

TEACHER GUIDE TO CONDUCT KB FOR HBL

Introduction

This is a design guide to support teachers plan and implement knowledge building (KB) lessons for home-based learning (HBL). The activities are designed with the use of Knowledge Forum (KF) to support students toward collective inquiry and self-directed-learning.

1. Understanding the essence of KB

Rationale and key points:

- Knowledge Building (KB) views every individual as a contributor, a co-creator of knowledge.
- Students will be playing up a central role in KB lessons as they take ownership of their learning and its outcomes.
- Teachers play a facilitator role by designing activities to support students toward KB discourse or collaborative discussion and scaffolding students toward sustaining the discourse to deepen topic/theme understanding.

Watch “Knowledge Building Trailer” from <https://thelearningexchange.ca/projects/knowledge-building/>

2. Importance of using KF for KB

Rational and key points:

- KF serves as a platform for students to post, read and build on ideas. Teachers are able to access students' contributions and provide additional scaffolds to promote communities' idea development.
- Students can also see how their collective ideas develop and improve, and also what they are thinking as a class.
- Hence, when planning KB lessons, teachers are encouraged to use KF whenever students can have access to KF.
- Teachers new to KB can refer to *Appendix 1 on user guide for KF*.

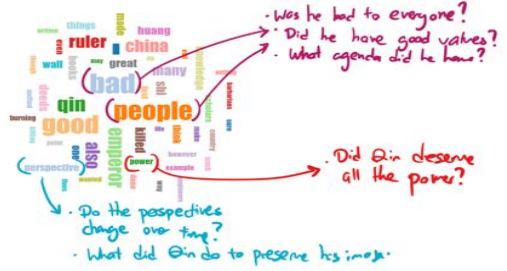
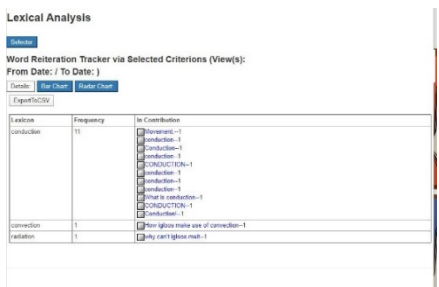
Resource: Watch “Q & A with Richard Messina – Knowledge Building and Knowledge Forum” from <https://thelearningexchange.ca/projects/knowledge-building/>

3. Design guide for conducting online KB lessons

Teachers can follow a design guide for online KB lessons that involve following phases:

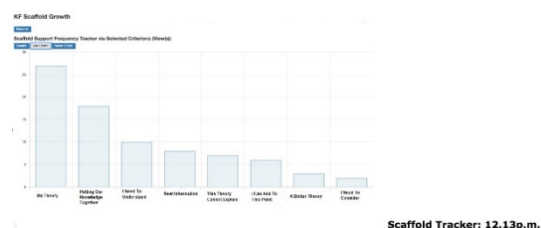
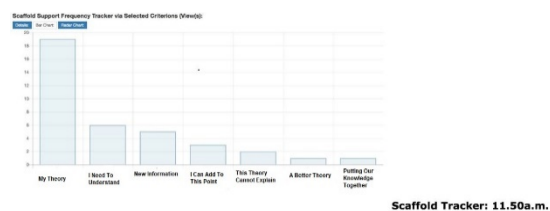
Surfacing phase: Getting started with student ideas	Sustaining phase: KB discourse	Strengthening phase - Rise-above
<p><u>Rationale and key points:</u></p> <ul style="list-style-type: none"> It is important that students are given time to generate questions about a topic/big ideas that are truly meaningful and authentic to the class.(This is usually likened to the “K” of KWL but in KB/KF we are trying to understand students’ approach to real problems related to big ideas/topic, what they are interested in, what they see in the problems, not just about what they have learned before) It is important to continue to cultivate a learning environment, especially during HBL, where students’ questioning and wonderment are valued. This will heighten their sense of agency in learning. Students will appreciate that learning is for them to find out more rather than just acquiring facts. 	<p><u>Rationale and key points:</u></p> <ul style="list-style-type: none"> The goal is to deepen students’ understanding about the topic from KB discussion. It is important to treat ideas as improvable objects and engage students to keep inquiring to seek understanding beyond what they already know. Teachers can encourage students to read and consider a range of ideas including ideas that differ from their own. Teachers can guide students to formulate promising questions - simply a question that allows the students to be able to build deep knowledge with. Usually a question that involves a why, or how come? 	<p><u>Rationale and key points:</u></p> <ul style="list-style-type: none"> To allow students to reflect on their learning/ progress, consolidate their learning, and formulate questions that they still need to understand at this point. To support students to create rise-above notes and views that support emergent rather than fixed goals.
<p><u>Strategies:</u></p> <p>Strategy #1: Create a new view for the topic, attached your trigger to the view. (Teachers can refer Appendix 2 to see some ideas on trigger activities)</p> <p>Focus students on KF scaffolds such as “My idea is” or “I think”/“I wonder” to support them in generating ideas.</p> <p>Encourage student to read and question the ideas.</p>	<p><u>Strategies:</u></p> <p>Strategy #1: Plan sufficient time for students to engage in different activities so that contribute to their discussion in a KF view to allow for idea improvement and ongoing class inquiry. Example of these activities include for students to:</p> <ul style="list-style-type: none"> read their peers’ KF notes (Teachers can choose to anonymise the view so as to reduce biasness when students select the posts to view on KF) build-on to their peers’ ideas with information, question, or a gap they identified in the ideas (I need to understand, this idea does not explain, new information) 	<p><u>Strategies:</u></p> <p>Strategy #1: Create a view on Knowledge Forum for each students and title it “John’s KB journey”. (20 students means 20 views)</p> <p>Students are encourage to constantly review notes from the discussion and make a copy of notes that are helpful to improve their understanding into their individual KB journey view. This is to support student’s individual reflection about their learning (use KB reflection scaffolds e.g. We used to think..., Now</p>

	<ul style="list-style-type: none"> • This is optional but it will be good to have students copy and paste KF notes that are helpful to deepen their understanding to their own view, see strategy of John’s KB journey view in the next phase) • Facilitate discussion (KB Talk if possible) using assessment tools/ learning analytics available in KF. (see details below on Learning analytics) <p>Strategy #2: Plan mini activities or create break-out rooms or break-out views for students to reflect on their learning or to support them in deeper understanding of the real problems they are working on collectively.</p>	<p>we understand...,” “We need to further understand“, see Appendix 3 on KB cards for more examples).</p> <p>Strategy #2: Create a class rise-above view where teacher and students bring over “promising” questions, ideas and explanations for further discussion. <i>This view can be talked about during the teachers’ online interaction with the students.</i></p>
<p><u>Teachers phrases - can be posted online to encourage students to keep building knowledge.</u></p> <p>“We need everyone’s ideas on this,” “What is the real issue from your point of view?”, “What would you really like to know...”, “Is there another way to view this?”, “Is there another different approach or direction...”</p>	<p><u>Teachers phrases - can be posted online to encourage students to keep building knowledge.</u></p> <p>“Is there an idea out there that we can help advance it?”, “Are there ideas showing a big idea?”, “Do your ideas fit together?”, “Is there another idea that add a point to this idea?” “Is there another idea that contrast the point in this idea?”, “Is there a pattern in the ideas that you can see?” “How would you describe our current state of understanding?”, “What would those who disagree say?,”; “what information do we need to improve these ideas?”, “Are there any ideas that we can combine to create a better idea?”</p> <p>*Teachers should feel comfortable to share relevant information and online reading resources, or point them to specific sets of notes of text book. These are taken as information needed for their discussion and exploration of the problems, not as “the correct answer”.</p>	<p><u>Teachers phrases – can be posted online to encourage students to keep building knowledge.</u></p> <p>“I bet we are missing something important here,” “How do we get beyond our current thinking?” “It can’t be that simple.”</p> <p>“Shall we summarise the key areas that we have discussed in this view?”</p> <p>“Moving on, what information do we need to progress our idea?”</p>

<p>Scaffolds to focus on:</p> <p>My theory; I need to understand; New information.</p> <p>My theory could be replaced with “I think”, “my idea”.</p> <p>I need to understand can be replaced with “I wonder”</p> <p>New information can be replaced with “I read”, “I found this....”,.</p> <p>(See Appendix 3 for details on KB scaffolds)</p>	<p>Scaffolds to focus on:</p> <p>This theory cannot; New information; A better theory. I would like to add on... I would like to connect</p> <p>(See Appendix 3 for details on KB scaffolds)</p>	<p>Scaffolds to focus on:</p> <p>Putting our knowledge together; Reflection “we used to think...now we understand”, “we need to look at different ideas about”, “we need to further understand”. “we need more evidence for...” “We still need to understand...”</p> <p>(See Appendix 3 for details on KB scaffolds)</p>
<p><u>Learning Analytics facilitation</u></p> <ul style="list-style-type: none"> Teachers can generate a word-cloud that provide a visualisation of the frequency of words used by students in their discussion (see Appendix 4 for generating wordcloud). Teacher can then focus students’ attention on some of the key ideas surfaced in the wordcloud. <p>Figure. Sample word cloud visual showing a teacher identifying some keywords from student ideas and generating trigger questions. Words commonly used can indicate a promising idea that the community is interested to develop.</p> 	<p><u>Learning Analytics facilitation</u></p> <ul style="list-style-type: none"> The three Learning analytics suggested in Idea generation phase can be used here. In addition, teachers can use “Lexical analytics” to look for notes with specific words for discussion or to bring these notes to the rise-above view. <p>Figure. Sample lexical analytic visual showing student notes with the specific words from a KF view.</p>  <p>(See Appendix 4 for generating lexical analysis)</p>	<p><u>Learning Analytics Facilitation</u></p> <ul style="list-style-type: none"> Focus students on KF scaffolds such as “Putting our Knowledge Together” to support them in consolidating their understanding and Rise above. Look through students’ consolidated notes and supports them create rise-above notes e.g. ask students: <i>How can we take this idea to a new level?</i> Consider the four analytics mentioned in idea generation and idea sustaining phase.

- Teachers can also use scaffold tracker to look at students' scaffold growth and provide feedback to students on their scaffold use that represents their thinking and allow students to think through if they are contributing productively (See Appendix 4 for generating scaffold tracker).

Figure. Sample scaffold tracker visuals showing students' scaffold growth at different time of the lesson.



