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| School logo here | Reflection sheet 1 | Theme logo here |
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Name

1. Take some time to think about your topic. Now write down what you know about it.

2. How interested are you in this topic? Check (✓) one box that best matches your interest.

Not at all not much quite a bit a great deal

3. How much do you know about this topic? Check (✓) one box that best matches how much you know.

Nothing not much quite a bit a great deal

4. When you do research, what do you generally find easy to do? Please list as many things as you like.

5. When you do research, what do you generally find difficult to do? Please list as many things as you like.

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Name

1. Take some time to think about your topic. Now write down what you know about it.

2. How interested are you in this topic? Check (✓) one box that best matches your interest.

Not at all not much quite a bit a great deal

3. How much do you know about this topic? Check (✓) one box that best matches how much you know.

Nothing not much quite a bit a great deal

4. Thinking of your research so far - what did you find easy to do? Please list as many things as you like.

5. Thinking of your research so far - what did you find difficult to do? Please list as many things as you like.

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Name

1. Take some time to think about your topic. Now write down what you know about it.

2. How interested are you in this topic? Check (✓) one box that best matches your interest.

Not at all not much quite a bit a great deal

3. How much do you know about this topic? Check (✓) one box that best matches how much you know.

Nothing not much quite a bit a great deal

4. Thinking back on your research project, what did you find easiest to do? Please list as many things as you like.

5. Thinking back on your research project, what did you find most difficult to do? Please list as many things as you like.

6. What did you learn in doing this research project? Please list as many things as you like.

Appendix B. Scoring sheets for the SLIM, for individual students

Coding of question 1

Question 1. Take some time to think about your topic. Now write down what you know about it.

1. Read through each student's reply to get an overall picture of their response. Jot down your general reactions to what you read. For example, the response might be sketchy, does not show much understanding beyond a few basic facts. It may have some errors, or it might be a good level of background knowledge.
2. Then analyze each statement individually. A statement is a sentence that connects two concepts (e. g. The **sun is shining**.).
3. Count the number of statements.

Each statement should be categorized in the following way:

Facts

- **A fact statement** describes what a concept is or how it is performed. Included in this category are statements that relate to characteristics, traits or qualities, as well as statements that describe processes, styles and actions, or give illustrative examples.
- **Fact statements** often use verbs as *to be*, *to have*, *to show*, *to appear*, *to exhibit*. Typically students will write many "is a" type statements.
- **Fact statements** using the verbs *to be defined as* or *to mean* have been included in this category.
- **Fact statements** may be associated with explanations, but usually they express more the existence of characteristics, traits or qualities than reasons of how and why.

- **Fact statements** that describe processes, styles, actions, and the way in which something occurs or happens are placed in this category.
- **Fact statements** that express the duration or rate at which something occurs are included in this category.

Examples of factual statements:

H₂O is the chemical compound of water.

Ireland is a country in Europe.

Explanations

- **An explanation statement** describes how and why something happens. More specifically, they are statements that present reasons, causes, consequences, results, and follow-ons.
- **Explanation statements** express some event causally leading to another, enabling another event to occur, or resulting in some happening or event.
- **Explanation statements** often use the verbs *to impact*, *to influence*, *to affect*, *to determine*, *to shape*, *to factor (into)*, *to contribute*, *to encourage*, and *to promote*.
- **Explanation statements** may use terms like *because*, *cause* (as a verb or noun), *effect*, *affect*, *consequence*, *to lead (to)*, and *to result (in)*.
- **Explanations statements** expressing a reason often make use of *in order to* or *for* to link an action with an explanation.

Examples of explanation statements:

The water I drink can be from the dinosaur era since water is constantly recycled.

Many Irish immigrated to the US because they were starving in their own country.

Conclusions

- **A conclusion statement** goes beyond explaining and the stating of outcomes and consequences.
- **Conclusion statements** takes the ideas to another level, typically by bringing together a range of ideas, and making statements based on those ideas.
- **Conclusion statements** may be integrated statements, expressions of opinion or position, personal reflection, or evaluation.
- **Conclusion statements** typically occur after several statements are presented, or at the end of lists of statements.

Examples of conclusion statements:

I used to wonder why we need to drink so much water, but now I understand how important these small atoms are for our body.

I appreciate my Irish heritage in a completely different way now when I think about how brave they were to come here.

*** Scoring of question 1 ***

Question 1. Take some time to think about your topic. Now write down what you know about it.

