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ABSTRACT

The School for New Learning (SNL) was established in 1972 at DePaul University especially for adult students. SNL students are adults, age 24 or older, who want to accelerate their progress to a degree by using experience as well as classwork for academic credit, and who want to design their own programs with help from an advisory committee of experts. The undergraduate curriculum is competence-based (that is, focused on learning outcomes), student-centered, and interdisciplinary. SNL assesses students on 50 learning outcomes or competence statements, targeted to and organized into 5 domains, each of which is comparable to a discipline found in a traditional liberal arts program. An assessment study of this program was needed to describe the range of written reports assigned in content courses, identify teachers expectations for the written reports that they assign, and rate students' performance against teacher criteria. The goal of the study was to define problems and to propose reforms for improvement. Two theoretical frameworks undergirded the study: (1) a psychological model of intellectual development in college students; and (2) an instructional design for complex problem solving. Methods included analyses of teachers descriptions of assignments, categorization of assignments, ratings of student papers, and surveys of student perceptions of teachers' expectations and criteria. Results, which are various and copious, are logged on numerous data sheets. Surveys are appended. (TB)

Writing Assessment in a Competence-Based Undergraduate Program for Adult Students

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1 Description of the College (School for New Learning) and its Adult Students

The School for New Learning (SNL) was established in 1972 especially for adult students.SNL students are adults, age 24 or older, who want to accelerate their progress to a degree by using experience as well as classwork for academic credit, and who want to design their own programs, with help from an advisory committee of experts. SNL enrolls more than 2,500 students and has 1,800 alumni. SNL's instructional staff includes 24 professors (tenured and tenure-track) and 125 visiting faculty.

The undergraduate curriculum is competence-based (that is, focused on learning outcomes), student-centered, and interdisciplinary. Students receive a Bachelor of Arts degree in liberal arts studies from DePaul University that is accredited and accepted by graduate schools across the country. SNL does not have course requirements for a Bachelor of Arts degree but instead assesses students on fifty learning outcomes (competence statements), statements such as "Can compare two or more societies with respect to their economic structures or political organizations." Competence statements are targeted to and organized into five domains, each of which includes ten statements. The following 5 SNL domains are comparable to the disciplines found in traditional liberal arts programs:

(1) Arts of Living (comparable to the humanities and fine arts)
(2) Human Community (the social sciences)
(3) Physical World (the physical sciences, math, and technology).
(4) Lifelong Learning (core/general education requirements, e.g. writing and reasoning)
(5) World of Work (students' chosen area of concentration)

Students may demonstrate competence either through course work, independent study, or through an external assessment of their experiential learning. Eighty-five percent of the liberal arts competencies are demonstrated through course work that teachers design specifically for particular competencies. Courses are usually offered for two competencies, often for two competencies from different domains. The majority of assignments in the liberal arts courses are written reports. These assignments are the principle means for demonstrating and assessing competence.

Students may take courses in any order to demonstrate liberal arts competencies in any sequence. Therefore, teachers must design each ten week course as a self-contained learning experience. They cannot assume that any class of students will enter a course with similar background knowledge and experience in that area of study. A ten week class in a quarter is a short time for introducing students to a subject *and* developing their critical capacities .

Nearly all of SNL's students are full- or part-time employees with many of Chicago's leading employers. The main industries employing our students include telecommunications and computing (Ameritech, AT&T), banking, finance, and insurance (First Chicago; First Colonial; Chicago Board of Trade; Arthur Anderson); health services (Enterprise, Baxter

Travenol); government (Argonne National Laboratory, City of Chicago); and consumer products (Kraft, Helene Curtis).

As with most working adults, many of our students are experiencing reengineering at work. A significant proportion of them are managers, team leaders or in career paths that will lead to supervisory positions. They look to their liberal arts education to prepare them for the changes and the demands of their high performance workplaces.

2 The Problem and Need for An Assessment Study

In their dual role as students and employees. SNL learners need a level of intellectual training at college that prepares them for the following demands at work:

- Handling and designing change by focusing on the background assumptions and institutional arrangements that shape corporate strategies, communications, and interpersonal relations.
- Understanding the functioning of different business units, multiple ways in which they fit together, their interdependencies and outcomes of these relationships.
- Seeing patterns in new situations, tying them to patterns in other situations, and using insights from comparisons to contribute to day-to-day plans and decisions.
- Using new technologies for enhanced communication and information-sharing, retrieving and analyzing data and employing e-mail, groupware, and networks to produce and disseminate knowledge.
- Collaborating in cross-functional teams and becoming well-skilled in conflict resolution, negotiation, management of group processes, interest-based problem-solving, joint efforts, and self-monitoring.
- Learning how to learn, learning new roles. and learning to train others.

These skills are the essential qualities for solid job performance defined by the Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS). For our reform purposes, one of the most important aspects of the SCANS report is its call for academic institutions to develop curricula to support these skills and competencies. As the SCANS report suggests, the liberal arts are a natural "home" for developing the skills and competencies proposed by the Commission. For example, systems and technology competencies can be addressed in the Physical World ; social systems and information competencies in the Human Community.

Courses in our liberal arts program target a level of intellectual challenge and inquiry that falls short of what is demanded intellectually of students in their work environments. Course assignments do not provoke the same complexity of thought and facility in approaching unstructured problems and situations from many angles that high performance workplaces do. Two scenarios illustrate this dissonance between schooling and workplace learning. These scenarios, drawn from School for New Learning experiences, typify instruction and assignments in undergraduate, liberal arts degree programs for working adults nation-wide.

