

Portfolios

* Nadine Goguen:

I am teaching French IMP to ninth and tenth grade students New Brunswick, Canada. I have two questions concerning the portfolios.

- 1- Do you give a mark on students' portfolios?
- 2- What do you do with the portfolios at the end of the year and at the end of high school? Do you keep them, give them to the students, throw them away, ...?

* Karen Radcliff (rhanevrad@home.com) on October 29, 1998:

We at Vista High, CA do grade the portfolios. We keep the portfolios each year in hanging files. At the beginning of each year, students have a day ("Portfolio Exchange Day") to go to last year's teachers and retrieve their portfolios for the upcoming year. We share the portfolios with parents on parent conference day.

The most valuable piece... I believe... of the portfolio business is when, at the end of the third year, students write a reflection paper on their mathematical growth, the development of the mathematical strands, and the growth in the quality of their work through the courses. In order to do this, students receive all of the portfolios (for the past three years). Then, the students, of course, get to keep the portfolios. Who knows? They may use them in college.

When I get frustrated about defending the IMP program to parents who are not listening to the data, I just start reading these papers again. What insight these students have learned!

* Cara Crosby (crosbygavin@EMAIL.MSN.COM) on May 29, 1999:

How do you grade/assess portfolios?

* Diana Obstfeld (diana_obstfeld@CEO.CUDENVER.EDU) on May 31, 1999:

I feel strongly that students should produce a portfolio at the end of each unit. The piece I think is most important is the reflection I have the students write. I hold higher expectations those outlined in the book.

The portfolio does not show me much more about students' abilities to demonstrate procedural and conceptual knowledge than I already know, but it does give me information on how they view their own knowledge. I have learned many things about my students through the self-assessment piece of the portfolio.

All students must turn in a portfolio of work to receive credit in my class. Of course, some are better than others are. For each mathematical concept that I identify, students must select a representative piece of work that they think shows their highest level of understanding. They also must write about concepts they thought were most important in the solution of the unit

problem and in mathematics. If a student does not do well writing up these pieces, I have a conference with them and allow them to satisfy this requirement orally.

I also have them self-assess their understanding of all mathematical concepts I identified in the units. When I see them rate themselves poorly on a particular concept, I will give them more opportunity to practice. Sometimes, this is during a session with me; other times, I give them an assignment.

They "rate" themselves and give themselves a grade. If my assessment is different than their own, I meet with them individually to discuss our perceptual differences. This is where we can discuss their learning and demonstration of mathematical ideas versus their "trying their hardest."

I usually just read the reflective pieces and make sure they have put in quality work to show their proficiency towards each mathematical concept. I also have the parents sign off on the portfolio. Once they have gone through all these hoops, I give them a "grade." The portfolio isn't assessed in terms of its mathematical content as much as it is in terms of its reflection and "closure" of a unit.

I am always open to new ideas and debate about the whole idea of the portfolio. My main focus is, "What is the purpose of a portfolio?" Once one has established this, the way it is used and assessed should come easily.

* John J. Kalicki (teach@KALICKI.COM) on June 1, 1999:

Now with the opposing view...

Portfolios take up too much valuable class time. I have already seen a good portion of the work that would be included in the portfolio anyway. I am not into the touchy-feely reflection piece and I really do not feel like reading them. Furthermore, forty portfolios would eat up a weekend, which I really do not want to give up. If I did give up a weekend, it could be better spent planning dynamic lessons or taking a youngster out to see the world - something a heckava lot more important than math. Sometimes people feel that the end of world resides in kids not being able to factor.

But, do not necessarily go by me. Teaching is not my life. I teach to do the things I want to do in life. Finally, please do not think any of these statements are judgmental. They are not intended to insult anyone for what they choose to do with their lives. It is just my humble opinion and is worth exactly what you paid for it - nothing.

* Maureen Burkhart (moegib@DELTANET.COM) on June 1, 1999 :

I think portfolios are important. They give students a chance to review and summarize what happened in the unit. I think many students tend to be overwhelmed by all that is covered in a short amount of time, and they feel like they were hit by a tornado of concepts. I think portfolios are a good way to wind-down and encapsulate the information. I have had college students tell me that they remember what units covered which concepts, and they refer back to their portfolios for help. There is nothing touchy-feely about the assignment. I let them use their

portfolios on the assessments and finals.

Also, they do not take up as much time as you think. You can skim them and get what is important from them. I do not read every word (I have always carried 5 IMP classes, and I never take work home on the weekends - I have a young child).