- Teacher can use CiA to show how student ideas have changed and what are some emergent ideas. (See Appendix 5 for CiA use).

<p>Resources:</p> <ul style="list-style-type: none"> • Watch “Q & A with Richard Messina - How do I get started” from https://thelearningexchange.ca/projects/knowledge-building/ • KF user guide on YouTube 	<p>Resources:</p> <ul style="list-style-type: none"> • Watch “Q & A with Richard Messina – Developing a collective understanding” from https://thelearningexchange.ca/projects/knowledge-building/ • Watch “Q & A with Bev Caswell – Creating ideas” from https://thelearningexchange.ca/projects/knowledge-building/ • Watch “Q & A with Glenn Wagner – Formulating promising questions” from https://thelearningexchange.ca/projects/knowledge-building/ 	<p>Resources:</p> <p>Watch video from “https://thelearningexchange.ca/videos/rise-above/”</p>
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4. Sample lesson design

Teachers can reference sample lesson design – example adapted from a secondary science class KB lessons

Stage	Lesson activity	Ways to archive student ideas	Teacher facilitation strategies with learning analytics
<p><i>Getting started with student ideas</i></p> <p><i>Goals: students to relate to the topic/big ideas by seeing it's connection with real world problem and authentic ideas.</i></p> <p><i>To get them interested in the topic.</i></p>	<p>Warming up to KB and KF in HBL:</p> <p>Activity #1: Pick one or two knowledge building principles that you would like to work on and place the definition in a view, get students to post a note on what the principle means to them learning about the subject (https://www.kbsingapore.org/12-principles-of-kb).</p> <p>Activity #2: Create a “What is knowledge building” view. Get students to post a note on the KF view sharing one idea about why is it important to use the scaffolds “I need to understand”, “my theory”, “a better theory”, “this theory doesn’t explain”, “putting our knowledge together” in the learning of the subject (History, Science, Language).</p> <p>After activity #1 or #2, teacher can consolidate a few key points from students’ post, e.g. History is about continually looking for evidences to strengthen what we understand of an event; learning language is about understanding the world around us.</p> <p>Starting the idea generation:</p> <ol style="list-style-type: none"> 1. Attach online resource e.g. video on igloo (https://www.youtube.com/watch?v=yogX8Jevk2Q). Get students to think about the insulation provided by igloo and post a note on it. They can also search for online resources to support them in initial hypotheses. Individual online work. 2. Let them know that they should read the notes before posting, avoid posting same ideas repeatedly. 3. They have to also build on to a friend’s ideas using “I need to understand”, “I would like to add on...”. <p>Going deeper, Research for new information in build-on:</p> <ol style="list-style-type: none"> 1. Get students to read all the notes on the view now and actively seek “new information” in their build-on notes. 	<p>Create 2 views in KF</p> <p>KF view “What is knowledge building”</p> <p>KF view “Understanding insulation in the real world” to record student initial ideas and questions about effective insulation.</p>	<p>After discussion,</p> <ol style="list-style-type: none"> 1. Use wordcloud analytics to identify big ideas such as energy transfer or key words like heat gain/loss, conduction, radiation. Teacher can consider choosing both the bigger words and the smaller, more peripheral words. Teacher can identify or consolidate 2-3 questions that students can research on. 2. Use scaffold-tracker to help students understand their contribution to the discussion. Teacher can screenshot the scaffold tracker graph and put it back to the KB view (as background) so students can think about different ways of contributing to make the discussion more productive. E.g. they might have posted many “my theory” but no “new information” which means they are not actively researching or reading text book information to help them understand the problem.

	<ol style="list-style-type: none"> 2. Avoid repeating the same information. They have to really read the notes, understand the ideas, and build-on responsibly. 3. Teacher to read the notes on the first discussion view and do the following to help create focus in the discussion towards “the different things we need to know about insulation” <ol style="list-style-type: none"> a. Copy and paste 2-3 notes from the first discussion views onto different sub-views. E.g. “material to insulate”; “process of heat transfer” – try as much to ride on student ideas or big ideas like “energy” in the first view. You will get a chance to introduce the scientific terms in next lesson. b. Teacher can help shape the sub-question(s) to be explored in these sub-view, e.g. what kind of material works for good insulation? (Again, try to use students’ ideas, it need not be the perfect question here, but sufficiently scoped to help them research and read-up further) 		
<p><u><i>Sustaining the KB discourse</i></u></p> <p><i>Goals: Finding ways to challenge the students beyond superficial ideas of topic understanding.</i></p>	<p>Reading, evaluating ideas further:</p> <ol style="list-style-type: none"> 1. Get students to read the notes on the first discussion views and copy them to the respective views. 2. You can draw boxes on the KF view (as background) so that different groups can work on different sets of notes on the view. <p>Identifying ideas that need to be discussed.</p> <ol style="list-style-type: none"> 1. Students (in groups) can then be assigned to go into different sub-view and post a note using the reflection scaffold. 2. The group can make a hypothesis about the focus in the view, e.g. in terms of the material, they can hypothesise about the kind of materials used in an igloo that makes it a good insulation. 		<p>*The reflection on learning analytic visualisation can be done on separate view. It can be done after every lesson of every week.</p> <p>Use KF wordcloud analytics to show the key ideas on KF view “Understanding insulation in the real world” compared to the first lesson, teacher can post both the wordcloud on the view (As background) and ask them how their ideas have changed and why? (Help students see emergent ideas)</p> <p>Use scaffold-tracker to see students’ scaffold contributions in KF view “Understanding insulation in the real world” compared to the first lesson, ask them how have their thinking change? How would they like to improve?</p>

	<p>Researching and testing ideas</p> <ol style="list-style-type: none"> 1. Students are to research and read up about their hypothesis. 2. Teachers can introduce virtual lab or simulations to students or 3. Students can propose an experiment to test their hypothesis in each view. 		(Help students improve ideas with scaffold use)
<p><u>Consolidating and rise-above to deepen topic understanding</u></p> <p>Goals: Students to deepen in their understanding of the big idea through improving on hypothesis Students learn that final hypotheses can still be improved through ongoing thinking and inquiry.</p>	<p><i>If there is a chance to zoom, each group managing each sub-view can do a 3-5 minutes sharing on what they found out on that one particular dimension of insulation.</i></p> <p><i>Teacher can create a rise-above view and get students to post a reflection note (see reflection scaffolds).</i></p>	<p><i>Students consolidate on the following</i></p> <ol style="list-style-type: none"> 1. <i>The key question in their view</i> 2. <i>The overarching question/topic on “insulation in real-world setting”.</i> 	<p><i>The consolidation strategies mentioned in design guide above (p.2 & 3) can be considered in the closing stage of the inquiry.</i></p>

Appendix 1 on user guide for KF

KNOWLEDGE FORUM (v6) INSTRUCTION GUIDE

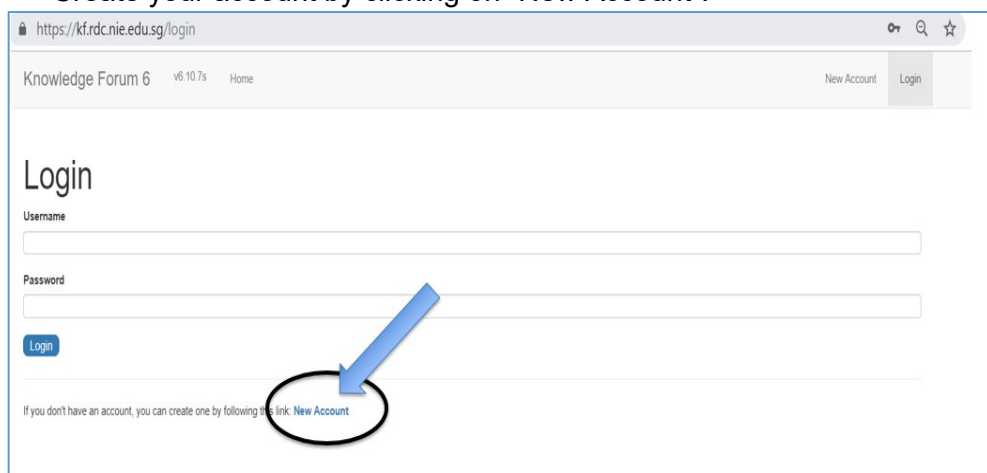
CONTENT

1. LOGIN INSTRUCTIONS FOR NEW USERS
2. BASIC NOTE CREATION AND BUILD ON
3. CREATION OF A VIEW

1. LOGIN INSTRUCTIONS FOR NEW USERS

1.1. NEW ACCOUNT CREATION (For new users only, skip to 2).

- Go to <https://kf.rdc.nie.edu.sg/login>
- Create your account by clicking on “New Account”.



- Do the following

1.2. JOINING A COMMUNITY

- Once your account is created, select the class community to join and key in the teacher access code (registration key). You can obtain the code from the access

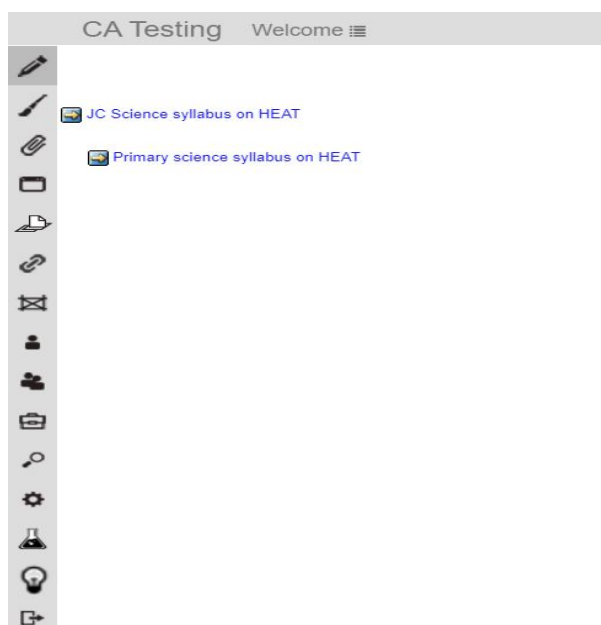
code list given to your school when the database was created at the beginning of the year.

Join Community:

Community: 264 possible communitie(s).