Scenario One

Maureen directs a ten-person consulting firm that specializes in organizational development. She assesses clients' organizational needs and problems and then designs and delivers customized training. Typically, clients call her to solve their "communication problems" in the hopes that she will simply deliver some ten-point program for building teams and improving communications. Instead Maureen conducts an intensive needs assessment in which, through interviews and observations, she fleshes out the issues that lie behind apparent problems (for example, tracing problems about team members not sharing workloads to organizational structures that do not support required flexible schedules). To interpret needs assessment data, she often shifts between interpretive frameworks as newly gathered information suggests alternate focal points. She tests her interpretations by creating "what-if scenarios" and trying them out on clients.

Maureen's job satisfaction comes from the creativity and intellectual challenge it takes to be receptive to new information: Putting it together in many ways to get different meanings, relating prior cases to present ones, finding the right analogies to explain a case, and looking at findings through different "interpretive lenses" to discover significance and priorities.

In school, she is unchallenged. For example, her "Conflict Resolution" course in the Human Community domain assigns an expressive journal and a report asking students to analyze one conflict resolution model and give an example of its application. The only other course offered on this same subject has similarly introductory assignments. Maureen has no opportunity to tackle problems in this subject at a level to which she is accustomed.

Scenario Two

Brad is a facilities planning manager in a major telecommunications corporation. Because the corporation is in the midst of a year-long reorganization process, Brad continuously handles quick turnaround situations that paradoxically require carefully wrought and executed plans . His job involves integrating multiple tasks, weighing priorities, managing numerous parallel activities and functions at once, adapting to unexpected changes or crises, planning at a level of detail that prepares for surprises, and maintaining high team morale in stressful situations.

For instance, in one case, Brad had no more than two months to open and equip a new office staffed with people assuming newly created roles. He and his team had to locate and negotiate space, to determine infrastructure requirements, and to supervise installations. In addition, they needed to acquire equipment and coordinate with Human Resources to design and arrange training for new personnel. When one aspect of the project went awry -- the Realtors quit -- the rest was in jeopardy and required smart decisions on-the-fly.

In his liberal arts studies, Brad likes literature and the Arts of Living best, learning from these courses to see the world in ways he hasn't thought of before. The rich details of fictional worlds resonate with him, in large part because of the attention he pays to detail in facilities planning. Yet he has not experienced literature assignments that ask him to "play" with details in a way that challenges him, asking, for instance, why are these details and not others there? What would change if certain details were different or if characters interpreted them differently? What details are key in distinguishing this situation (theme) from others?

Our goal is to bridge higher education and work through complex problem-solving. This bridge will give students-who-are-workers intensive practice in exploring issues from many

points of view in a wide range of subjects and unstructured situations. These academic inquiries also will provide opportunities for sustained reflection .

Until this assessment study. however, the School for New Learning had not examined the extent to which assignments in content courses fostered critical thinking and complex problem-solving. Nor had it assessed the extent to which the writing required for the assignments in one class build on, spiral with, reinforce or progress beyond the writing required in other classes in the same domain. The absence of such a study is common in adult undergraduate programs nation-wide. Similarly common is a lack of baseline data on students' writing abilities in content courses as gauged against teachers' expectations and criteria.

3 Research Goals and Methods

The goals of this assessment study are to describe the range of written reports assigned in content courses, to identify teachers' expectations for the written reports that they assign, and to rate students' performance against teachers' criteria. The ultimate goal is define problems and to propose reforms for improvement.

The design of the study and its methods are as follows:

- Gather and analyze teachers' descriptions of assignments from all domains.
- Conduct a pilot study of the Physical World domain.
- Categorize assignments in the Physical World courses and meet with task forces of teachers representing each category of assignment.
- In each task force, have teachers set their criteria for that type of assignment.
- Rate student papers gathered from multiple courses against the criteria set by teachers.
- Survey students for their perceptions of PW teachers' expectations and criteria.
- Analyze data gathered from all phases of the inquiry to identify problems.
- Draw conclusions about possible solutions.

At the time of this presentation, I have completed the assessment of one type of PW writing, the intermediate level (the type comprising 2/3 of all PW assignments). For intermediate assignments, I have fine-tuned assessment criteria so that raters can rate against them; analyzed raters' ratings of 60 sample student papers in the PW intermediate category, and evaluated 80 students' survey responses about the criteria that they believe teachers set for PW assignments.

I have developed and proposed a program for improving writing in the content areas in the School for New Learning that is still pending. The improvements rely heavily on faculty development -- workshops for assignment writing and for faculty to collectively coordinate the cognitive demands that are implicit in their assignments and integrate and sequence courses and assignments within each domain. Improvements also include additional support services for students, adding a required upper level writing competence, and creating a faculty position for a writing coordinator.

4 Theoretical Frameworks

Two theoretical frameworks underlie this study: (1) psychological models of intellectual development in college students and (2) instructional design for complex problem-solving.

(1) Psychological Models of Intellectual Development.

Combining the complementary work of Perry and Belenky et al., researchers in cognitive development have developed a 4 level model of intellectual development in college, with learners moving from a lower level of believing that all questions have right answers to a higher level of recognizing many legitimate contending positions and a world characterized by uncertainty and flux. In this psychological model, the highest level is equivalent to the intellectual demands of high performance workplaces (see Table 1).