In the cover letter, I ask:

- What was the unit about? Summarize what happened.
- Why did you chose EACH of the papers. Why are they important to the unit? What key ideas do they represent? (The students have to range the unit; there cannot be 5 papers all covering the same idea. I feel this is the meat of the cover letter.)
- How did you progress through the unit? Did you keep on top of the unit? How did you work with peers? How did you present in class?
- In what areas do you need improvement? Choose the most important change you need to make to do a better job in the next unit.

It is pretty easy to fashion a general handout for the cover letter that the kids can keep all year for every unit.

* Brent McClain (imp-nw.brent@JUNO.COM) on June 2, 1999:

There are always those students that say they can understand the mathematics, but then do not do well on tests. With that in mind, I always stress that the portfolio is ANOTHER way for them to demonstrate to me what they have learned throughout the unit. It is a different mechanism that will help me understand what they know and can do.

Often times, we as teachers tell the students what math they are doing (e.g., linear programming, geometry, etc.), but I think it is important to get the students to say this themselves - preferably in more detail than my examples.

So, one of the prompts I give them is to write about the main mathematical concepts that were covered in the unit. I also ask them to include an example problem that is representative of their understanding of each concept. For students in IMP 1, I am likely to list the main concepts, but as students progress throughout the years of IMP, I stop doing this and they are required to do it on their own.

Another prompt I give, and for which I receive good results, is to ask the students to describe how each mathematical concept covered in the unit helped in the development and solving of the unit problem. I then list (or have them list) the main concepts covered.

I also like the students to include the solution to the unit problem and to complete some self-reflection in the portfolio. For self-reflection, I ask students to comment on the ideas they had difficulty with or still have questions on, things they did to help improve their understanding, things they would do differently, etc. This is always an enlightening section (for those who take it seriously).

As far as grading of the portfolio goes, I am in a state of constant refinement and am looking forward to more comments on the listserv about this. Although it has at times been very time-consuming, I always come away from grading the portfolios with the feeling that I better know and understand many of my students. I also am able to see those areas I may need to concentrate on more heavily in the future and those areas that were covered very successfully.

* Michael Endress (endress@caries.dental.mu.edu) on June 1, 1999:

Since we do end-of-semester, all-school portfolios, I do not have students formally compile math portfolios. However, our seniors who have not met proficiency tests, need to present math portfolios to the district in order to graduate. (POWs are great for this!!)

We do grade our all school portfolios using a 6-point rubric scale that covers 9 areas of competency. These areas are life-long learning based rather than content-based.

* Michael Endress (endress@caries.dental.mu.edu) on June 19, 1999:

At the end of each school year, rather than taking exams, each of our students presents his/her portfolio to a team of assessors during an approximately 60 minute portfolio session. The team of assessors is comprised of the student's advisor teacher, a fellow student of the student presenter's choice, and a community member who has been trained in the process (and is often a professor from one of the area colleges). The rubric is used to score 9 areas that we have identified as important. The same rubric is used for all students in grades 9 - 12. Some of the standards are very high, but our students have risen to the challenge. Five of our 34 students in the Class of 2000 scored perfect 6's.

I know that many of you were looking for a simple rubric to grade the IMP portfolios. Perhaps you could pick and choose from what we use and adapt it to your needs.

Please be aware that these are works in progress. Should you choose to use or to adapt the rubric, your input or feedback would be greatly appreciated.

[See next three pages.]

COLLABORATION

Student...

- 1 is present in the group; appears concerned with personal goals; is aware of group roles
- 2 works in the group to achieve personal goals; contributes something to the group
- 3 works well enough with others to help get the task done; contributes to the group positively in some way
- 4 demonstrates leadership skills; promotes group work to achieve a common goal
- 5 works well within a group; demonstrates leadership; helps to get a task done in an effective manner
- 6 excels as a group member, demonstrates outstanding leadership, reinforces other social interaction skills; works with group to complete the task effectively and with quality

PROBLEM SOLVING

Student...

- 1 is aware that a problem exists; is unsure of the task
- 2 works to find an appropriate strategy; is aware of the components of the problem
- 3 understands the task well enough to attempt a strategy
- 4 attempts a strategy; can identify the components of the problem; finds a solution
- 5 uses an appropriate strategy and carries it out to an appropriate conclusion
- 6 excels in resolving the problem; takes appropriate risks using PRIDE (Scientific Method) effectively; devises a creative solution to the problem; explains thought processes completely

THINKING

Student...