Community Registration Key:

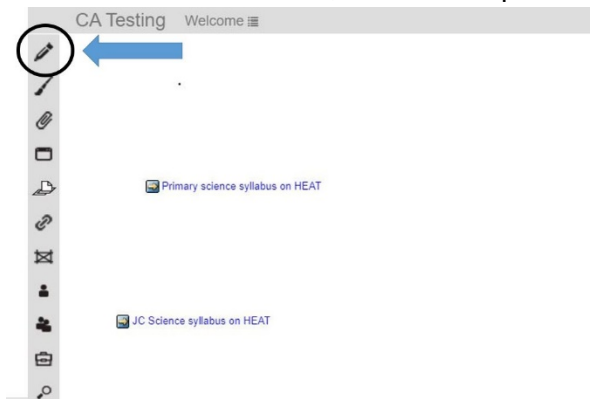
- You will be able to see community view from your selection above. A sample of a community view is shown below. You can access the sidebar icons for the different features in KF.



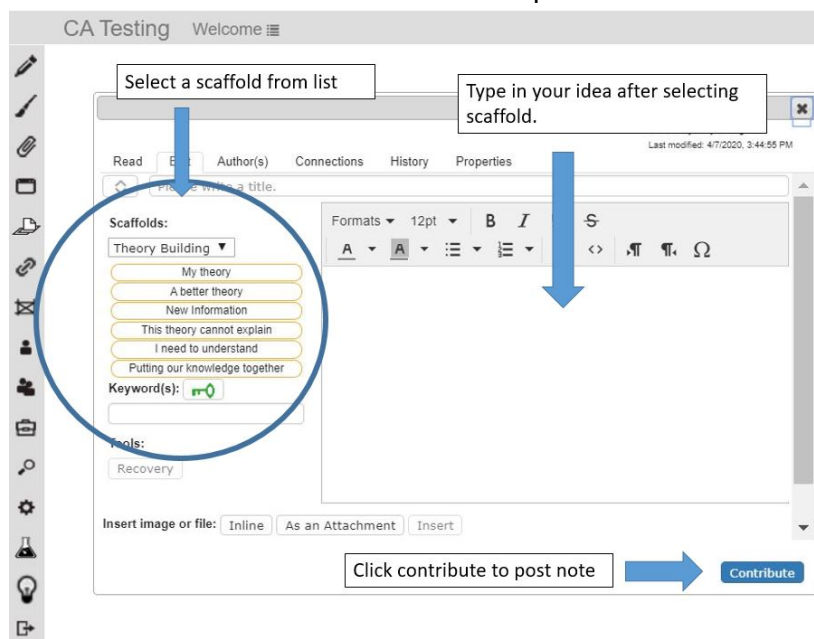
2. BASIC NOTE CREATION AND BUILD ON

2.1. NOTE CREATION

- To create a new note, click on the pen icon in the sidebar on the left.



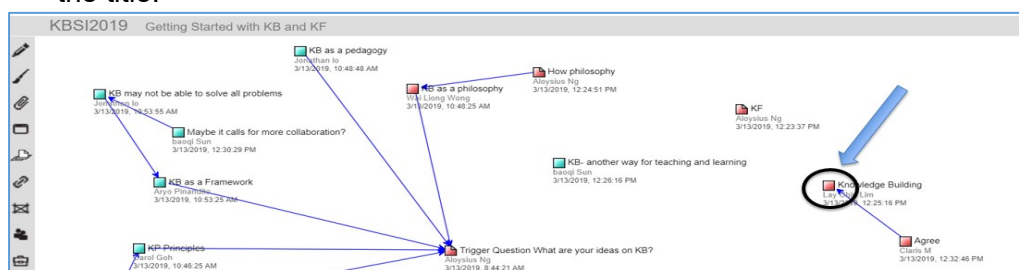
- You will see a message box as shown below. Click on a suitable scaffold that would help you start your post. For example, click on [My Theory] and then type your idea into the box. Click on “Contribute” to post note.



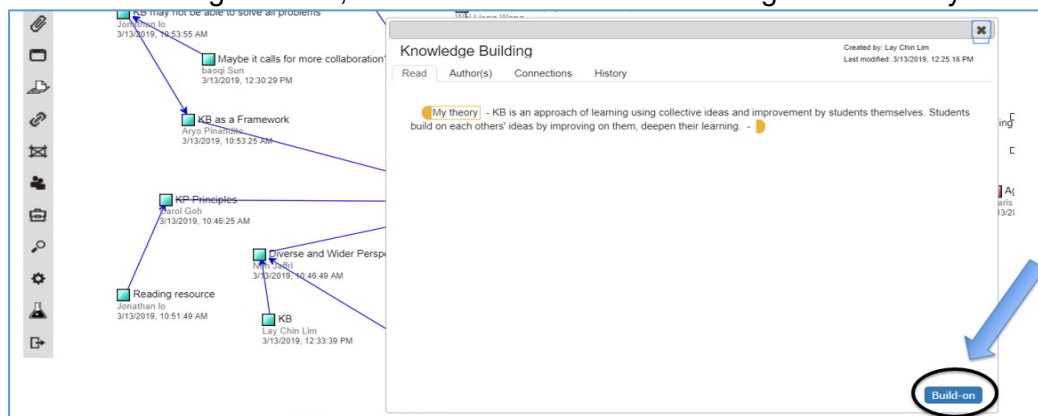
- A new note with your username will appear in the view that you posted the note.

2.2. NOTE BUILD ON

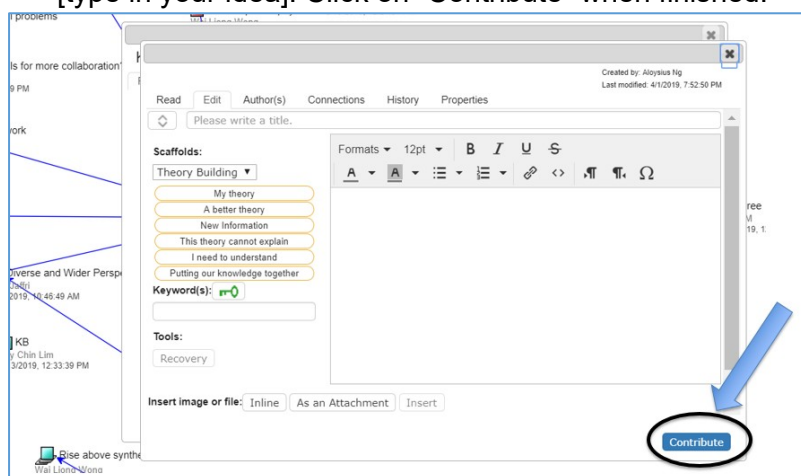
- To create a build on note, look for another member's note and click on the box or on the title.



- After reading the note, click on “Build on” in the message box to add your idea.



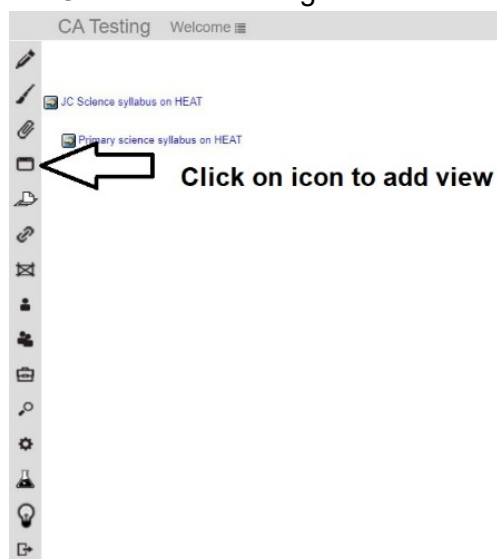
- You will see another message box as shown below. Click on the scaffold that you would like to use to build on the existing idea. For example, I need to understand [type in your idea]. Click on “Contribute” when finished.



- A build-on note with your username linking to the note (with an arrow) will appear in the view.

3. CREATION OF A VIEW

- Click on the rectangular icon located in the column of function icons.



- You will see the following screen that allows you to create new view.
- Input the name of new view and click add.
- Refresh KF to see the new view. Repeat steps to create another view.









Appendix 2 on examples of trigger activities in KB classrooms

(Note: See link for more details of the trigger activities

<https://www.kbsingapore.org/classroompractice>)

Grade level/Subject	Trigger activities to generate student ideas
Primary 4 English	e.g. Showing a video to trigger students thinking and ideas about the topic on 'Honesty'. https://www.youtube.com/watch?v=KvzqvaTnqek
Primary 4 Science	e.g. Showing the story of the extinction of dodo bird http://birdsflight.com/dodo-bird-facts-kids-dodo-bird-extinction/
Secondary 3 NT Food	e.g. Using simple experiments to trigger students thinking about "source of food" and plant growth. shorturl.at/arstO https://www.sciencebuddies.org/science-fair-projects/project-ideas/PlantBio_p045/plant-biology/hydroponics-gardening-without-soil#makeityourown
Secondary 1 Chemistry	e.g. Using a video and a simple experiment to make sodium chloride to trigger students thinking and generating about reactions and reactants. https://www.youtube.com/watch?v=d2geiGKFveE https://www.youtube.com/watch?v=ji_25l_q4LQ https://praxilabs.com/en/virtual-labs http://www.chemistryrules.me.uk/middle/naclprep.htm

