LANE COMMUNITY COLLEGE
GENERAL EDUCATION ASSESSMENT: 2010-2011

GENERAL EDUCATION ASSESSMENT: General Education Data Synthesis using the LCC core ability of *Communicating Effectively*

HISTORY and DEVELOPMENT:

In the fourth year of the General Education Assessment Project at Lane Community College the focus was on one core ability, Communicating Effectively. The Assessment team, in conjunction with the Gen Ed team, decided to focus on one core ability in an effort to get clear and detailed results of assessment and to streamline the project for all parties involved. Thus Gen-Ed artifacts were collected and scored by LCC faculty during the 2010-2011 academic year using the Communicating Effectively rubric. This was the third year that Gen Ed artifacts were collected and scored by LCC faculty. The process and results of this assessment project are summarized below.

In addition to the data synthesis work, a faculty Gen-Ed Assessment Project Coordinator position was developed to increase the breadth and clarity of faculty involvement in the project and to relieve the Assessment team and Gen-Ed team of unnecessary and taxing involvement of the details of the project. The faculty coordinator, JS Bird, served during the 2010-2012 academic years, after being on sabbatical in fall 2010.

GEN-ED DATA ASSESSMENT GOALS 2010/11:

- Develop processes and train faculty to provide clear and consistent measure of assessment.
- Improve and streamline process of artifact collection.
- Increase number of Gen-Ed artifacts collected and scored.
- Focus on FYE class artifact collection and scoring.
- Focus on Gen-Ed Sequence Class artifact collections and scoring.
- Increase faculty involvement in assessment at LCC.
- Continue to develop a *culture of assessment* by faculty at LCC.
- Provide evidence of assessment and make public said evidence.
- Develop and define Faculty Gen-Ed coordinator position.

GEN-ED DATA METHODOLOGY and RESULTS

Communicating Effectively Core Ability:
Artifacts were solicited across Gen-Ed disciplines from full and part time faculty to be scored using the Communicating Effectively scoring rubric. Over three hundred artifacts were collected from Science, Social Science, Language Literature and Communication, and FYE College Success classes. 314 artifacts were scored by faculty scorers using the Communicating Effectively rubric, also developed by faculty, and the data results tabulated

by IRAP. An additional 148 writing artifacts (WR115, WR121, WR122, WR123, WR 227) were scored using the Communicating Effectively rubric in a separate assessment effort conducted by LL&C faculty.

The CE rubric was developed by members of the Gen-Ed team to assist faculty in assessing the Communicating Effectively core ability in LCC classes regardless of discipline. The rubric was not meant to reflect the student's grade in the course or on a project; rather it was designed as a cross-disciplinary tool to gauge the ability of communicating effectively by students across the Gen-Ed curricula. Using the rubric has proved to be a way for faculty scorers to gauge the CE core value among student artifacts.

Scorers for 2010-11 were Pat Boleyn, Julie Feather, Lisa Turnbull, Barbara Defelippo, Barbara Breaden, Jay Frazier, John Watson, Marge Helzer, Christine Andrews, Tulsi Wallace, Jennifer Von Ammon, Rosemary Clandos and JS Bird.

The six dimensions of the Communicating Effectively rubric are: 1) Organization/Structure; 2) Support, Evidence; 3) Content; 4) Technique; 5) Presentation; 6) Purpose or Effect.

These six dimensions are scored at four levels of ability: 1) Beginning; 2)Developing; 3) Proficient; 4) Exemplary

Scorer Reliability: In the past, groups of faculty were brought together at the end of academic terms and worked together scoring artifacts. In 2010-11 scorers were paired together in groups of two to score artifacts at their convenience during the term. Experienced faculty scorers worked together in scoring training sessions using selected artifacts to create consistent scorer reliability. Experienced scoring faculty were teamed with less experienced scorers. Scoring teams were assigned artifacts and worked together to score each artifact twice, then scores were discussed by the scoring team to arrive at an agreed upon final score. Evidence suggests working in this way increased the number of artifacts scored as well as scorer reliability. More artifacts were scored per scorer hour than in previous terms.

To gauge scorer reliability five artifacts were chosen at random to be scored by five scoring groups. The scoring results of these artifacts are seen below.