Level 1: Dualism and received knowledge	Acquires information provided by authorities (unquestioned truths) and learns discrete facts from texts without seeing them as interpretations.
Level 2: Multiplicity and subjective knowledge	Is receptive to conflicting doctrines and opinions, believes everyone is entitled to his or her own opinion, and adheres to one's own "right" view on the strength of common sense and the legitimacy of one's own "inner voice."
Level 3: Relativism and procedural knowledge	Recognizes that some opinions may be stronger than others based on following the "rules" of inquiry, such as providing balanced evidence, citing sources, looking at two sides of an issue.
Level 4: Commitment in relativism and constructed knowledge	Reasons dialectically, explores many points of view at once, accepts ambiguity and uncertainty, and links one's judgments to context, priorities, prior experience, and one's own deliberated stance in the world (for example a stance that values change more than continuity)

Table 1. Levels of Intellectual Development (Adapted from Krufiss, 1988)

Two-thirds of our current assignments in the liberal arts target a level of thought and inquiry corresponding to levels 2 and 3. For example, an Arts of Living assignment asks students to compare and evaluate two novelists' treatments of the human condition. At best, students characteristically apply the "rules" of literary analysis, but they rarely explore the multiple meanings of "the human condition" or contextual factors shaping authors' meanings and readers' responses.

In our assessment study, which used criteria established by teachers to rate student papers, a large majority of students' papers received low and average ratings in these pro-and con- debating assignments. Clearly, many students need continued practice and training at this level of inquiry. At present, courses and assignments domain-wide do not systematically provide such training.

In addition, we need to help students who are ready to move beyond this level of thought and inquiry. Fewer than one-quarter of all assignments in each domain ask students to conduct inquiries or solve problems at level 4. One such assignment involved a student in participant-observation in a "theme restaurant," interpreting her observations from many theoretical points of view and speculating about a basis for giving them legitimacy. Our reforms strive for more

assignments at this level , for more problem-based scenarios and simulations to stimulate such higher level thinking, and for more students excelling in them.

(2) Instructional Design for Complex Problem-solving

Researchers in instructional design stress that the advanced instruction required for complex problem-solving differs in kind not degree from introductory instruction. Introductory instruction teaches generic (context-free) and discrete concepts, principles, processes and simple relationships between ideas (for example, in the area of risk communication, teaching components of communication and factors affecting perception of risk). Advanced instruction, by contrast, is richly embedded in contexts, problems, and learners' individuality. It provokes students to "dig into" an unstructured area of study to become involved with complex relationships between ideas and relevant issues from other disciplines (for example, advanced approaches to risk communications ask learners to figure out and test effective ways for a national research laboratory to communicate the risks of its research on nuclear energy to the diverse population residing in the area).

The following findings from this research on complex problem-solving are relevant to this assessment study (Schank; Feltovich et al; Brown et al; Cognition and Technology group; Goodrum et al.; Perkins and Salomon; Salomon et al.; Cobb):

1. Goal-based scenarios and simulations that situate learning in authentic contexts are the most effective means for inciting advanced learning and for giving students experience simultaneously in communication, human relations, and reasoning. Scenarios and simulations foster multiple perspectives and flexibility in organizing knowledge in new ways for diverse circumstances.

2. Students need to move past their misconceptions from overly simplified introductory learning, such as seeing factors as isolated events rather than as relationships or interdependencies. Case studies, goal-based scenarios, and simulations and comparisons between them facilitate this process.

3. Learners need to experience a diversity of inquiries to develop expertise. Concomitantly, adults learn best when presented with situations and problems that encourage self-directed learning (Lawler, 1991).

4. Unique assessment methods must be adopted for instruction in complex subjects, situations, and problem-solving, including assessment over time; multiple methods for a comprehensive enough "montage" of overlapping pictures; evaluations of students' readiness for greater complexity; consultation with experts who are actively involved with subject matters and problems; broad follow-up surveying; and concept analysis (for example through content analysis of journals) to identify continuing sources of difficulty (Feltovich et al.) Our assessment methods represent all of these approaches.

5 Results and Conclusions

Results are presented in the attached data sheets. I will talk through their significance and present the reforms in assignment development and assessment that the School for New Learning hopes to pursue based on the results of this study.

Types of Writing Required by PW Assignments

Critical Thinking and Ways of Organizing Knowledge in Writing

Introductory	Intermediate	Complex
Duality (absolutes)	Multiple Points of View	Committed to Contingency
Right vs. wrong, true vs. false. Will power and work as solutions. Trust in authority, traditions. Fact-giving as truth/proof.	Many POV acknowledged, but alien. Everyone has a right to his or her opinion. POV = aggregate of discrete "answers."	Recognized plurality of POV, frames of reference, interpretations which change with context & circumstance, and commitment is anchored in experiences & their tensions.
	Requirements from sample assignments	
Summarize, take a position, synthesize sources	Analyze cause & effect, analyze relationships, synthesize sources	Take a position, speculate, synthesize sources
Summarize, describe, present a process	Analyze cause & effect, take a position, synthesize sources	Analyze cause & effect, relationships, costs-benefits; tie to theory, argue significance, speculate
Describe and present sequential events	Analyze cause & effect, analyze relationships, describe, synthesize	
Describe and analyze your experiences	Analyze cause & effect, decompose into parts, analyze relationships, describe, present sequential events, define, summarize, apply to own experience, synthesize sources	Analyze relationships, compare, argue significance, speculate
Describe, present sequential events, and analyze your experiences		

PW Writing Criteria- Introductory

Content

1. Print Sources

- Use more than one source.
- Use footnote citations appropriately.

2. Point of View

- Must have a thesis/position statement. Develop an "involved" thesis, not a simplistic one. It's not enough to just include a thesis; it must reflect thought -- more than a canned position.
- Develop many sides of an issue but not in a rote way. Give emotional charge to the various sides.
- Analyze the ways in which different points of view relate to each other.
- In descriptions and observations, compare your perceptions and conceptions to other sources. Reinforce your position in the comparisons.