Appendix 3 on KB cards

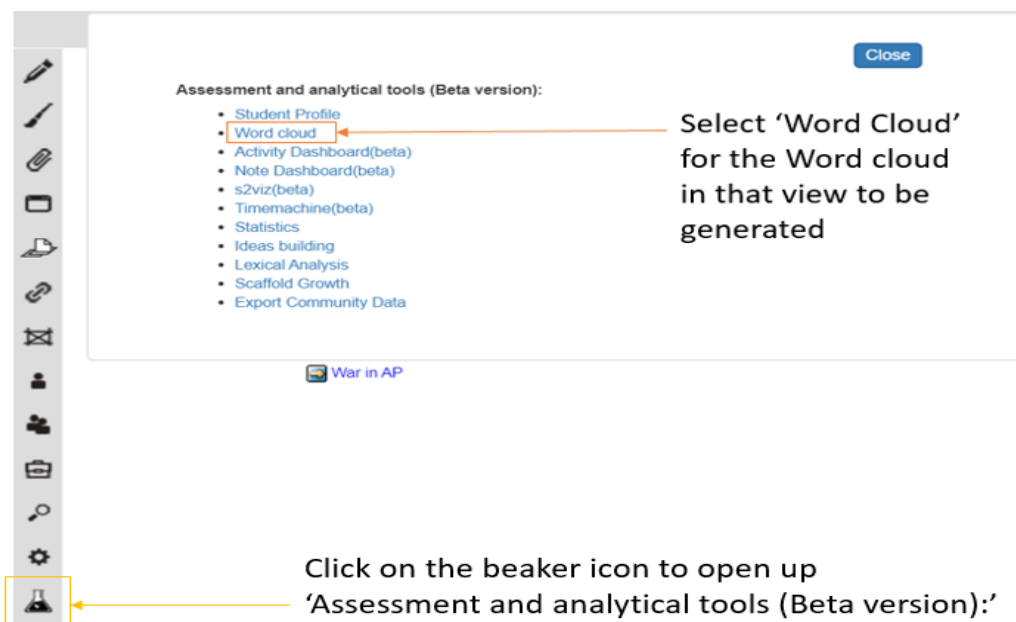
<p>My Theory...</p> <p>I think... I believe that... My educated guess is... My perception is...</p> 	<p>New information...</p> <p>I know... I learnt... I saw... I observed... I read...</p> 	<p>I need to understand...</p> <p>I wonder if/what/why/how... Can you say more about ...</p> 	<p>This theory cannot</p> <p>I'm not sure about ... can you say more about ... I have something to address...</p> 
<p>A better theory...</p> <p>I can add on that... I would like to make a connection between...</p> 	<p>Putting our knowledge together...</p> <p>I would like to conclude... Tying our ideas together...</p> 	<p>Reflection</p> <p>We used to think... Now we understand... We need to look at different ideas about...</p>	<p>Reflection</p> <p>We need to further understand... We need better theories about... We need evidence about...</p>

Appendix 4 – User guide on KF analytics

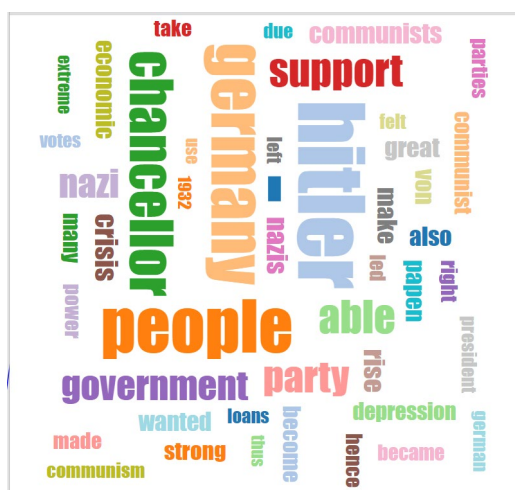
1. Word cloud
2. Scaffold trackers
3. Lexical analysis

4.1 Guideline for analysing Word Cloud

4.1.1 Open up the KF view that you want to examine. Click the beaker icon on the left side of KF for a window titled 'Assessment and analytical tools (Beta version):' to pop up. Select 'Word Cloud' for the word cloud to be generated.

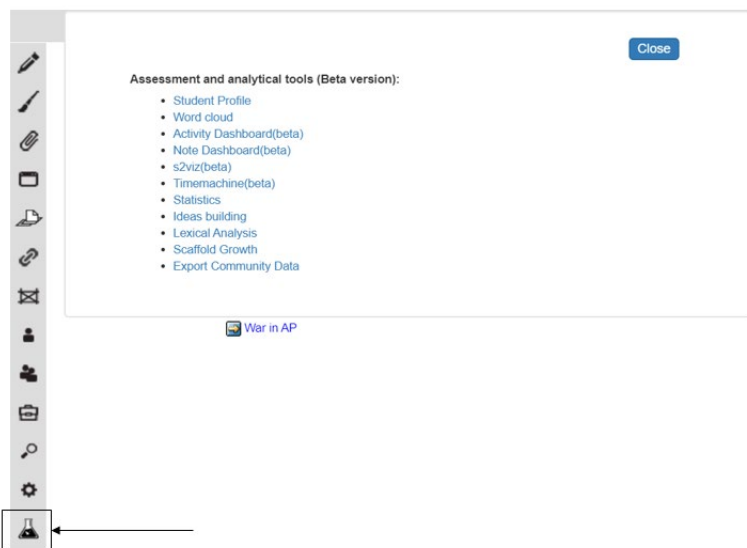


4.1.2 The word cloud would appear similar to the image below

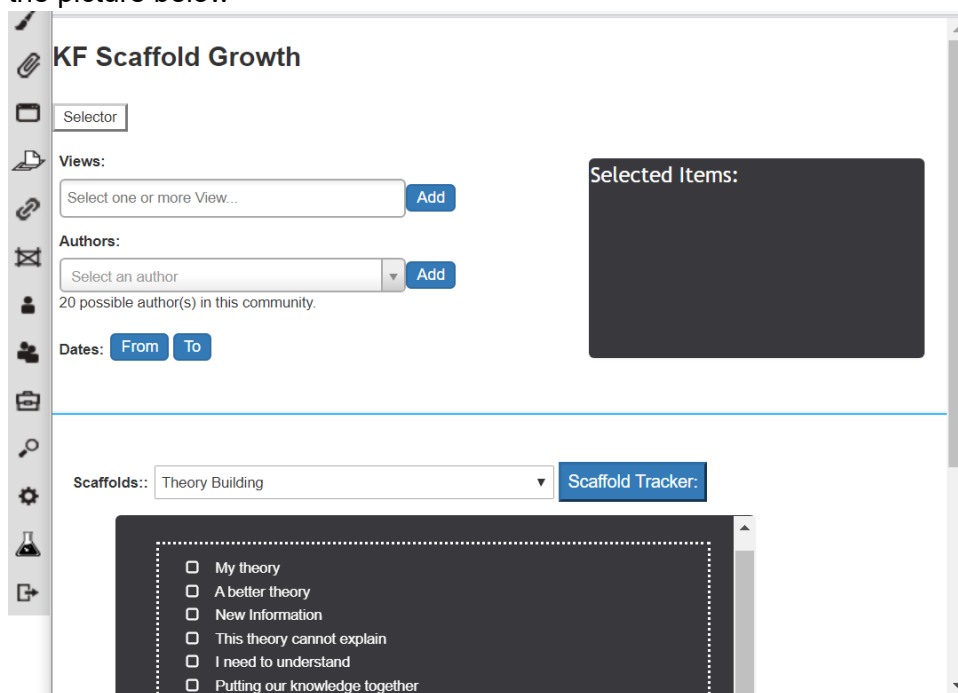


4.2 Guideline for analysing Scaffold Trackers

- 1) Click the beaker icon on the left-hand side of the Knowledge Forum (KF) it will open up a window titled 'Assessment and analytical tools (Beta version)'

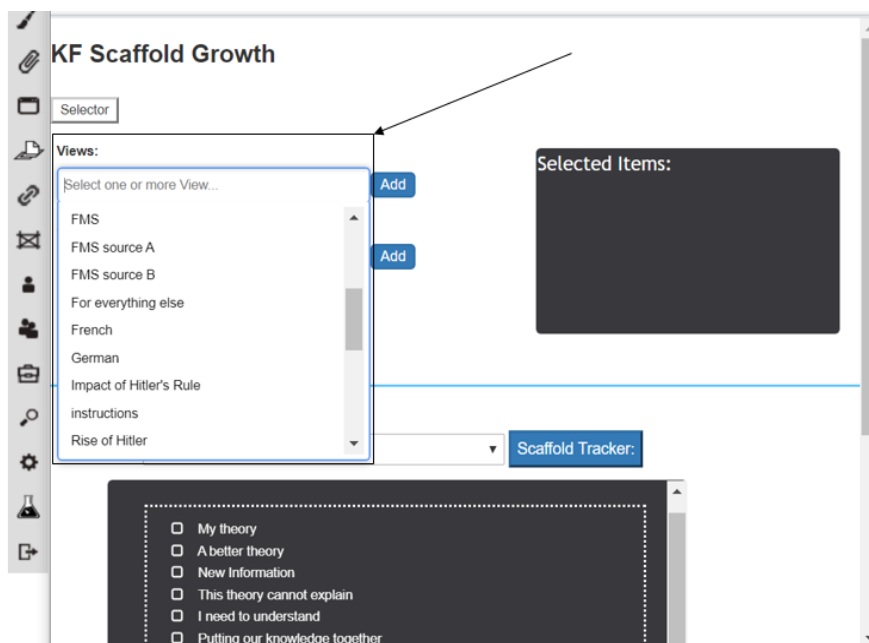


- 2) Click 'Scaffold Growth', followed by 'Selector', and a new window would appear as shown in the picture below



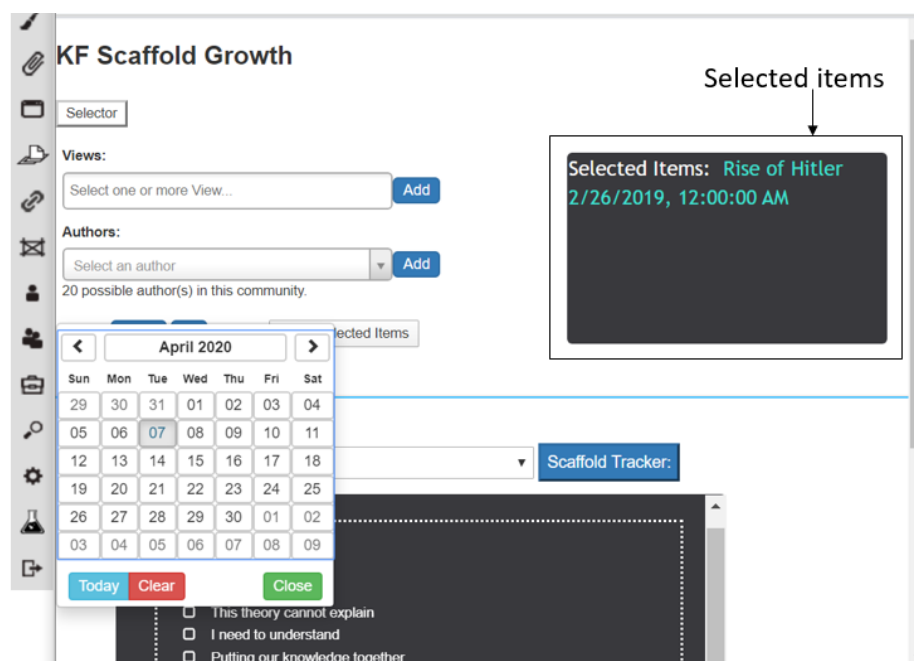
3) You can select whether you want to observe the scaffold growth based on 'View', 'Authors' and/or dates.