Table 1. Scores of five target artifacts for spring term, 2011 using the Communicating Effectively Rubric scored by five separate scoring teams (ten scorers). Each number represents the score assigned to the artifact by a scoring team.

Artifact #	Organization/ Structure	Support/ Evidence	Content	Technique	Presentation	Purpose
1	3,3,3,2,3	3,2,2,2,2,	3,3,3,3,3	3,3,3,3,3	2,2,3,2,2	3,3,3,3,3
2	2,2,2,2,2	3,1,3,1,2	2,2,2,2,2	2,2,2,2,2	2,1,2,2,2,	2,3,3,2,2
3	3,3,3,2,3	2,1,3,1,1	3,3,3,2,3	3,2,3,3,2	3,2,2,2,2	3,3,2,3,3
4	2,2,3,2,2	2,1,3,1,1	2,2,2,3,2	2,2,2,2,2	2,2,2,2,2	3,3,3,3,3
5	2,2,2,2,2	3,1,3,1,2	2,2,2,3,2	2,3,2,2,2	2,2,2,2,2	3,3,3,3,3

As we can see from the above table, in the five sample artifacts scorer reliability was very good except for the Support/Evidence category. Support Evidence was the only dimension to contain a scorer difference of 2 levels.

Some of the scoring differential in Support/Evidence was due to the fact that not all artifacts were required to site support or evidence, and some due to confusion on the scorers part by what was meant by support/evidence. This may also suggest that the category of support/evidence in the rubric be evaluated and possibly changed.

Additionally, and perhaps more importantly, twelve of the possible thirty categories above (40%) were scored 100% the same. Furthermore there is not a single category with a discrepancy of scores more than one level in difference outside of Support/Evidence. This data is far improved from previous years and would suggest that faculty are gaining more experience with scoring and that the current system of scoring teams was quite effective. This data may also suggest that other than Support/Evidence the CE rubric was an effective tool for scoring the core ability of Communicating Effectively across disciplines and with multiple scorers.

Table 2. Scores of five target artifacts for winter term, 2012 using the Communicating Effectively Rubric scored by five separate scorers. Each number represents the score assigned to the artifact by a particular scorer.

Artifact #	Organization/ Structure	Support/ Evidence	Content	Technique	Presentation	Purpose
1	3,3,3,3,3	2,3,3,3,3	3,3,3,2,3	3,3,3,3,3	2,3,2,2,3	3,3,3,2,4
2	2,3,2,3,2	2,2,3,2,2	2,2,2,2,2	2,3,2,3,2	2,3,2,2,2,	2,3,3,3,3
3	1,1,2,1,1	1,1,2,1,2	1,1,2,1,1	1,1,1,3,1	1,1,1,1,1	1,1,1,1,2
4	3,3,3,3,2	3,3,3,3,3	2,2,2,2,2	3,2,2,3,2	2,2,2,2,2	3,2,3,2,3
5	3,3,3,2,2	3,3,3,3,2	2,2,3,2,2	2,2,3,2,2	2,2,2,2,2	3,3,3,2,2

In the above table eight of the possible thirty categories above (26%) were scored 100% the same. 7% of categories and only two sets of scores overall show a discrepancy of more than one level in difference.

In 2008-09 scorers had an average of 20% two score level differential in all categories of Communicating Effectively, and an average of 6.6% three score differential in all categories of scoring. In 2010-11 there was a 0% three score differential and a 6.6% two score differential in the sample artifacts. Clearly this is a significant improvement in scorer reliability. This data is far improved from previous years and would suggest scoring faculty are gaining more experience and reliability and that the current system of scoring teams was quite effective.

COMMUNICATING EFFECTIVELY DATA: FYE, COLLEGE SUCCESS/ ON COURSE

One of the main goals in the Gen-Ed Data assessment project in 2012-11 was to attempt to establish a base-line value of where LCC students score in core values upon entering LCC. Once a base-line is established it may be possible to assess the degree of difference in scores between entry level students and exit level students (value added assessment). Currently, students are defined as "entry" level if they had completed, with a grade of an A,B,C, or P, fewer than four Gen-Ed courses and have not completed WR 115. Students are defined as "exit" if they have completed more than 8 general education classes and WR115. These categories may change as more data is collected. College Success courses are typically part of a first year experience sequence for LCC students, so these classes were identified as a potential way to gather entry level data for these students.