3 Development of Ideas

- Write a clear, concrete, well-focused thesis.
- Answer the "so what?" question: explain the significance of a perception, experience, impression or feeling.
  For example, answer:
  - what does your presentation mean?
  - why are your descriptions or arguments important and why should readers care?
  - what are the relevant complex issues that people have wrangled over for a long time and for good reasons (show a recognition of the complexity.)
- Draw connections between ideas, support for arguments, or descriptions.
- Have a focus or thesis (your purpose for writing); do NOT just list facts or description like an annotated bibliography.
- Use definitions that provide examples.

For observations and descriptions

- Use vivid, exact language to evoke the setting or scene, to capture the facts of a situation accurately and precisely and to purposefully create an impression or feeling in readers.
- Use a combination of quotations and your own words to define or describe a phenomenon.
- For a thesis, you do not need to draw conclusions as you do for arguments.

- You do need to draw a conclusion as your thesis when disagreements exist between phenomena you observe and descriptions of them in sources . Then you must address and resolve the disagreement, taking a position that you will support in the paper.

- For a "non-conclusion" thesis, you may:

  - identify phenomena and their classifications.

  - target the most important things to observe or describe based on criteria or traits for choosing those things as important.

- For a bonus and extra advantage, draw broader conclusions from ;you observations or descriptions (e.g. in observing flowers, draw larger conclusions about specific issue in ecosystems or conservation).

- To develop ideas, make them finely nuanced and layered (e.g. give details of flower petals, neighboring vegetation, etc.)

- Include your own observations and relate them to source materials.

- Must fit your reporting into a larger context. This context may be:

  - book versions vs. actually seen

  - family members (compared)

  - ecological interactions

- Make it clear in your selection of information that you can sort out the important from the insignificant.

- (At times required, at times a bonus) make comparisons that tie together different descriptions or observations.

Persuasive report

- Fit your question/conclusion into a larger context (e.g. larger historical view, political context).

- Convey that your position and issue intellectually and emotionally involve you (by the depth of support, the context and significance you bring out, etc.).

- Develop a seamless interplay between thesis-support-context.

- Establish at the beginning what people are saying (the conversation.) about the subject

- Identify a problem that you see in the conversation that you are answering (i.e. show that your investigation is needed and worthwhile).

- Identify the argument that you are making and structure your paper around proving it.

- Do not choose arguments that nobody questions. Focus only on areas of at least some disagreement (e.g. Pollution is a problem is not arguable. It is arguable to say The response to ___ type of pollutions should be ___.)

Selecting and Applying a Model

- Identify a problem and two or more models. Show how the models shape what you look at in the problem.

- Develop a thesis that takes a position on the best model to use to account for what is important in an issue.

- Develop support for your thesis (the superiority of one model over others) through these strategies:

  - state the criteria for your comparisons. These criteria must go beyond personal preference or desire. Criteria may be multiple, not exclusive.

  - show what the rejected models overlook that is important

  - show ways that rejected models are stereotypic or reductionist and why that isn't acceptable

  - weigh the comparative strengths and weaknesses of all models; show how in some ways 1 model is better and in other ways other models are better.
  (Take a finely nuanced view as preferable, not a black & white choice --(black & white choices are acceptable but not preferred).

  - support positions with expert testimony or your own interview studies.

Organization

Section breakdowns

- Break sections down appropriately for your writing purpose (inform/observe; prove, explain, persuade; explore)

- If supporting your position by analyzing different sides, organize first by one side then the others.

- Forecast your organizing principle so that readers know where you're headed.

Ordering and emphasis

- Create introductions that establish a relevant context and focus on the issues.

- Draw only conclusions tied to and supported by the ideas you develop in the paper.

Paragraph level

- Make sentences relate to each other so ideas flow smoothly.

Style and Mechanics

- Vary sentences to create interest and to evoke thoughtfulness and complexity.

PW Writing Criteria - Intermediate

Content

____ 1. Print Sources

Ordered by importance:

1 Use more than 1 timely, credible, and scientific source.
H = 4+ scientific sources, published1985 or after OR 2-3 scientific sources after 1989
M = 2-3 sources, at least 2 of which are scientific, 2 or more published 1985 or after
L = Only 1 source even if it's timely & credible OR only 1 sceintific source among many

2 Identify researchers' credentials, point of view of journal, etc.

3 Cite direct quotations. Also cite ideas that are new to the students, debatable, or figures/findings.
H = > 1 per page M = 1 per page L = < 1 per page
(Knock down a level if the citations are inappropriate (e.g. everything's cited) or irrelevant (e.g. commonly known information).

4 Use consistent documentation style.

NOTE: Cannot get an H if any one of these criteria is an L.

____ 2. Sources other than print

- Use personal experience, anecdote: own data gathering; or testimony as a jumping off point. They must be supported with other evidence.
- For controversial issues, must use testimony from many experts with different positions.
- For all testimony, identify the speaker, affiliation, relation to the field (cutting edge? accepted?)
- Demonstrate initiative by designing own study and gathering original data.

____ 3. Points of View (Thesis)

- Develop a clear, concise thesis (no neutral, fact-giving or summarizing -- e.g. no giving all sides to an issue without taking a stand).
- Maintain the thesis throughout the paper, tie facts to it w/interpretation (not just listing).
- Show a balance between your POV and others:
  (1) Genuinely engage views contrary to one's own, devoting enough detail and space to them.

  (2) Must show multiple points of view. Acknowledge, anticipate and respond to opposing POV. Use strategies such as:
  - Show the gains & losses of your own POV
  - Explore basic questions of critical analysis for that topic or subj. matter.
  - Present experience for one POV.
  - Identify opposing positions & why they fall short, including most current challenges.
  - Argue for the need to integrate many views of theories by showing why none alone is sufficient.