- i) Click on 'View' and select the View that you want to examine the scaffold growth and click 'Add'.

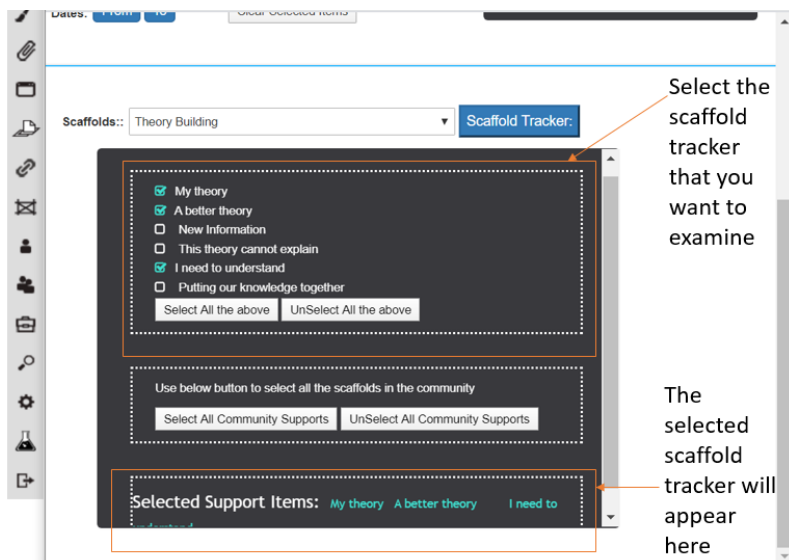


- ii) Click on 'Author(s)' to select the notes from specific students.

- iii) Click on the 'To' and 'From' dates to add the period of time that you want to examine the scaffold growth. The selected items would appear in the view on the right



- 4) Scroll down to select the scaffold tracker(s). You can select the type of scaffolds that you want to examine by clicking on the drop button beside 'Scaffolds'. Check the box(es) for the scaffolds that you wish to examine. You will see that the selected scaffolds will appear in the box below under 'Selected Support Items'.



- 5) Click on 'Scaffold Tracker' and a new window will open.

Display of Scaffold Growth in KF

Details: In the first tab 'Details', it will show a table with three columns. The first column represents the scaffold that was selected, the second column represents the frequency of the scaffold in the notes and the third is the title of the note which you can click to open up the student's note in a separate window tab.

Support	Frequency	In Contribution
My theory	7	<input type="checkbox"/> Hitler--1
		<input type="checkbox"/> Rise of Hitler--1
		<input type="checkbox"/> seq 1--1
		<input type="checkbox"/> rise of Hitler--1
		<input type="checkbox"/> chancellor--1
		<input type="checkbox"/> Hitler--1
		<input type="checkbox"/> Answer From --1
I need to understand	7	<input type="checkbox"/> what are the examples?--1
		<input type="checkbox"/> why will the crisis led to the rise of the extreme party like the Nazi part?--1
		<input type="checkbox"/> why? How?--1
		<input type="checkbox"/> why did he persuade Hinderburg?--1
		<input type="checkbox"/> 2 factors in one?--1
		<input type="checkbox"/> How did he exploit the emotions?--1
		<input type="checkbox"/> what is a strong character?--1
A better theory	4	<input type="checkbox"/> Why hitler became chancellor--1
		<input type="checkbox"/> von papen--3

ExtraInfo: In the 'ExtraInfo' tab, more information about the notes for each scaffold selected is identified by the Author's User ID, Username of the Author, Creation date of the note as well as the view that the note was in.

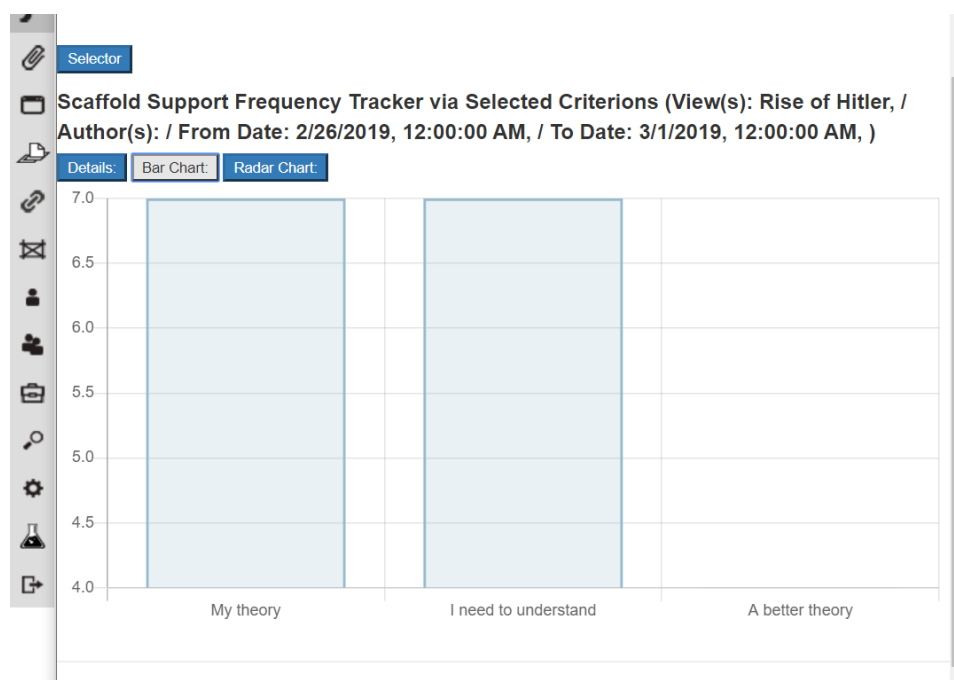
Scaffold Support Frequency Tracker via Selected Criteria (View(s): Rise of Hitler, / Author(s): / From Date: 2/26/2019, 12:00:00 AM, / To Date: 3/1/2019, 12:00:00 AM,)

Details: **ExtraInfo** Bar Chart: Radar Chart:

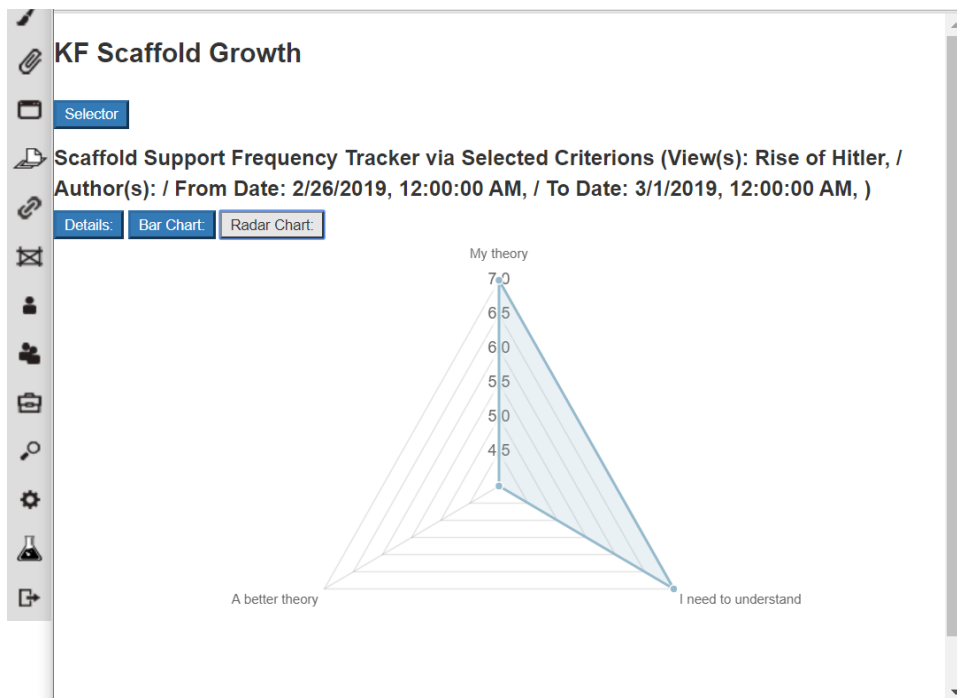
ExportToCSV

Support	Frequency	User_ID_Author	User_Name_Author	Creation_Date	ViewID	View_Ne
My theory	7			2/27/2019	5c7524778991cc75322eb665	Rise of Hitler
				2/27/2019	5c7524778991cc75322eb665	Rise of Hitler
				2/27/2019	5c7524778991cc75322eb665	Rise of Hitler
				2/27/2019	5c7524778991cc75322eb665	Rise of Hitler
				2/27/2019	5c7524778991cc75322eb665	Rise of Hitler
				2/27/2019	5c7524778991cc75322eb665	Rise of Hitler
				2/27/2019	5c7524778991cc75322eb665	Rise of Hitler
I need to understand	7			2/28/2019	5c7524778991cc75322eb665	Rise of Hitler

Bar Chart: The notes for each scaffold selected is represented using bar graphs with the x-axis representing the scaffolds selected and the y-axis representing the frequency (number of notes) for each scaffold selected.



Radar Chart: The notes for each scaffold can also be represented in a radar chart to examine the difference in frequency of notes in the different scaffolds selected.



Exporting of Notes for Selected Scaffolds

- 1) Click on 'ExportToCSV' to export the scaffold growth data.

Support	Frequency	In Contribution
My theory	7	<input type="checkbox"/> Hitler--1 <input type="checkbox"/> Rise of Hitler--1 <input type="checkbox"/> rise of Hitler--1 <input type="checkbox"/> seq 1--1 <input type="checkbox"/> chancellor--1 <input type="checkbox"/> Hoitler--1 <input type="checkbox"/> Answer From --1
I need to understand	7	<input type="checkbox"/> what are the examples?--1 <input type="checkbox"/> why will the crisis led to the rise of the extreme party like the Nazi part?--1 <input type="checkbox"/> why? How?--1

ExportToCSV

scaffold_growth.csv

CSV file of the data will be downloaded when 'ExportToCSV' is clicked

- 2) After the file has been downloaded, you can open up the file for an Excel sheet similar to the one shown below (if the data from 'Details:' was exported).