Table 3. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the total number of student scores in six Dimensions of the Communicating Effectively Rubric for College Success/FYE classes fall 2010, winter 2011(69 artifacts).

	Exemplary	Proficient	Developing	Beginning
Organization/Structure	2	27	31	9
Support/ Evidence*	1	23	22	8
Content	3	25	37	5
Technique	1	30	36	3
Presentation	2	17	36	14
Purpose/ Effect	7	32	24	6

*15 artifacts were scored as support evidence not applicable

Table 4. Mean score of the Dimensions of the Communicating Effectively Rubric for College Success Classes fall 2012, winter 2011 (69 artifacts).

	1.Organization/ Structure	2. Support/Evidence	3. Content	4. Technique	5. Presentation	6. Purpose
Mean score	2.31	2.34	2.33	2.44	2.1	2.57

ANALYSIS: During scoring sessions an issue was identified with FYE artifacts that may create a skewed result on Communicating Effectively scores for entry level students. Most or all of the FYE artifacts collected and scored were based on a theme of personal exploration/experience. In communicating personal experience it may be easier for students to organize their thoughts and communicate that experience than it is to write about a discipline topic, such as in BIO 101 artifacts in which students were explaining the *Krebs Cycle* and the *Electron Transport Chain*, or in History 101 artifacts where students are asked to discuss *"divine providence"* and its relationship to the *Battle of Hastings*, among other topics. Organizing and communicating difficult concepts such as these are, perhaps, more complex than relating ones personal experience in the process of starting a college career. Therefore the scores of FYE classes may be scored higher than subsequent Gen-Ed classes only because of content rather than the student's true ability to communicate effectively. If possible, it would be helpful to collect FYE artifacts

concerning a topic other than a student's own personal experience. Certainly there would be a valuable process to compare artifacts of personal experience vs. discipline content to see how the scores related. If such artifacts cannot be obtained in the future these artifacts may prove to be unreliable as a true measure of first year students' abilities for communicating effectively. These artifacts may yet prove to be very helpful in scoring subsequent core abilities such as critical thinking.

CE DATA, SEQUENCE ARTIFACTS

To assist in the Gen-Ed Data assessment project in 2012-11 attempt to establish a base-line value of where LCC students score in core values upon entering LCC there was also a focus on scoring sequence classes in Gen Ed disciplines. The first sequence represented is HIST 101. Artifacts provided required the student to discuss significant events in Western history and therefore focused student responses on discipline-based information rather than personal experience. Thus the following scores may be more representative of a true representation of entry level student's abilities at LCC. One possible drawback of these artifacts is that they represent test answers. Students were not able to evaluate and rework or edit their answers, and there may also be test anxiety involved. It's possible that a true example of students abilities may be more accurately obtained from written samples in which students were provided ample time to consider, form, and possibly edit their answers, rather than in the pressure of an exam. Student artifacts from College Success/On Course demonstrated the pervious criteria. In addition all HIST 101 scores are from the same professor, though different classes. In the future efforts will be made to obtain more specific artifact types, including multiple professors teaching the same course.

Table 5. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the total number of student scores in six Dimensions of the Communicating Effectively Rubric for HIST 101, fall 2010(59 artifacts).

	Exemplary	Proficient	Developing	Beginning
Organization/Structure	5	19	25	10
Support/ Evidence	6	10	27	16
Content	1	17	29	12
Technique	0	17	29	13
Presentation	2	12	28	17
Purpose/ Effect	8	16	23	12

Table 6. Mean score of the Dimensions of the Communicating Effectively Rubric for HIST 101, fall 2010 (59 artifacts).

	1.Organization/ Structure	2.Support/Evidence	3. Content	4. Technique	5. Presentation	6. Purpose
Mean score	2.3	2.1	2.11	2.06	1.98	2.20

Table 7. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the total number of student scores in six Dimensions of the Communicating Effectively Rubric for HIST 102, winter 2011 (60 artifacts).