- 1 is a literal thinker; is able to repeat information or copy what has been seen
- 2 comprehends information at basic level; can paraphrase information
- 3 is able to make some inferences or draw basic conclusions from information or a work of art
- 4 appropriately questions and analyzes statements for validity or inconsistency
- 5 is able to analyze information and to draw personal meaning from information or a work of art; is able to combine facts to draw accurate conclusions; identifies relationships and patterns
- 6 excels in analyzing information and evaluating it to meet his/her needs; is able to judge the worth of information or a work of art

LEARNING AUTONOMOUSLY

Student...

- 1 needs teacher direction to stay focused; shows minimal personal commitment to learning
- 2 requires teacher reminders and organizers; has some commitment to learning
- 3 needs some supervision; needs to be told about specific resources; needs some monitoring for use of time
- 4 desires to learn new concepts; is curious; asks questions; creates own organizers and reminders
- 5 needs little supervision; manages resources well; occasionally defines own choices for learning and research
- 6 defines choices for learning and research; manages resources to aid in the completion of tasks

COMMUNICATION

Student...

- 1 writes/speaks to repeat the ideas of others; uses some rules of language; comprehends at a literal level; uses pencil and paper for writing
- 2 writes/speaks to express own thoughts; uses the rules of language with some success; comprehends messages well enough to paraphrase them; uses a word processor
- 3 communicates appropriately in some ways; uses the rules of language with success; is aware of reading/writing processes; comprehends at an inferential level; uses telecommunications tools minimally
- 4 communicates clearly and uses the rules of language appropriately with few errors; occasionally uses reading/writing processes
- 5 responds clearly and uses the rules of language well; demonstrates knowledge and application of reading/writing processes; interprets the work of others to gain personal meaning, uses linguistic/artistic tools to elaborate on an idea
- 6 excels as a reader/writer/listener/speaker; uses the rules of language appropriately; can evaluate the work of others; uses/comprehends/interprets a variety of linguistic/artistic/technological tools (figures of speech; idioms; multimedia)

SELF EXPRESSION

Student...

- 1 repeats the ideas and thoughts of others
- 2 can express thoughts, ideas, and feelings somewhat; uses a form of media
- 3 can express thoughts, ideas, and feelings using media selected by the teacher
- 4 can express thoughts, ideas, and feelings using a single piece of media effectively
- 5 can express thoughts, ideas, and feelings using a variety of media effectively
- 6 can express thoughts, ideas, and feelings using a variety of media in original and skillful ways

EMPATHY

Student...

- 1 recognizes own perspective; identifies own needs and concerns
- 2 relates to others from own perspective, needs, and concerns
- 3 sometimes is able to recognize the perspective, needs, and concerns of self and others
- 4 is able to recognize the perspective, needs, and concerns of self and others; sees ways to help others
- 5 is able to recognize the perspective, needs, and concerns of self and others and accepts those of another; actively helps others; is able to put self in another's position
- 6 is able to identify multiple perspectives; is able to adapt to the concerns and needs of others even though they differ from his/her own

PROACTIVE CITIZENSHIP

Student...

- 1 is aware of his/her role in the cultural system in which he/she lives; is aware of environmental and global issues; rarely engages in or contributes to community events or activities

- 2 knows various roles in cultural systems; knows about global issues; engages in the community in some positive way
- 3 is aware of his/her role in the cultural system; makes connections between self, the environment, and the global community; makes some contributions to the community
- 4 is actively engaged in responding to environmental, global, and community issues
- 5 actively engages to resolve environmental, global, and community issues
- 6 actively seeks information on current environmental, global, and community issues; seeks ways to positively impact the beliefs or actions of others on environmental, global, and community issues

TECHNOLOGY

Student...

- 1 is aware of electronic media; uses a single piece of equipment if it is set-up ahead of time; uses the computer merely for word processing; collects most information via word of mouth
- 2 has knowledge of electronic media and uses it as a basic tool for word processing; uses electronic media to access information; modifies simple equipment or applications with direct instruction; for specific projects, uses a variety of computer applications or equipment as directed; uses reading and writing as tools for exchanging information
- 3 is knowledgeable about electronic media; uses a variety of technological tools to interact with others including word processors and e-mail; recognizes the need to modify equipment or applications and does so with instruction; begins to match equipment/application to the project independently; uses printed and electronic media to acquire new information
- 4 makes appropriate modifications to a variety of equipment/applications to fit the project; begins to troubleshoot own problems with a variety of equipment/applications including the use of technical manuals
- 5 sets up/maintains/writes multimedia programs and web sites using a variety of technological tools effectively and appropriately; uses desktop publishing; assists others
- 6 sets up equipment for others to use; works as a tutor; troubleshoots and resolves technical problems