Count the number of statements per category that the student used to described his/her knowledge, as recorded on the Reflection Sheets.

| Statement type | RS 1 | RS 2 | RS 3 |
|----------------|------|------|------|
| Fact | | | |
| Explanation | | | |
| Conclusion | | | |

* Scoring of question 2*

Question 2. How interested are you in this topic?

Count the score per student at each stage of the inquiry process to obtain a quantitative measure of the student's topical interest.

| Student interest estimate | Score | RS 1 | RS 2 | RS 3 |
|---------------------------|-------|------|------|------|
| Not at all | 0 | | | |
| Not much | 1 | | | |
| Quite a bit | 2 | | | |
| A great deal | 3 | | | |

Interpretation of the student's reply to question 2

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*** Scoring of question 3 ***

Question 3. How much do you know about this topic?

Count the score per student at each stage of the inquiry process to obtain a quantitative measure of the student's own estimated knowledge.

| Student knowledge estimate | Score | Stage 1 | Stage 2 | Stage 3 |
|-----------------------------------|--------------|----------------|----------------|----------------|
| Nothing | 0 | | | |
| Not much | 1 | | | |
| Quite a bit | 2 | | | |
| A great deal | 3 | | | |

Interpretation of the student's reply to question 3

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*** Scoring of question 4 ***

Question 4. When you do research, what do you generally find easy to do?

This question is phrased as *Thinking of your research so far - what did you find easy to do?* in Reflection Sheet 2 and *Thinking back on your research project, what did you find easiest to do?* in Reflection Sheet 3.

One of the aspects that the student may find easy may relate to the development of information handling and using skills. The coding sheet on the next page may be useful for you to code such expressions. This coding framework is based on the AASL Information Literacy Standards¹. If the student reply does not fit any category note it down as “others”.

Others

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Interpretation of the student’s reply to question 4

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¹ American Association of School Librarians and the Association for Educational Communications & Technology (1998). Information Literacy Standards for Student Learning. Chicago: American Library Association.

| INFORMATION LITERACY STANDARD | STUDENT EXAMPLE | TALLY |
|--|--|-------|
| Able to develop questions that lead to appropriate information | "it was pretty easy to find information on the stuff I chose to work on" | |
| Able to access information efficiently and effectively | "it was easy to find the books in the library" | |
| Develops and uses successful strategies for locating information | "if I didn't find information in one place, I knew other places to look" | |
| Able to evaluate information critically and competently | "it's easy to see which Internet sites are bad" | |
| Can determine the accuracy of information | "it is easy to figure if stuff you read is right" | |
| Distinguish among fact, point of view and opinion | "sometimes it is obvious that texts are just that person's view" | |
| Identifies inaccurate and misleading information | "pretty easy to see that some stuff online isn't true" | |
| Selects information appropriate to the problem or question at hand | "it was easy to get info right on my topic" | |
| Organize all the information | "it was easy to combine all the information together" | |
| Integrate new information into one's own knowledge | "I knew some stuff before so the new things were easy to understand" | |
| Applies information in critical thinking and problem solving | "when I had read the texts it was easy to apply them" | |
| Able to produce an appropriate product | "it was easy to write up what I had learned" | |

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| Derives meaning from the information | “it was easy to understand the information I read” | |
| Able to communicate information and ideas in appropriate formats | “it was easy to talk about the stuff in class” | |
| Has strategies for revising and improving | “it was easy to improve my first draft” | |
| Respects intellectual property rights | “it was easy to do the citations” | |
| Uses information technology responsibly | “it was easy to find good information on the Web” | |

*** Scoring of question 5 ***

Question 5. When you do research, what do you generally find difficult to do?

This question is phrased as *Thinking of your research so far - what did you find difficult to do?* in Reflection Sheet 2 and *Thinking back on your research project, what did you find most difficult to do?* in Reflection Sheet 3.

One of the aspects that the student may find difficult may relate to the development of information handling and using skills. The coding sheet on the next page may be useful for you to code such expressions. This coding framework is based on the AASL Information Literacy Standards². If the student reply does not fit any category note it down as “others”.

Others

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Interpretation of the student’s reply to question 5

² American Association of School Librarians and the Association for Educational Communications & Technology (1998). Information Literacy Standards for Student Learning. Chicago: American Library Association.