	Exemplary	Proficient	Developing	Beginning
Organization/Structure	2	12	34	12
Support/ Evidence*	1	15	12	32
Content	2	11	32	15
Technique	0	20	33	7
Presentation	0	6	36	18
Purpose/ Effect	2	24	25	9

*16 artifacts were scored as support/evidence not applicable

Table 8. Mean score of the Dimensions of the Communicating Effectively Rubric for HIST 102, winter 2011 (60 artifacts).

	1.Organization/ Structure	2.Support/Evidence	3. Content	4. Technique	5. Presentation	6. Purpose
Mean score	2.06	1.75	2.0	2.21	1.8	2.31

Analysis: The above results demonstrate that in five out of six categories, students scored lower in HIST 102 than in HIST 101. In addition, there are far fewer scores in the Exemplary category. An effort to obtain more artifacts in this discipline seems necessary before any conclusions can be concretely applied. However, the above results are certainly not ideal.

Table 9. Data from the 20010-11 Gen-Ed Scoring Project total number of student scores of the Dimensions of the Communicating Effectively Rubric for HIST 103, spring 2011 (61 artifacts).

	Exemplary	Proficient	Developing	beginning
Organization/Structure	5	19	24	13
Support/ Evidence	2	19	29	11
Content	3	17	31	11
Technique	1	20	28	12
Presentation	1	12	21	24
Purpose/ Effect	6	22	23	10

Table 10. Mean score of the Dimensions of the Communicating Effectively Rubric for HIST 103, spring 2011 (61 artifacts).

	1.Organization/ Structure	2.Support/Evidence	3. Content	4. Technique	5. Presentation	6. Purpose
Mean score	2.26	2.19	2.229	2.16	1.73	2.39

Analysis: As we can see, the scores recovered somewhat from HIST 102, yet the category of presentation scored even lower. This is a small sample of data, but these scores show very little if any consistent improvement in the core ability of communicating effectively over a sequence of related courses. In all the above courses the majority of student scores continue to be in the developing category.

CE DATA, GENERAL EDUCATION ARTIFACTS

Table 11. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the total number of student scores in six Dimensions of the Communicating Effectively Rubric for WR 121, Winter 2011 (21 artifacts).

	Exemplary	Proficient	Developing	beginning
Organization/Structure	0	6	13	2
Support/ Evidence	0	9	11	1
Content	0	7	14	0
Technique	0	6	14	1
Presentation	0	2	15	4
Purpose/ Effect	0	13	8	0

Table 12. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the mean score of the Dimensions of the Communicating Effectively Rubric for WR 121, winter 2011 (21 artifacts).

	1.Organization/ Structure	2.Support/Evidence	3. Content	4. Technique	5. Presentation	6. Purpose
Mean score	2.19	2.38	2.33	2.23	1.90	2.61

Analysis. Writing projects, in this small sample size, aligned with scores in other disciplines.

Table 13. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the total number of student scores in six Dimensions of the Communicating Effectively Rubric for BIO 211, fall 2010 (76 artifacts).

	Exemplary	Proficient	Developing	Beginning
Organization/Structure	15	21	32	8
Support/ Evidence*	3	12	13	16
Content	6	29	33	8
Technique	2	34	35	4
Presentation	6	23	33	14
Purpose/ Effect	9	37	24	6

*32 artifacts were scored as support/evidence not applicable

Table 14. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the mean score of the Dimensions of the Communicating Effectively Rubric for BIO 211, fall 2010 (76 artifacts).

	1.Organization/ Structure	2.Support/Evidence	3. Content	4. Technique	5. Presentation	6. Purpose
Mean score	3.15	2.04	2.03	2.02	2.25	2.25

While these scores are higher than 100 level artifacts scored, they are still not as high, overall, as FYE classes, demonstrating once again, that in all probability, the nature of the problem assigned has an effect on the mean score of the artifacts. In BIO211 artifacts students were asked to describe the process of the Electron Transport Chain, which is a complex phenomenon. However, the category of organization/structure is the highest mean score of any category in any of the classes scored.

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DATA SUMMARY:

In four of the six areas of study, *Purpose* scored highest of all categories, and the second highest in the other areas of study. *Presentation* scored as the lowest dimension in four out of six courses studied and scored as the lowest category over all, with a mean score of under two in four of six areas of study. The data in both of the above instances seems consistent across disciplines. *Support and evidence*, in general, scored as the second lowest dimension.

