

A Multidimensional Model of Assessment

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## **Philosophical Assumptions**

Assessment and learning is about the student, not the content. Early definitions for the term 'education' come from the Latin word 'educer' meaning to lead out or to develop potential, as it was first used in the English language. According to OxfordDictionaries.com, the definition of educate in English means to "give intellectual, moral, and social instruction to someone" (Educate, n.d.). Assessment of this kind of personal development cannot be standardized, but must conform to the needs of every individual student. This assessment plan attempts to develop an individualized multi-dimensional model of assessment that is built around students rather than content.

Content mastery is defined by the Five Levels of Learning Add Citation (Appendix A) that students may choose to pursue: Awareness/Information (a field of knowledge exists), Encounter/Knowledge (defining the field of knowledge), Interaction/Understanding (personal association with the field of knowledge), Engagement/Wisdom (ability to function within the field), and Creation/Love (the field of knowledge is improved or expanded through student learning). Although most teachers would be thrilled to see their students progress through the five levels of learning, current assessment models provide little incentive for students to go beyond an encounter with knowledge (level 2) (cite?). To encourage student progress, assessment should take place at level three and higher. The point of learning to level 2 is to gauge student interest in a subject. Students that have chosen to specialize in a field should be assessed at level 3 or above.

Assessment of interaction, engagement, and creation all deal with the student as an individual scholar rather than a standardized information receptacle. This makes

standardized assessment of information irrelevant. This assessment plan assumes that learning at higher levels can be inferred through the measurement of Academic Proficiencies and Outputs.

### **Assessment in Practice**

The Six Types of Academic Proficiency (add citation) (Appendix B) are the parts of learning in which students are expected to develop fluency. Observation, Communication, Organization, Execution, Specialization, and Innovation are the six categories of academic proficiency used for this assessment plan. The assumption is that students who become fluent in the six academic proficiencies will be able to use them to master the art of learning in whatever field they choose. Assessment is based on measuring proficiencies and using the results to inform learning contracts.

Outputs are the other learning factor that is assessed by this multidimensional model of learning assessment. Each student is required to participate in at least one Output Opportunity as part of his or her Program Transition Assessment Plan. The Four Factors of Learning (Appendix C) include Inputs, Learning Tools, People, and Output Opportunities. Traditional assessments usually take place on student recall of inputs. This assessment model is designed to guide students to develop their Learning Proficiencies with the Learning Tools by assessing their Output Opportunities through a variety of methods used by a wide range of People.

Conversations about student learning takes place on a regular basis between the student, peers, mentors, field experts, and other educational stakeholders. Similar to performance reports by a company, these assessments take place on a personal basis and are focused on around creating a narrative that traces multiple aspects of student

development. Those who are involved in the learning process use assessment to identify opportunities for improvement of Learning Tools and Output Opportunities. These people can be categorized in three different Communities of Learning (Appendix D): Individual as Community, Scholastic Community, and Global (Local) Community.

Individual as Community recognizes the diverse factors of humanity and attempts to develop excellence and balance among the various possible expressions of individuality. The Scholastic Community includes all those that take interest in the development of the student and his or her ideas. The Global (Local) Community includes all those whose lives the student may impact through the process of life-long learning that begins with this program.

People who assess the student will do so relative to Four Realms of Learning (Appendix E). Learning outcomes vary for each Realm of Learning, however these are still assessed through Learning Tools and Outcome Opportunities. The difference deals with what the assessors are looking for. Each realm is different: Practical (I can do this), Technical (I can explain the process), Contextual (I understand its significance), and Constructive (I am changing how it's done). The simplest form of assessment to measure all of these levels at once is student teaching.

Program Transition Assessments (Appendix F) combine all factors of assessment to provide students with guide-posts on the learning process relative to the content field they desire to master. To see how the multi-dimensional model works together in an integrated way, please view the attached Excel spreadsheet linked in Appendix G.

This is a really awesome (and a bit confusing) process. Is there a visual model that could help the reader get an idea of what you are talking about?

## **Purpose/Outcomes of Assessment**

The purpose of assessment is to empower the learner to discover what he or she knows and to provide a starting point for future education. It has less to do with measuring the qualitative aspects of learning and more with measuring what framework is available for future learning. When performed in conjunction with an expert in the field, assessment can reveal aspects of study that will capitalize on student interests, strengths, and learning objectives.

Assessment and learning objectives should both inform each other. Assessments are built around learning objectives, however, learning objectives should be revised based on insights from assessments. This completes the assessment cycle. Since learning objectives are designed around student learning rather than information transfer, they can only be quantifiably or comparatively measured relative to self-critical student objectives.

Objectives should not be limited to measuring the reception and duplication of information. Assessment should examine student methods of learning, student attitudes toward learning, student performance relative to ability, and the application of content to the student fields of interest.