	A	B	C
1	Support	Frequency	In Contribution
2	My theory	7	Hitler -- 1, Rise of Hitler -- 1, rise of Hitler -- 1, seq 1 -- 1, chancellor -- 1, Hoitler -- 1, Answer From -- 1,
3	I need to understand	7	what are the examples? -- 1, why will the crisis led to the rise of the extreme party like the Nazi part? -- 1, why?
4	A better theory	4	Why hilter became chansellor -- 1, Von papen -- 3,
5			

4.3 Guideline for analysing Lexicons (specific vocabulary)

- 1) Click on the conical flask icon on the sidebar for a window titled 'Assessment and analytical tools (Beta version):' to pop up. Select 'Lexical Analysis' to open up the window to analyse specific vocabulary.

Assessment and analytical tools (Beta version):

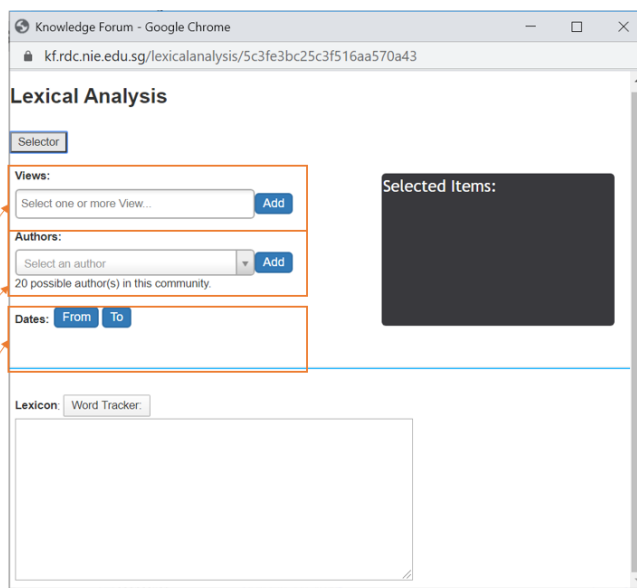
- Student Profile
- Word cloud
- Activity Dashboard(beta)
- Note Dashboard(beta)
- s2viz(beta)
- Timemachine(beta)
- Statistics
- Ideas building
- **Lexical Analysis**
- Scaffold Growth
- Export Community Data

Select 'Lexical Analysis' to open up the window to analyse specific vocabulary

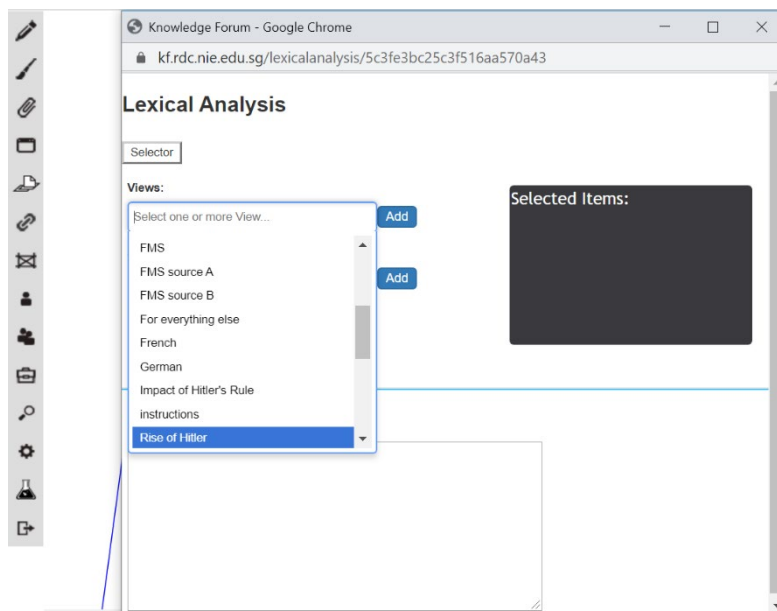
Click on the beaker icon to open up 'Assessment and analytical tools (Beta version):'

- 2) Click 'Selector'. The 'Lexical Analysis' window will open. You are able to select the specific vocabulary word that you want to examine in specific Views, Authors and/ or the duration in which the selected word appears in.

You can select whether you want to examine the specific vocabulary word(s) in a specific View, by a specific Author(s) and/or on specific days

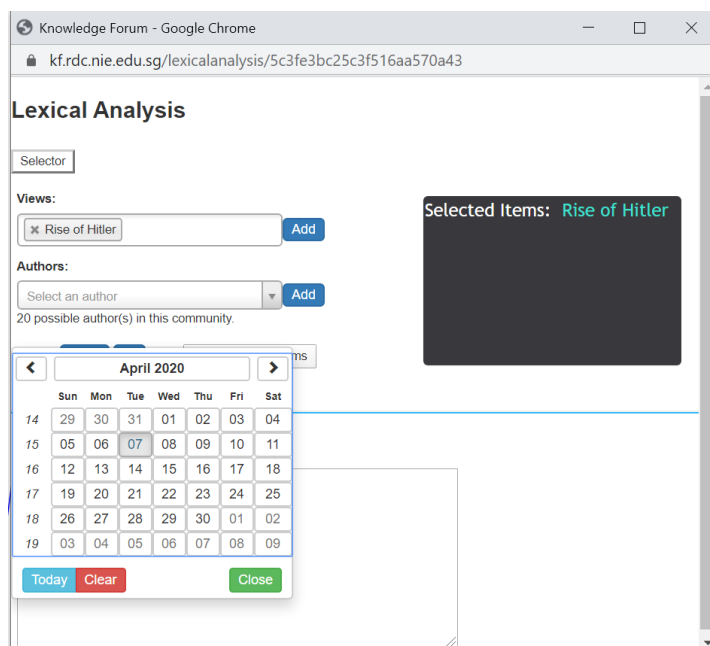


- i) To select a specific view, click the box under 'Views:' to select the specific view that you want and click 'Add'.

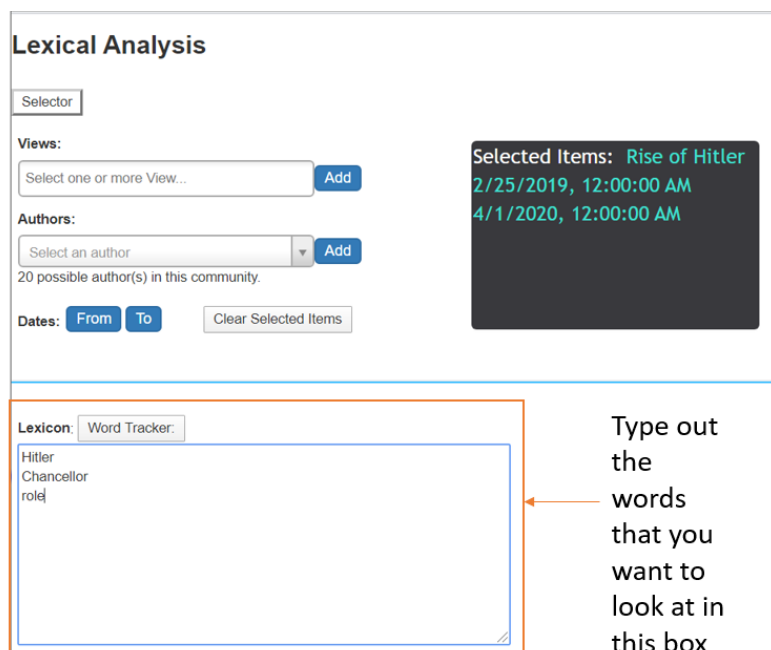


- ii) To select a specific author, click the box under 'Author(s):' to select the specific author that you want and click 'Add'.

- iii) To select a specific duration, click the boxes 'From' and 'To' to select the dates that you want and click 'Add'.



- 3) All the added items will appear in the box on the right labelled 'Selected Items'.
- 4) In the box below the title 'Lexicon', type out some words (3 to 5 words) that you want to examine. Each word should be on a separate line.



- 5) Click 'Word Tracker:' and a window similar to the one below will be seen. The notes can be seen in several ways: Details, Bar Chart or Radar Chart form.

Lexicon	Frequency	In Contribution
hitler	69	<input type="checkbox"/> Instructions - read before you attempt the question--1 <input type="checkbox"/> SEQ 1--1 <input type="checkbox"/> Hitler--2 <input type="checkbox"/> Hitler--2 <input type="checkbox"/> explanation--1 <input type="checkbox"/> i--3 <input type="checkbox"/> Rise of Hitler--4 <input type="checkbox"/> Why hitler became chansellor--1 <input type="checkbox"/> Hitler or circumstances?--1 <input type="checkbox"/> rise of Hitler--4 <input type="checkbox"/> Von Papen--1 <input type="checkbox"/> seq 1--5 <input type="checkbox"/> feelings of the German people during the fight between the communists and the police--1 <input type="checkbox"/> charisma and oratical skills--1 <input type="checkbox"/> People's support--4 <input type="checkbox"/> chansellor--5 <input type="checkbox"/> Hoitler--1 <input type="checkbox"/> Chancellor of germany--8 <input type="checkbox"/> Answer From. --5 <input type="checkbox"/> strong character--2 <input type="checkbox"/> Chancellor Hitler--8 <input type="checkbox"/> what qualities did Hitler have?--1 <input type="checkbox"/> Hitler qualities--1 <input type="checkbox"/> chansellor of germany--3 <input type="checkbox"/> great leaership abilities--3
chancellor	44	<input type="checkbox"/> SEQ 1--1

Data can be represented in different forms

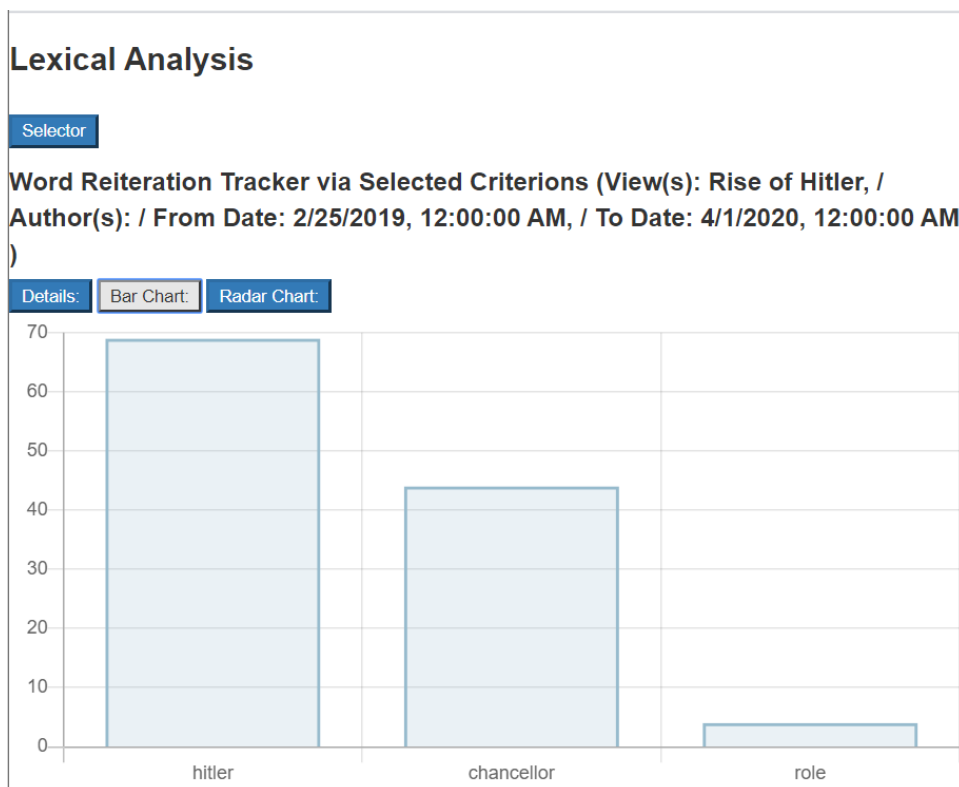
Display of Lexical Analysis in KF

Details Tab: The data will be presented in a table with the first column representing the selected lexicon. The second column would represent the frequency of the selected lexicon and the third column would represent the notes that had the selected lexicon.