Clearly this data demonstrates that Lane is developing the Communicating Effectively dimension of *Purpose*, but may need to focus more specifically on *presentation*.

FYE classes scored highest of all artifacts collected and scored, as has been discussed above. The majority of artifacts scored, ranked at the *developing* level, which would seem in alignment with community college students. Hopefully as more data is gathered and higher level classes are scored we might see an improvement in scores at the 200 level. Clearly more data is needed in upper division scores to make an analysis on the value added aspect of Gen Ed assessment.

Table 15. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the total number of student scores in six Dimensions of the Communicating Effectively Rubric for all artifacts. (314 artifacts).

	Exemplary	Proficient	Developing	Beginning
Organization/Structure	21(6%)	98 (31%)	146(46%)	51(16%)
Support/ Evidence*	13(4%)	82(28%)	106(37%)	**84(29%)**
Content	12(3%)	95(30%)	159(51%)	51(16%)
Technique	3(0.9%)	118(37%)	157(50%)	38(12%)
Presentation	8(2%)	65(20%)	154(49%)	**86(30%)**
Purpose/ Effect	**28(9%)**	**128(41%)**	117(37%)	42(13%)
Total (each artifact x 6 dimensions)	**85(4%)**	**671(34%)**	**839(44%)**	**352(18%)**

*29 artifacts were scored as support/evidence not applicable

Table 16. Data from the 20010-11 Gen-Ed Scoring Project demonstrating the mean score of the Dimensions of the Communicating Effectively Rubric for all artifacts scored (314 artifacts).

	1.Organization/ Structure	2.Support/Evidence	3. Content	4. Technique	5. Presentation	6. Purpose
Mean score	2.29	2.22	2.19	2.28	2.02	2.50

Excluding the FYE scores because of the nature of the artifacts, these scores may provide a fairly accurate baseline for the artifacts scored in 2010-11, and perhaps provide the baseline measurement for students at LCC in communicating effectively.

COMPARING GEN ED SCORING DATA WITH FACULTY PROJECT DATA:

Figure 17. Data from the 20010-11 Gen-Ed Projects Showing the Percentage of Students at Exemplary, Proficient, Marginal and Unacceptable Levels for each of the Dimensions of the Communicating Effectively Rubric

(The following chart shows the student scores of the Gen Ed projects administered by individual faculty at Lane. The faculty focused attention on developing these skills in a particular class (See Project Synthesis 2012-11))

Dimension of core ability	Mastery level (Exemplary)	Developing level (Proficiency)	Introductory level (Marginal)	Unacceptable	
	4	3	2	1	total
1. organization/ structure	42 (18%)	93 (41%)	83 (37%)	11 (4%)	229 (100%)
2. support/evidence	33 (15%)	75 (34%)	97 (44%)	16 (7%)	221 (100%)
3. content	50 (22%)	104 (46%)	60 (27%)	11 (5%)	225 (100%)
4. technique	34 (15%)	99 (45%)	68 (31%)	17 (9%)	218 (100%)
5. presentation	43 (19%)	78 (34%)	80 (35%)	27 (11%)	228 (100%)
6. purpose/effect	48 (21%)	91(41%)	71(31%)	14 (7%)	224 (100%)

Analysis: This table demonstrates that student scores in faculty projects scored considerably higher than student scores with random artifacts and Gen Ed scoring teams. Particularly in the number (percentage) of students who scored in the *exemplary* category. The reason for the scoring difference is unclear. Perhaps with a clear focus on these abilities students develop these skills far more effectively than when not a clear

focus of the class. Perhaps faculty score their own projects differently than independent scoring teams. It would seem a beneficial experiment to have the same artifacts scored by both participating faculty and independent scoring teams to determine if there is a wide variance in scoring.

