTI integration, please be aware that you essentially have two course shells (one on D2L and one on Connect For Education's LTI course platform). Once Connect for Education course content has been imported into your D2L course shell, you must be



cautious to maintain consistency between the course shells when making any changes. To prevent confusion, we strongly recommend mirroring your D2L course structure with the course structure on Connect For Education's LTI site.

- □ As grades are synced regularly, there may be a very short amount of time where grades will be blank.
- □ The table below provides guidance on some common changes. As you will see, some changes can be made exclusively on the D2L side, while others will require you to complete the changes on **BOTH** platforms (D2L and the Connect For Education LTI site).

Types of Changes	Location of Change
Grading written assignments	When grading written assignments, you may do so directly from the C4E grading tool, which can be accessed from the D2L assignment. This will record the grade on the C4E LTI course site, which will then be passed back to the D2L Gradebook during the grade sync.
Calculating final grades/Entering zeros for unsubmitted items	To calculate final grades, zeros will need to be manually entered for all unsubmitted course work. You will need to enter zeros directly in the D2L Gradebook. This cannot be done on the C4E LTI course site. We recommend performing this step very soon after an assignment deadline has closed, and once you are certain students can no longer submit this item. If assignments remain open after zeros have been entered, students will be able to complete the assignments and the grade they receive will override the zero with an updated score.
Adjustments to student grades	We recommend making all grade changes directly at the C4ELink LTI site. Doing so will ensure that the correct grade remains in the D2L Gradebook. Please be aware that any grade changes made in D2L may be overwritten if there is an update to the grade in C4ELink.
Setting or adjusting class deadlines	We advise that all deadlines be implemented on the Connect For Education LTI course site to prevent any unnecessary confusion.
Modifying exam times or number of attempts for specific students	This will need to be done using the 'User overrides' feature on the Connect For Education LTI course site.
Modifications to <i>existing</i> assignment or discussion forum text*	This can only be completed on the Connect For Education LTI site.
	*Forums implemented directly in the D2L LMS are an exception and can be modified from D2L.



Course/lesson ordering	While the course/lesson ordering can technically be different
	in D2L, we suggest making changes on both platforms for the
	sake of consistency.
Adding announcements	As the Connect For Education course does not offer an
	'Announcements' block, course announcements should be
	implemented in D2L.
Creating new discussion	While new discussion forums can be created on either
forums	platform, forums created on the Connect For Education LTI site
	after course content has been pulled will need to be added in
	individually using the steps outlined earlier in this document.
Moving or deleting items	We suggest making changes on both platforms for the sake of
	consistency. Exercise caution when removing graded items
	from the course. You may need to review the impact on your
	course Gradebook. If a quiz is being moved or removed,
	consider that the quiz questions may also be included on the
	Midterm/Final and may need to be adjusted.
Adding files/documents	While this can be done in either platform, files and documents
	added in D2L may be more easily accessed by students.
	Files/documents added on the Connect For Education LTI site
	<i>after</i> course content has been pulled will need to be added in
	individually using the steps outlined earlier in this document.
Modifying point values for	To ensure accuracy of synced grades, this will need to be done
quizzes, assignments, and/or	on both platforms.
forums	
Modifying Gradebook	As the Gradebook is facilitated in D2L, all adjustments must be
structure/course grading	maintained in D2L. If you choose to reference the Connect For
scheme	Education LTI course site for student grades, changes should
	be made there as well.

*If you are interested in making a modification to your course and are unsure where a change should be made, please contact Connect For Education Technical Support and we would be happy to provide guidance.

Calculating Final Grades in D2L

As a reminder, when calculating final grades for student, zeros will need to be entered for any empty grades. With deep link LTI integration, the process of entering zeros must be performed in the D2L Gradebook, not the Connect For Education Gradebook. Please refer to your D2L procedures for entering zeros for any items that students did not complete.

Typically, when coursework items have deadlines, we recommend entering zeros very soon after an assignment deadline has closed, and once you are certain students can no longer submit this item. For coursework items without deadlines, this process should really occur at the end of the semester once no more work will be done. Keep in mind, if assignments remain open (no end/close date) after zeros have been entered in the D2L Gradebook, students could



complete the assignments in the Connect For Education and the grade they receive will override the zero with an updated score.

Note: The D2L gradebook provides a setting which allows you to 'Treat ungraded items as 0'. Please refer to your D2L procedures to utilize this setting if desired.

Please also note, the grade sync process is unable to transmit grade values that exceed 100%. As a result, any course totals that exceed 100% (as a result of extra credit) will be transmitted to your D2L Gradebook as 100%.