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| Integrate new information into one's own knowledge | "I couldn't really figure out the info I found" | |
| Applies information in critical thinking and problem solving | "it was hard to work out what info I needed to answer the topic" | |
| Able to produce an appropriate product | "it was hard to write up what I had learned" | |
| Derives meaning from the information | "it was hard to understand the information I read" | |
| Able to communicate information and ideas in appropriate formats | "it was difficult to talk about the stuff in class" | |
| Has strategies for revising and improving | "it was so hard to do the draft" | |
| Respects intellectual property rights | "it was hard to write it in my own words" | |
| Uses information technology responsibly | "it was difficult to find good information on the Web" | |

In Reflection Sheet 3 only

*** Scoring of question 6 ***

Question 6. *What did you learn in doing this research project?*

This question will help you get a sense of the student's perception of his/her learning through the inquiry unit. Another way to use this data would be as a means for project evaluation, and to generate a student-based summary of their learning. Again, the process of examining these responses is finding common patterns. One of the main patterns relates to developing a range of information seeking and use competencies. The coding framework below is a guideline to coding and scoring. This coding framework is based on the AASL Information Literacy Standards³. The coding sheet on the next page may be useful for you to code such expressions. If the student reply does not fit any category note it down as "others".

³ American Association of School Librarians and the Association for Educational Communications & Technology (1998). Information Literacy Standards for Student Learning. Chicago: American Library Association.

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| Integrate new information into one's own knowledge | |
| Applies information in critical thinking and problem solving | |
| Able to produce an appropriate product | |
| Derives meaning from the information | |
| Able to communicate information and ideas in appropriate formats | |
| Has strategies for revising and improving | |
| Respects intellectual property rights | |
| Uses information technology responsibly | |

*** Interpretation Question 6 ***

Question 6. What did you learn about doing research through this project?

The students' replies indicate the acquired information skills which are useful for the evaluation of the project, and may be used a base in the development of further projects.

Interpretation of the student's reply to question 6

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Appendix C. Scoring sheets for the SLIM, for all participating students

This overall scoring sheet can be used both to track patterns in the individual students' project experience as well as patterns for the whole class.

The scoring sheet has been developed in Excel. The sheet may be modified and adapted to the student population by moving lines and making more space available. The interpretation of the students' overall experience in the guided inquiry project may be recorded in appendix C. In schools where this software is not available the teacher-librarian team may record this information in a format available to them.

Question 1. Scoring on the Excel sheet.

Note the individual student's score starting from column 2, row 2

- F1= Fact in Reflection sheet 1
- F2= Fact in Reflection sheet 2
- F3= Fact in Reflection sheet 3

- E1= Explanation in Reflection sheet 1
- E2= Explanation in Reflection sheet 2
- E3= Explanation in Reflection sheet 3

C1= Conclusion in Reflection sheet 1
C2= Conclusion in Reflection sheet 2
C3= Conclusion in Reflection sheet 3

The average score for the whole class is entered following the last student entry. The average result is at row 20 in the template Excel sheet but can flexibly be moved down according to number of students.

Question 2. Scoring on the Excel sheet.

Note the individual student's interest score starting from column 2, row 2.

I1= Interest in Reflection sheet 1
I2= Interest in Reflection sheet 2
I3= Interest in Reflection sheet 3

The student's scores are not at all=0, not much=1, quite a bit=2, a great deal=3.

Question 3. Scoring on the Excel sheet.

Note the individual student's knowledge estimate score starting from column 2, row 2.

K1= Knowledge in Reflection sheet 1
K2= Knowledge in Reflection sheet 2
K3= Knowledge in Reflection sheet 3

The student's scores are not at all=0, not much=1, quite a bit=2, a great deal=3.

Question 4. Scoring on the Excel sheet.

For each student, mark the information literacy standard the reply corresponds to. Finally count the number of marks for each row and note it in the column for Sum.

E1= Easy in Reflection sheet 1
E2= Easy in Reflection sheet 2
E3= Easy in Reflection sheet 3

Question 5. Scoring on the Excel sheet.

For each student, mark the row to which information literacy standard the reply corresponds to. Finally count the number of marks for each row and note it in the column for Sum.

- D1= Difficult in Reflection sheet 1
- D2= Difficult in Reflection sheet 2
- D3= Difficult in Reflection sheet 3

Question 6. Scoring on the Excel sheet.

For each student, mark the row to which information literacy standard the reply corresponds to. Finally count the number of marks for each row and note it in the column for Sum.

Appendix D. Interpretation sheets for general conclusions

The following sheets may be used for analysis, conclusions, and thoughts regarding patterns among all students who participated in the study. These patterns provide useful guidelines for planning of further inquiry projects, and conjunctive interventions.

Interpretation of the students' reply to question 2

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