Development of Ideas

____ 4. Interpreting written sources

- Identify researchers' credentials: who are they, where and when is the study published (situate and identify), validity e.g. sample size, 2 or 3 sentences about the study, findings, and conclusions.

- Draw connections for a reader, telling the relevance of this study to your argument.

____ 5. Evidence and support for a unifying idea

No unifying idea = L

1st priority - Provide sufficient information for the unifying idea

Bullets have equal weight:

- Adequately show at a scientific level the link between "facts" and your unifying idea. (Scientific means showing physical, biological, chemical, geological processes or systems)
  H = Details or explains on processes and systems
  M = Names scientific terms for processes or systems
  L = No science -- more sociological

- For topical /controversial issues, must tie causal explanations and reasoning to theory.
  H = Names a theory
  M = Puts the cause and effect in a framework, larger school of thought
  L = No framework

- Development of support is easy to follow
  H = Clear and easy
  M = Some unrelated, off-base subtopics
  L = Very jumpy and not supporting the unifying idea

- Give definitions of terms, concepts, ideas, processes that are relevant to the point you're making, not dictionary, decontextualized definitions.
  H = Defines terms and places them in context, almost always
  M = Sometimes defines and places in context
  L = Doesn't define terms that need to be defined or uses dictionary defintions

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____ 6. [If Appropriate] Discussing alternative sciences

- Must acknowledge that a perspective is not mainstream and and WHY it isn't.

- Demonstrate proficiency in mainstream science in order to discuss or advocate alternative sciences.

- Must tie discussion of "abnormal" to what's "normal" (e.g. PW4 & 5). Build on scientific rules, laws, first principles -- implicitly or explicitly.

_____ 7. [If Appropriate] Visual support

- Choose appropriate graphics for one's purpose, focus, and PW statement.
- Use graphics for things they show best relevant to your argument (e.g. trends, proportions/distributions, comparisons, multiple points of view, aberrations (normal vs. abnormal), multiple variables.

Organization

_____ 8. Section breakdowns

If no thesis = L

- Use a straightforward organizing principle, e.g.:

i. State your case
Start with a statement/conclusion to prove. The more interesting & provocative the statement, the better.

Avoid artificial intro-body-conclusion structure. Get right to the point (NOT dictionary definitions as an introduction).

ii. Prove your case. Build on your interests.

H = Thesis is in the beginning ¶ and has a structure for proving
M = Thesis is somewhere close to the front and there's at least some structure
L = Thesis isn't there or it's vaguely implied and has no structure for proving

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_____ 9. Ordering & emphasis

1st priority -- Order your support/discussion with a logic that matches your thesis or positions (not just a breakdown of subject matter that seems objective rather than persuasive).

2nd priority-- Hold readers' interest in leading to your unifying idea- no rule for how much or little background comes before the unifying idea -- pace of development may be longer if you are a stylistically sophisticated writer and can hold reader's interest with flow.
Make it evident that there is a reason for what comes first, second, etc.

H = Thesis and persuasion
M = Either (a) a thesis but not ordered and emphasized for persuasion (shifts to "covering" a lot like a unifying idea OR (b) there's a unifying idea with ordering and emphasizing that is appropriate for it.
L = No thesis or no unifying idea OR has a thesis or unifying idea but is an "information dump."

TIPS AND TECHNIQUES FOR ACHIEVING 1 OR 2: LITTLE WEIGHTING IN RATING
- Make opening engaging - be vivid.
- Provide headings to show that the paper is heading somewhere.
- Make all information under a heading a consistent and logical fit with it.
- Give a title that expresses your unifying idea

____ 10. Paragraph level organization

If no paragraphs = L

Transitions
- Don't make big jumps between paragraphs.

Unity and coherence in paragraphs
- Connect the ideas of successive sentences so that there is a flow and readers don't need to keep re-reading to see why an idea is there.

Record problems as you read. (holistically -- places that "stop" you because of diconnectedness, etc.):
H = 1 problem per page M = 2 problems per page L = 3+ problems/page

NOTE : The whole 1 range = H (e.g. 1.5, 1.8). Same for the 2's and 3+'s.

____ 11. Style and Mechanics

All bullets have equal weight.
If there's a tie, the first bullet -- internalizing -- has greater weight than style and mechanics. The second priority is concreteness.

- Show that you have internalized the vocabulary of the issue you're talking about by avoiding jargon or overly specialized terms but still talking in the terms of the field.

- Use language and details that present the subject concretely.
  H = range of levels and extensive e.g.'s
  M = series of separate instances
  L = not concrete

- Bring yourself or anecdotal material into the presentation.
  H = stories
  M = mentions self 1 time
  L = No mention of self

- Avoid sentence fragments and follow the rest of the conventional mechanical and grammatical principles for correctness.
  H = great stuff
  M = Passable
  L = Impedes meaning

- Follow stylistic standards (e.g. effective complex and complex compound sentences, sentence variation, figurative language, concise through active voice, verbs-not-nominalizations, etc.)
  H = Great stuff
  M = Passable
  L = Dysfunctional

____ 12. Likelihood of Plagarism

H = Likely plagarized M =Some parts plagarized L = Not plagarized - own voice

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____ OVERALL RATING

PW Writing Criteria-Advanced

Content

1. Print Sources

- Use newspapers, popular journals etc. to find/discuss a topic and its importance.
- Use sources that give in-depth scientific explanations to analyze the question(s) related to the topic.
- If relevant, use books and other sources cited on the teacher's bibliography.
- No need to evaluate other researchers' studies on the basis of specialized design and methodology.
  (Students should look at such issues as speculating beyond the data or the representativeness of a sample but not at more specialized validity issues)
- Read widely, discuss hypotheses that others' have advanced, identify faults with these hypotheses that show the need for your own.
- Should have at least 3 sources (but 20 handled badly is not necessarily good!). As a rule of thumb- the # of sources should be proportionate to the length of the paper.