You can click on each note to view the content in a new window tab.

Lexicon	Frequency	In Contribution
hitler	69	<input type="checkbox"/> Instructions - read before you attempt the question--1 <input type="checkbox"/> SEQ 1--1 <input type="checkbox"/> Hitler--2 <input type="checkbox"/> Hitler--2 <input type="checkbox"/> explanation--1 <input type="checkbox"/> --3 <input type="checkbox"/> Rise of Hitler--4 <input type="checkbox"/> Why hitler became chancellor--1 <input type="checkbox"/> Hitler or circumstances?--1 <input type="checkbox"/> rise of Hitler--4 <input type="checkbox"/> Von Papen--1 <input type="checkbox"/> seq 1--5 <input type="checkbox"/> feelings of the German people during the fight between the communists and the police--1 <input type="checkbox"/> charisma and oratical skills--1 <input type="checkbox"/> People's support--4 <input type="checkbox"/> chancellor--5 <input type="checkbox"/> Hitler--1 <input type="checkbox"/> Chancellor of germany--8 <input type="checkbox"/> Answer From --5 <input type="checkbox"/> strong character--2 <input type="checkbox"/> Chancellor Hitler--8 <input type="checkbox"/> what qualities did Hitler have?--1 <input type="checkbox"/> Hitler qualities--1 <input type="checkbox"/> chancellor of germany--3 <input type="checkbox"/> great leadership abilities--3
chancellor	44	<input type="checkbox"/> SEQ 1--1

Bar Chart: The data will be presented in a bar graph form with the x-axis representing the selected lexicon and the y-axis representing the frequency (number of notes with the selected lexicon).



Radar Chart: The notes for each selected lexicon can also be represented in a radar chart to examine the difference in frequency of notes in the different lexicons selected.

Lexical Analysis

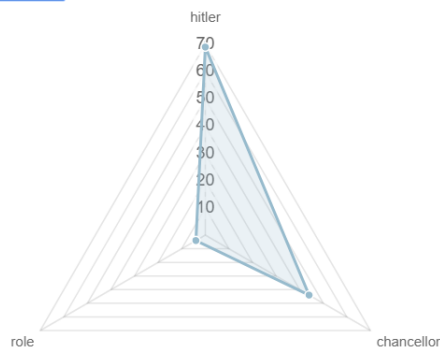
Selector

Word Reiteration Tracker via Selected Criteria (View(s): Rise of Hitler, /
Author(s): / From Date: 2/25/2019, 12:00:00 AM, / To Date: 4/1/2020, 12:00:00 AM,
)

Details:

Bar Chart:

Radar Chart:



Exporting of Notes for the Identified Lexicons

- 1) The number of notes can only be extracted for the identified lexicons under the tab 'Details:'. Select 'ExportToCSV' for the immediate downloading of the data on Excel.

Lexical Analysis

Selector

Word Reiteration Tracker via Selected Criteria (View(s): Rise of Hitler, /
Author(s): / From Date: 2/25/2019, 12:00:00 AM, / To Date: 4/1/2020, 12:00:00 AM
)

Details:

Bar Chart:

Radar Chart:

ExportToCSV

Click to export the data

Lexicon	Frequency	In Contribution
hitler	69	<input type="checkbox"/> Instructions - read before you attempt the question--1 <input type="checkbox"/> SEQ 1--1 <input type="checkbox"/> Hitler--2 <input type="checkbox"/> Hitler--2 <input type="checkbox"/> explanation--1 <input type="checkbox"/> --3 <input type="checkbox"/> Rise of Hitler--4 <input type="checkbox"/> Why hitler became chansellor--1 <input type="checkbox"/> Hitler or circumstances?--1 <input type="checkbox"/> nse of Hitler--4 <input type="checkbox"/> Von Papen--1 <input type="checkbox"/> seq 1--5 <input type="checkbox"/> feelings of the German people during the fight between the communists and the

test (1).csv

Downloaded data
will appear here

Show all

- 2) After the file has been downloaded, you can open up the file for an Excel sheet similar to the one shown below.

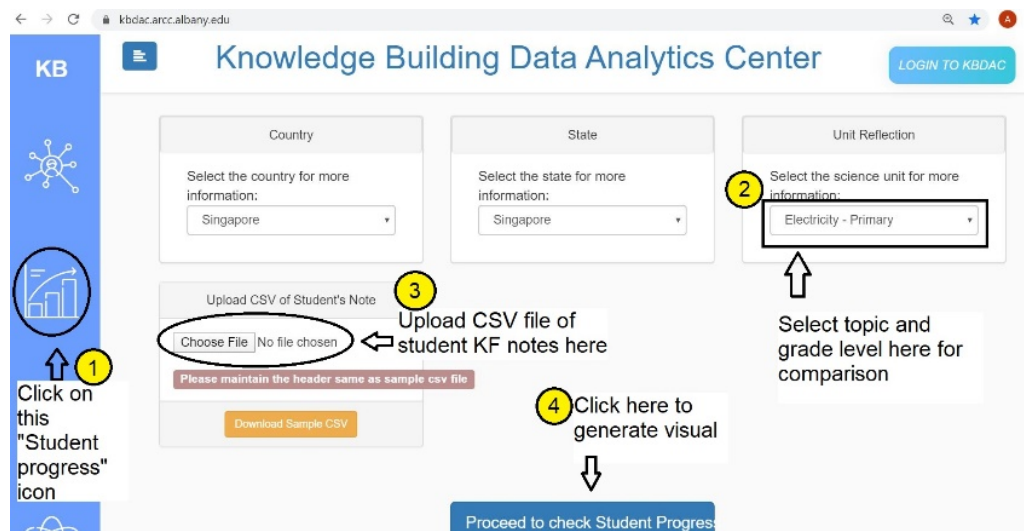
The screenshot shows an Excel spreadsheet with the following data:

	A	B	C
1	Lexicon	Frequency	In Contribution
2	hitler	69	Instructions - read before you attempt the question -- 1, SEQ 1 -- 1, Hitler -- 2, Hitler -- 2, explanation -- 1
3	chancellor	44	SEQ 1 -- 1, Hitler -- 2, Hitler -- 2, explanation -- 1, -- 4, Rise of Hitler -- 3, GREAT DEPRESSION -- 5, i
4	role	4	-- 1, Von papen -- 2, Hitler or circumstances? -- 1,

Appendix 5 - Guideline for generating and using Curriculum-ideas Analytics (CiA) visual

Creating visuals with CiA

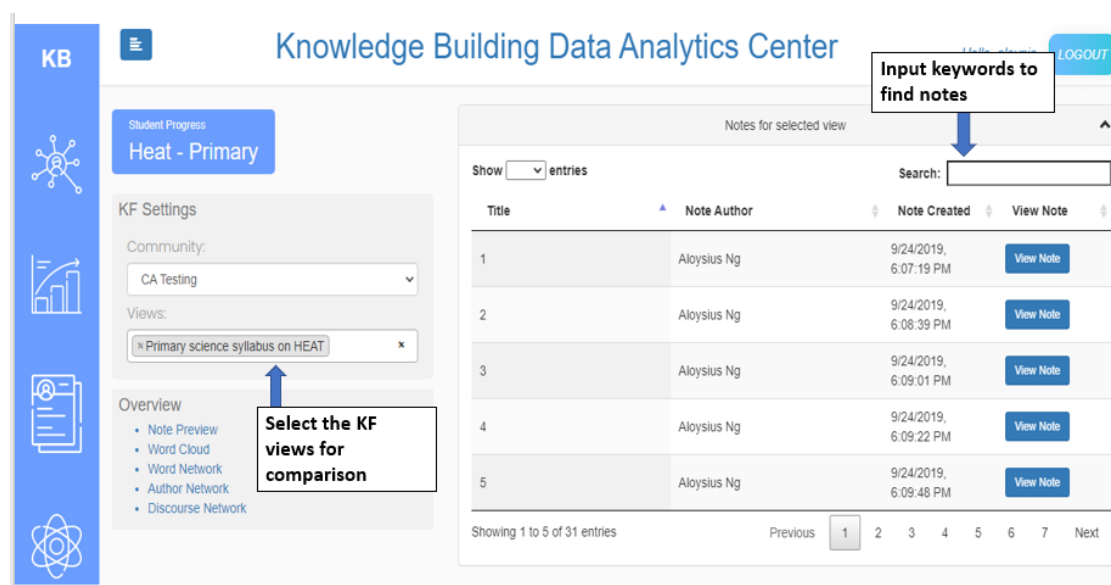
1. Login KF and join your community.
2. In the community view, click on 'conical flask' icon and then click on 'Student Profile'.
3. You may be prompted to sign in. Use your KF login details and select your community again. Upon successful login, you will see the CiA interface as shown below.



4. Click on "Student Progress" icon and select appropriate country, state and grade level topic for comparison. Click on 'Proceed to check Student Progress'

Note: The CiA is programmed for you to select KF views for comparison so you do not need to upload csv file. But you wish to compare with selected student notes from a view or different views, you can upload the notes through the csv file. See below for instructions for generating csv file.