COMPARING PREVIOUS SCORING DATA WITH SCORING DATA 2010-11

Table 17. Communicate Effectively Rubric Results from Results from Gen Ed Project 2008-2009 for all artifacts

Dimension of core ability	Mastery level (Exemplary)	Developing level (Proficiency)		Introductory level (Marginal)		Unacceptable	
	6	5	4	3	2	1	Total
1. Organization/ structure	5 (4.0%)	33 (26.6%)	42 (33.3%)	32 (25.8%)	9 (7.3%)	3 (2.4%)	124 (100%)
2. Support/evidence	6 (4.8%)	27 (21.8%)	40 (32.3%)	33 (26.6%)	13 (10.4%)	5 (4.0%)	124 (100%)
3. Content	7 (5.6%)	16 (12.9%)	41 (33.1%)	45 (36.3%)	13 (10.5%)	2 (1.6%)	124 (100%)
4. Technique	2 (1.6%)	28 (22.6%)	50 (40.3%)	27 (21.8%)	15 (12.1%)	2 (1.6%)	124 (100%)
5. Presentation	5 (4.0%)	20 (16.1%)	37 (29.8%)	46 (37.1%)	13 (10.5%)	3 (2.4%)	124 (100%)
6. Purpose/effect	13 (10.5%)	24 (19.4%)	35 (28.2%)	37 (29.8%)	12 (9.7%)	3 (2.4%)	124 (100%)

Table 3. Communicates Effectively Rubric Means from Gen Ed Project 2008-2009 for all artifacts

	1. Organization/	2. Support/evidence	3. Context	4. Technique	5. Presentation	6. Purpose/effect
Mean score	3.87	3.72	3.62	3.75	3.59	3.84

Analysis: As we can see above, the highest overall percentage of scores fall into the low *proficient* scoring category and the high *developing* (marginal) category, while the mean scores show a significant difference to the 2010-11 scores.

Some deviation in scores can be attributed to the revised scoring system. In 208-209 the scoring table used six scoring categories as opposed to four. Thus the mean scores are actually only slightly higher in 2008-09 than in 2010-11. However, in 2008-09 a higher percentage of students scored in the proficient category. It may be that with improved scorer reliability and a revised rubric student scores have become more consistent and representative of the current status of Lane students.

FACULTY INPUT: SCORING AND RUBRICS

Artifacts and Support/Evidence Category: Comments from the scoring team of Turnbull and Fether echoed other scoring teams' experiences. *"Had trouble in distinguishing between Support/Evidence and Content… Some of the artifacts communicated more of an overall theme instead of evidence. Perhaps the rubric bullets for #2 and #3 can be more defined in the future."*

There have been concerns expressed by faculty about scoring in one's discipline vs. scoring in any discipline. However, most scorers felt that one did not have to be "in the discipline" to score accurately in the 2010-11 scoring cycle. As we are scoring a core ability of Communicating Effectively, which in many cases is not the same as getting the answer correct. In fact one could communicate the wrong answer effectively or conversely demonstrate great difficulty communicating the correct answer.

However the BIO 211 artifacts, explaining the electron transport chain were complex and very heavy in scientific language and did provide some difficulty for non-science scorers.

All scoring faculty agreed that scoring handwritten artifacts was difficult and time consuming, and recommended gathering only typed artifacts in the future.

It was expressed by multiple groups that scoring artifacts from the same class at the beginning and end of the term would be an effective way to gauge students' responses in obtaining "value added' data.

CONCLUSION

Successes: 314 artifacts from various disciplines were collected and scored by scoring teams consisting of two faculty. Scoring seemed to be quite consistent among scoring teams and the Communicating Effectively rubric was streamlined and improved. A fairly consistent mean score was seen in most Gen Ed disciplines and a base-line score of Lane students is emerging from the data. Students consistently scored highest in *Purpose/Effect* and lowest in *Technique* and *Data/Evidence. Data/Evidence* proved to be the most challenging dimension for scorers to rate.

The development of a Gen Ed coordinator position was beneficial in collecting artifacts and scoring information and developing scoring procedures and increasing visibility and awareness of the Gen Ed Assessment effort among faculty at Lane.

Difficulties: Artifact collection continues to be difficult, and is based solely on the willingness of faculty to take the time to submit artifacts. In 2011-12 there has been an increased effort in obtaining artifacts from upper division or 200 level courses. It is clear that more artifacts and data need to be obtained to determine a more reliable evidence of scores for students at the later end of their studies at Lane.

The assessment team is rethinking the artifact collection and scoring effort and changes may be made in the future. With future developments of moodle it may be possible to collect data artifact on line and streamline both the scoring process and data collection.

Submitted by JS Bird, Gen Ed Coordinator, June 2012