2. Sources other than print

- Use personal experience or testimony as a jumping off point. They must be supported with other evidence. Testimony must be supported by proving the credibility of the speaker and his or her qualifications as an expert.
- Anecdotal evidence by itself is not good enough support or proof for a point. It is a good way of showing why you chose a subject.

3. Role of Perspectives

- Must develop a question or hypothesis as the central focus of your report. The framing of the question is essential.
- Must develop an explanatory question.
- Develop a question by synthesizing and internalizing from other sources. You should not simply be take one side in an "opinion-debate" nor ask the same question(hypothesis) that you've already read.
- Identify the sources your question came from and their credibility.
- Should ground your inquiry in a theory about the topic you're discussing. Before interpreting data, must state the underlying scientific principle behind the issue (e.g. global warming).
- Must draw a clear relationship between your data and conclusions.
- Show how your conclusions drawn from the data are affected by underlying paradigms, philosophies, theories .

  - Depending on the topic, bring in contending theories (e.g. PW2).

- Get across that there are mulitple conclusions and ways of looking at an issue depending on one's philosophical perspective. (e.g. You can have contending theories that are based on the same epistemology or different epistemologies and different theories)

- It's extra (not required) if you critique contrasting perspectives and tie them in with the internal logic of your own perspectives

- Demonstrate an understanding that science is iterative and you never reach final proof.

4. Development of Ideas

- Provide enough information and paraphrasing to lay a groundwork for your ideas. But groundwork information isn't adequate support on its own. You need to organize it and tie it to your question.

- Overall, demonstrate an understanding of scientific principles and the ability to teach them.

  - This does not imply that discussions must be about controversial topics. But it does imply assimilating knowledge about scientific phenomena and relating it to other things.

  - Presenting the underlying science is essential -- i.e. the workings of the phenomena and how they lead to effects.

- Develop your presentation by bringing your own insights into the discussion even if you are allied with someone else's views.

- Must select the most important facts to communicate to others. Effective selectivity rests on:

  - Tying selected information to your question, purpose, or conclusion (not extraneous, i.e. it must lead to a point).

  - Selecting information that justifies what you are arguing and where you are heading.

- Develop ideas in a way that shows you know where bringing in opinions is and is not appropriate. Give opinions in only appropriate sections (see below, Breakdowns).

- If you make any conclusions you must provide evidence. Conclusions warranting evidence include your main point but not your "set-up" or ideas and opinions that are generally accepted.

  - Reference to someone else's study is adequate evidence.

  - In giving and developing evidence, explore all sides adequately. Show contending alternative perspectives. When it is difficult to find numerous alternatives, focus on analyzing differences, e.g.:

    Compare historical periods and show reasonable evidence for differences being tied to different situations.

    Show differences in the costs and benefits of doing one thing or another.

- Must define concepts or terms when they have many uses, novel uses, or are so overused as to be meaningless(e.g. environment, hazardous waste). Explicates i.e. say, "here's how I'm using the term and what it means."

  - Do not use dictionary definitions.

- Must tie defintions to the way the scientific community uses the term or concept. If you can't get a definition from source articles (e.g. co-enzyme), go to textbooks.

Using visual evidence

- In developing ideas visually, must accompany the visuals with text that interprets them for the point you are making. Must make the significance to your visual point clear and explicit.
- Reports should include visuals to indicate that you know what information is best expressed verbally and visually in science.

Organization

1. Breakdowns of information

- Separate information and include opinion/argument as follows:
  - Set up a context- a little argument.
  - Introduce question - no arguing.
  - Relate possible hypotheses: yours and others, no argument.
  - Discuss why your question is worthwhile - may argue.
  - Review the literature - be objective; end by saying how it all relates to your questions - not evaluating the studies (i.e. no arguing)
  - -Evaluate studies (may argue)
  - Methods (optional)- say what evidence was gathered, how subjective (anecdotal evidence) was used - no arguing
  - Results of study(ies) - no opinion/arguing.
  - Conclude - may argue.
- Proportioning of sections depends on the topic.
- Organize according to where a topic leads, not according to the competence statement.
- Headings are preferred by not mandatory. A title for the paper is not important.

tyle and mechanics

Use standard writing style and mechanics.

First person is all right, but not in certain sections (like the literature review).

TEACHERS' DISTRIBUTIONS

Content	80	70	#1
Organ.	20	20	#1
Style/ Mechanics	0	10	#3

Survey on Writing in the PW Domain

The School for New Learning is conducting this survey as part of a study aimed at improving writing instruction in all domains. This survey focuses only on writing in courses offered for PW competences and should take about 20-30 minutes to complete. Your responses will help us to identify important patterns in PW assignments and the expectations that you and your teachers have had for these assignments. We very much appreciate your help and cooperation.