5. The following interface will appear. Select the community and view(s) that you would like the CiA to perform the analysis. Wait for the CiA to load the visuals.



6. Once ready, you will be able to see the wordcloud and word network from the interface as shown below.

The screenshot displays the Knowledge Building Data Analytics Center interface. On the left is a navigation sidebar with icons for a network, bar chart, document, and atom. The main area is titled 'Electricity - Primary' and contains a list of notes. Below the notes is a 'Word Cloud' and a 'Word Network'.

Notes for selected view:

Title	Note Author	Note Created	View Note
A bulb on for			View Note
A bulb on for			View Note
a question			View Note
a question			View Note
a question			View Note

Showing 1 to 5 of 110 entries

Word Cloud showing the content of student's online posts

Words in the cloud include: conserve, switch, spread, thing, sometimes, nature, wire, energy, know, conversion, electricity, say, gas, variable, allows, system, metal, plastic, try, current, air, bulb, flow, magnet, copper, conductor, insulator, understand, close, easy, work, find, parallel, use, wood, conserve, another, opposite, atom, potential, electricity, battery, current, flow, magnet, copper, conductor, insulator, understand, close, easy, work, find, parallel, use, wood, conserve, another, opposite, atom.

Word Network

The following table is created by the number of times the word appears in all notes (shown in parentheses):

Word	Frequency
conserve	(10)
switch	(8)
spread	(6)
thing	(5)
sometimes	(4)
nature	(3)
wire	(2)
energy	(1)
know	(1)
conversion	(1)
electricity	(1)
say	(1)
gas	(1)
variable	(1)
allows	(1)
system	(1)
metal	(1)
plastic	(1)
try	(1)
current	(1)
air	(1)
bulb	(1)
flow	(1)
magnet	(1)
copper	(1)
conductor	(1)
insulator	(1)
understand	(1)
close	(1)
easy	(1)
work	(1)
find	(1)
parallel	(1)
use	(1)
wood	(1)
conserve	(1)
another	(1)
opposite	(1)
atom	(1)

Legend for Word Network:

- Orange: Word frequency contribution words students already using
- Green: Words students use
- Blue: Words that contribute words students get to be used

Word Network controls:

- Default words: (empty)
- Generate Method:
 - Note Network
 - Collaborative Network
- Contrast: 0 (slider)
- Adding Connected (checked)
- Default words: (input field)
- Generate from calculator

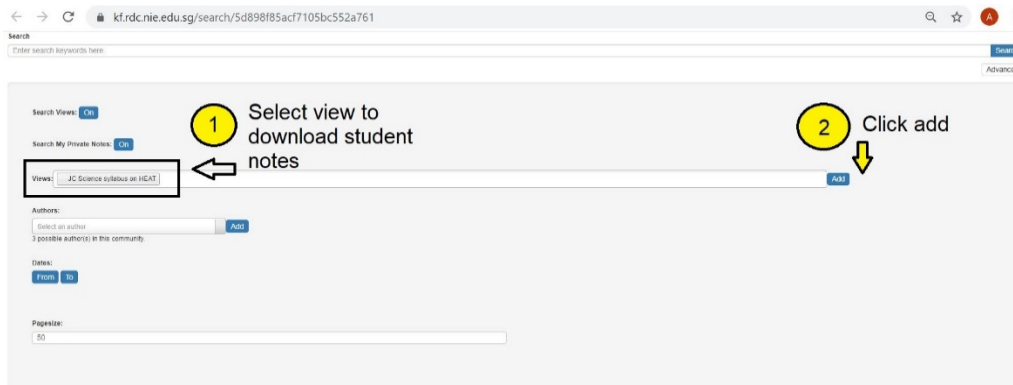
Note Network: A link is generated if two words appear in the same note. The thickness of the link indicates the occurrence of such link.

Collaborative Network: A link is generated if two words appear within the distance of 5 words in a paragraph. The thickness of the link indicates the occurrence of such link.

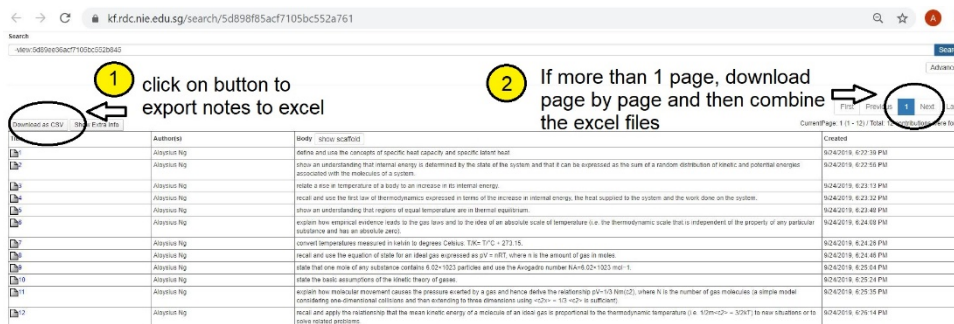
7. Type in some combination of keywords (e.g. potential, energy OR conserve, flow, conductor) in the search box to see student notes containing the words.
8. You can also input words into the word network to see the word connections.

*Instructions for generating csv file

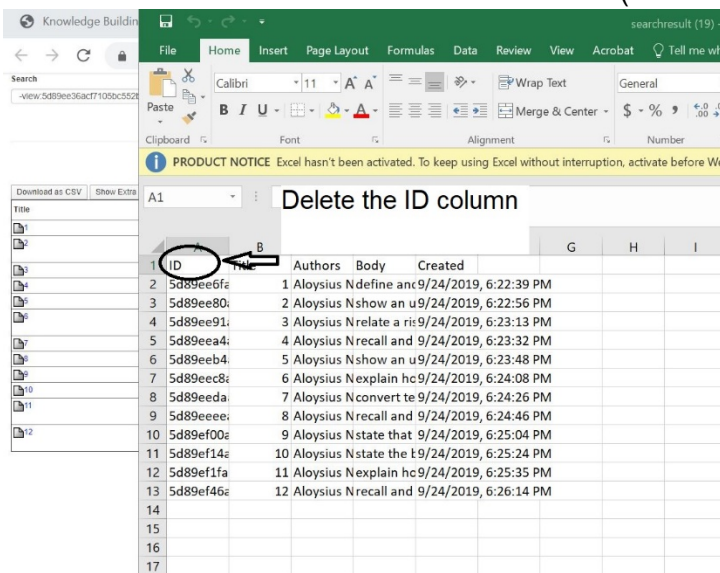
1. In KF, click on the search button (magnifying glass) and then in the search view which you see below, select and add the view that you want to analyse.



2. Export data to excel file by clicking on “download as csv”. If students notes are more than 1 page, download page by page and then combine the excel file.

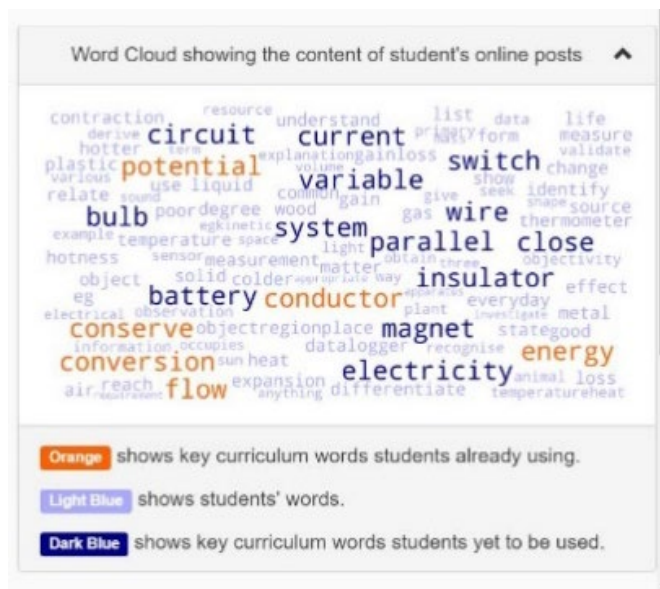


3. Delete the ID column and save file as a csv file (comma delimited).



Suggested approach for using learning analytics to facilitate idea generation/improvement

1. Export student notes from a discussion.
2. Follow the steps above to generate a wordcloud visual using CiA against the curriculum you want to compare with.
(Below: Snapshot of a wordcloud visual using CiA)



3. Show wordcloud to students and give them time to identify and talk about keywords they are interested in e.g. from curriculum, from their discussion. Teacher can create a snapshot of the visual in KF and put in prompts to encourage students select the words that are interesting to them (good to have words from both their discussion and curriculum) and ask them to explain their choice.
4. After discussion, teacher can collate their choice of words. Again, export the student notes from discussion and generate a wordcloud visual against curriculum. Now input some of the keyword/keywords from students into the search box. Identify and paste snapshot of some student posts in KF.

Title	Note Author	Note Created	View Note
1	Aloysius Ng	9/24/2019, 6:07:19 PM	View Note
2	Aloysius Ng	9/24/2019, 6:08:39 PM	View Note
3	Aloysius Ng	9/24/2019, 6:09:01 PM	View Note
4	Aloysius Ng	9/24/2019, 6:09:22 PM	View Note
5	Aloysius Ng	9/24/2019, 6:09:48 PM	View Note

Teachers can paste snapshot of these ideas in KF or they can identify these notes from the KF discussion and pull the notes into a new view. Let students read these posts and use prompts to help them select the posts that can help to deepen their understanding of the topic and explain their rationale e.g. Which posts do you think help us to connect to the topic and deepen our understanding? Why? Do you think the knowledge from these posts is enough? Why?

5. Put in prompts to encourage students to build on these promising notes (Teacher can pull these notes into a new view and let them build on in KF).

Suggested approach for using visuals to facilitate Rise Above

1. Export student notes from a few different discussion. Generate wordcloud visual against a suitable curriculum and show the wordcloud to students.
2. Put a snapshot of the visual in KF and prompt students to identify list of few (5 to 10) keywords that can help them summarize their understanding of the topic. Collate student choices of words.
3. Again, repeat step 1 and then select a few combination of student words and input into search box. Identify and paste snapshot of some student posts in KF or teacher can also identify the notes from discussion and pull the notes into a new view
4. Let students read the posts and use prompts to encourage students to do rise above e.g. "How can we take this idea to a new level?" "How do we get beyond our current thinking?"