Name_____ **Phone** _____

1. What was your educational background before coming to SNL?
___HS ____# yrs. Community college _____# yrs. 4 yr. college _____Other:

2. What year did you start SNL? 19___

3. What is your concentration in the World of Work domain? _____

4. Which PW competences have you fulfilled? (circle all that are relevant)
PW1 PW2 PW3 PW4 PW5
PWA PWB PWC PWD PWE PWF
PW9 PW10

5. Have you taken the College Writing Course? (check one) ____Yes ____No
If yes, when (what year)? 19___

6. Circle which, if any, PW courses and competences that you've taken or plan to take are:

- Relevant to your educational goals? Course names: _____
PW1 PW2 PW3 PW4 PW5
PWA PWB PWC PWD PWE PWF
PW9 PW10

- Relevant to your future professional goals? Course names:_____
PW1 PW2 PW3 PW4 PW5 _____
PWA PWB PWC PWD PWE PWF _____
PW9 PW10

- Relevant to your current job? Course names: _____
PW1 PW2 PW3 PW4 PW5 _____
PWA PWB PWC PWD PWE PWF _____
PW9 PW10

- Relevant to you personally? Course names: _____
PW1 PW2 PW3 PW4 PW5 _____
PWA PWB PWC PWD PWE PWF _____
PW9 PW10

7. How much time/week do you usually spend studying or preparing for a class?___hrs.

ABOUT PAPERS

8. How much time do you spend writing a term paper? _____hrs.

9. When an instructor gives you a paper assignment, how often do you ask questions if the requirements are unclear? (check one) ___Always ___Sometimes ___ Never

10. How often do you talk to other students about the assignment to make sure that you have it clear? (check one) ____Always ____Sometimes _____ Never

11. What would you consider to be some unrealistic criteria for a paper (for example how long is too long? how many citations are too many to expect? What else?)

_____

_____

12. How often do you feel you know the grade your paper is apt to receive before turning it in? (check one) ___Always ___Sometimes ___Never

13. Name resources that you have used for writing a scientific paper:

Journals_____

_____

Books_____

_____

Other_____

14. What qualities make a resource credible?_____

_____

_____

15. Can you think of any scientific or social theories that you've talked about in PW courses? What are some of them? _____

_____

16. Think over some of the papers that you've written for PW competences. Think of an example of a paper you wrote that discussed some theory.

What competence did you write for? _____

What was the main point? _____

What was your purpose in bringing in theory? _____

_____

What aspects of theory did you discuss and why?

_____

What else besides theory did you discuss?_____

_____

17. How did you organize your paper so that readers knew where you are headed?

_____

_____

18. What do you think your teacher was looking for in that paper? For each possible expectation listed below, circle the number (1, 2, or 3) that indicates its importance to your teacher. *1* is very important
2 is somewhat important
3 is unimportant.

1 2 3 1 To cite many different objective facts.

1 2 3 2. To present and explain 2 positions on an issue.

1 2 3 3. To present and explain more than 2 positions.

1 2 3 4. To explicitly say why the facts you discuss are important for your reader.

1 2 3 5. To include quotations from sources.

1 2 3 6. To give information that proves that sources or people quoted are credible.

1 2 3 7. To use appropriate citation form and style.

1 2 3 8. To explain in detail how one cause results in an effect.

1 2 3 9. To explain many causes, their relationships, and how they result in effects.

1 2 3 10. To analyze how causes change due to context and circumstance.

1 2 3 11. To explain the "big picture" implications of cause and effect relationships.

1 2 3 12. To evaluate why different points of view are strong, weak, or both.

1 2 3 13. To overtly identify the main principles, rules or ideas that you base your judgments on.

1 2 3 14. To identify weaknesses in your own position even though it's a valid position.

1 2 3 15. To discuss your own experiences as evidence.

1 2 3 16. To explicitly explain how your experiences support or contradict other evidence you present.

1 2 3 17. To conduct your own surveys or experiments about an issue.

1 2 3 18. To show that you can take a complex approach to a complex subject.

1 2 3 19. To write at least three pages.

20. Other?_____

19. In which, if any, of the above areas did you disagree with your teacher's emphasis? (Circle one or more numbers of the above expectations.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

20. Have most of your PW teachers put importance on the same things? (check one)
___ Always ___Sometimes ___Never

20.1. [If sometimes or never] What are some important differences? In what ways, if any, are differences tied to courses, teachers, competence statements?

21. When you have written about a controversial scientific issue or theory (like aging theory or homeopathic medicine), have you approached it differently from noncontroversial issues? If so, what have you done differently?

22. How much should teachers be influenced by writing mechanics and style in grading a PW term paper? (Check one)

___Lower it by 1/2 a grade if bad ___Lower it a whole grade ___Don't lower
___Reward good style and mechanics even if the content isn't fully developed

23. When using an expert's testimony to prove a point, what additional information, if any, do you need to provide in order to make this testimony convincing?

24. Do have any additional comments about teacher's expectations for PW papers?

Thank you. We hope to write up our findings in a report or article. Would you like us to send you a copy when it is finished? Y N

Name: _____

Address: _____

_____

Student Survey Responses

	Very Important	Somewhat Important	Unimportant	Missing Data
Cite many objective facts	39%	52%	9%	
Present and explain 2 positions on an issue	40%	37%	23%	
Present and explain more than 2 positions	14%	35%	52%	
Say why the facts you discuss are important to readers	58%	36%	6%	
Include quotations from sources	37%	39%	24%	
To prove that sources or people cited are credible	38%	37%	25%	
Use of appropriate citation form and style	33%	23%	19%	4%
To explain in detail how one cause results in an effect	50%	36%	11%	3%
To explain many causes & their relationships & effects	29%	42%	27%	2%
To analyze changes in causes based on conditions	31%	46%	19%	4%
To explain the bigger picture affected by causes & effects	60%	25%	13%	2%
To evaluate why pts. of view are strong, weak or both	25%	38%	35%	2%
To identify principles, rules or ideas behind judgments	55%	33%	8%	4%
To identify weaknesses in own position even if valid	14%	42%	42%	2%
To discuss own experiences as evidence	27%	38%	33%	2%
To explain how experiences contradict or support evidence	25%	44%	29%	2%
To conduct you own surveys or experiments	17%	37%	44%	2%
To take a complex approach to a complex subject	29%	42%	21%	8%
To write at least 3 pages	39%	21%	31%	9%

Preliminary Findings: Student Surveys & Student Essays for PW Assignments

1 Student Surveys

Percentage of students rating the following teacher expectations as **not very important:**

87% To present and explain more than 2 positions on an issue.
85% To identify weaknesses in your own position even though it's a valid position.
81% To conduct your own surveys or experiments about an issue.
73% To evaluate why different points of view are strong, weak, or both.
73% To explicitly explain how your experiences support or contradict the other evidence you present.
71% To discuss your own experience as evidence.
69% To explain many causes and their relationships and how they result in an effect.
64% To show that you can take a complex approach to a complex subject.\

2 Ratings of Student Papers

42 papers rated against teachers' criteria for PW assignments asking for cause-effect and pro- and con arguments.

Overall ratings:

62% Low
12% Average
24% Mixed low and average ratings
2% Mixed average and high
0% High
(74% reliability)

Ratings by Criteria:

Use of print sources (69% reliability)
62% Low 2% Average 5% High 24% Mixed low and average 4% other mix

Use of sources other than print (personal experience, anecdote, own data gathering, testimony,)(95% reliability)
93% Low 2% Average 2% Mixed low and average 2% mixed high and low

Presentation and development of a clear and concise point of view (thesis) (88% reliability)
83% Low 2% Average 10% Mixed low and average 5% Mixed high and average

Justification of the credibility and relevance of written sources (98% reliablity)
98% Low 2% Mixed low and average

Other:

90% reliability **Organized for meaning and purpose --** 86% Low
60% reliability: **Style and mechanics --** 45% average 33% Mixed average and low

PW Intermediate -- Ratings Results

	Low	Av.	HIgh	L/A	A/H	H/L	Reliability
Print sources	62%	2%	5%	24%	5%	2%	69%
Sources other than print	93%	2%	–	2%	–	2%	95%
Point of View (Thesis)	83%	2%	–	10%	5%	–	85%
Interpreting written sources	98%	–	–	2%	–	–	98%
Evidence and support	Low	reliability					35%
Section Breakdowns	86%	5%	–	7%	2%	–	90%
Ordering and Emphasis	46%	19%	2%	29%	2%	2%	66%
Paragraph Level Organization	Low	reliability					33%
Style and Mechanics	13%	45%	–	33%	7%	2%	57%
Likelihood of Plagarism	48%	12%	–	33%	2%	5%	57%
OVERALL PAPER	61%	12%	–	24%	–	–	74%

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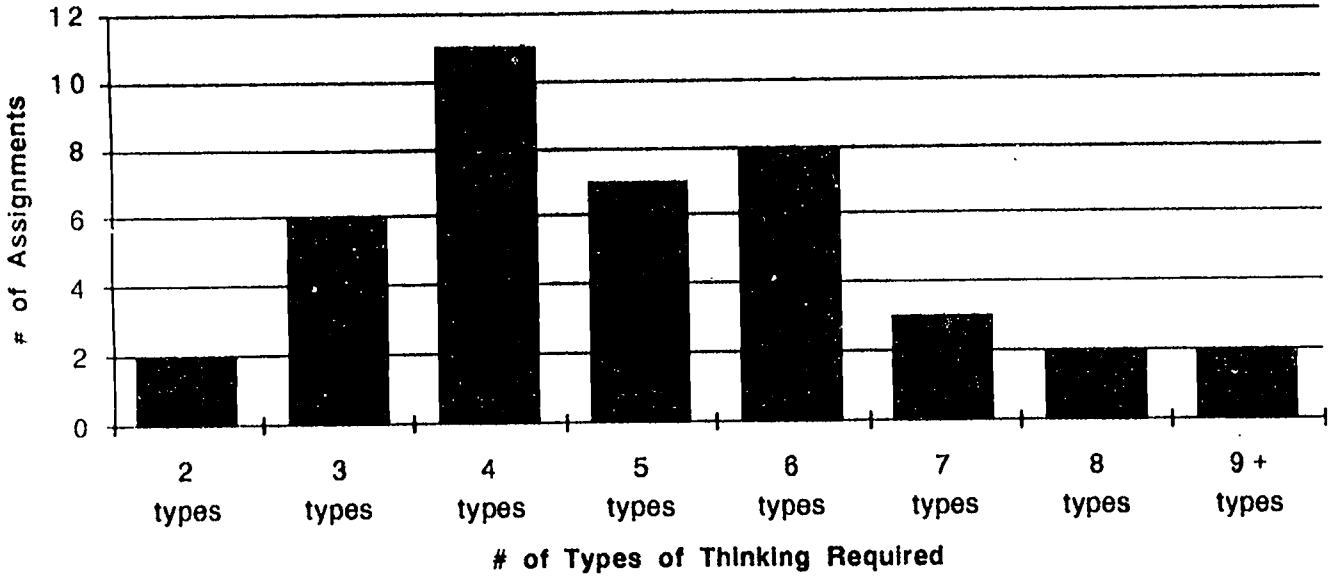
Physical World Assignments (N=41)



Introductory Assignments:
(usually 2-3 types)

Narrate/Present Chronology
Present a Process
Describe
Summarize
Analyze Personal Experience
Analyze Parts of a Whole
Analyze Material
Take a Position

Intermediate Assignments
(usually 4-7 types)

Take a Position
Analyze Relations Between Parts
Analyze Cause and Effect
Compare
Define
Apply to Personal Experience
Synthesize

Advance Assignments
(usually 5-9 types)

In addition to those in Intermediate:

Analyze Cost and Benefits
Apply a Model
Apply to Larger Significance
Speculate