Assessment should be completed in a timely manner. Similar to a supply-chain workflow, certain concepts need to be understood before others can be introduced. Program Transition Assessments should take place at each of these strategic points to insure that student learning proceeds at a pace that stretches his or her ability to learn.

In summary, the Multi-Dimensional Model of Assessment is designed to measure student development rather than content transfer. It is based on the assumption that content mastery at higher levels of learning can be inferred through the measurement of

Learning Tools and Output Opportunities. Many different individuals take part in the assessment process that informs the development of student learning contracts.

This particular program assessment plan needs further development of assessment tools like checklists, question guides, rubrics, and suggested action steps for each individual involved in the various aspects of the assessment process. These tools will outline the scope of assessment, how to administer assessments, how to measure results, what to do with feedback, who to share the feedback with, and how to evaluate the assessment process for improvement.

**Kevin,**

**This is outstanding! I gave you some suggestions on how to make this a little more digestible for the layperson – I hope this helps.**

**Jeff**

## References

Educate. (n.d.). Retrieved December 2, 2014, from

<http://www.oxforddictionaries.com/definition/english/educate>

Educe. (n.d.). Retrieved December 2, 2014, from

<http://www.oxforddictionaries.com/definition/english/educate>



## Appendix A - Five Levels of Learning

### **Awareness/Information** – *A field of knowledge exists.*

The process of learning begins when an information gap is revealed. Information makes the student suddenly aware of his or her lack of knowledge. The job of a teacher is to create accessible information gaps. Students at the information level of learning simply know what they don't know.

### **Encounter/Knowledge** – *Defining the field of knowledge*

If a student decides to close the information gap, he or she must consciously choose to pursue knowledge. It requires a personal choice to move beyond awareness of one's ignorance and begin collecting information to solve it. As the student's collection of information grows, it becomes knowledge of the field. There is always more to be known, but now the student is developing a framework for discovery.

### **Interaction/Understanding** – *Personal association with the field of knowledge*

In this Level of Learning, the student goes beyond merely knowing about the field to interacting with the field. This would be a systematic exploration of information and hopefully involve some hands-on learning. This level of learning relates closely to the contextual and technical realms of learning. There is give and take in the learning process as previous facts become building blocks for more advanced levels of learning. Critical thinking is a great tool for this level of learning.

### **Engagement/Wisdom** – *Ability to function within the field*

Students know what to do within the field. This level of learning is only necessary for students who choose to specialize within a particular field. In a scientific experiment, this would be the point beyond planning where the experiment actually takes place. The

necessary components of action are available and students can attempt to perform in the field with existing resources and tools of interaction. Students use their proficiency within the field to help them in other aspects of learning. Teaching is a great avenue for learning at this point.

**Creation/Love** – *The field is improved or expanded through student learning*

Synergy between the individual student and the field of interest leads to discovery and creation that expands the field and maximizes the value of the individual. This level of learning is only accessible to individuals that have specialized in a particular or related field. Very often this level of learning is seen at the doctorate or masters level of college. If the student has not reached a point of loving the field or loving the way the field can impact others, it is unlikely that he or she will have the inspiration to create something new.

Although most teachers would be thrilled to see their students progress through the five levels of learning, there is little incentive for students to go beyond an encounter with knowledge (level 2). Current models of assessment focus on the first two categories. To encourage student progress, assessment should take place at level three and higher. The point of learning to level 2 is to gauge student interest in a subject. Students that have chosen to specialize in a field should be assessed at level 3 or above.

Assessment of interaction, engagement and creation deal with the student as an individual scholar rather than a standardized information receptacle, so assessment must focus on inferred learning by the measurement of something else. This can be done through the measurement of Academic Proficiencies and Outputs.

## Appendix B - Six Types of Academic Proficiency

Academic proficiency factors are the parts of learning in which students are expected to develop fluency. The assumption is that students who become fluent in the Six Academic Proficiencies will be able to use them to master the art of learning in whatever field they choose. Assessment is based on measuring proficiencies and using the results to inform learning contracts.

### **Observation**

This deals with the input factor of learning, but its application spills over into every part of the learning process. This proficiency focuses on maximizing student reception of data through physical, mental, emotional, spiritual, and relational inputs. Personality tests, reading and comprehension training, and psychological development may all fall under this category.

### **Communication**

The process of communication begins by processing inputs. Putting names to faces, definitions to words, and rules to grammar allows students to share their experience of inputs with one another. Without the communication process, learning takes place in a silo and severely limited. Common language is essential for success in communication, however students go beyond written and spoken language skills to practice non-verbal communication, and other types of unspoken language skill sets. As learning progresses through the five levels, their practice of communication shifts from defining inputs to sharing inputs to creating outputs. Some level of communication fluency is required for students to develop the organization proficiency.

### **Organization**

Where communication begins by processing inputs into sharable pieces of data, organization continues by arranging the data into logical sequences. Students learn to seek and discover relationships and patterns among diverse bits of information. Skills in logic, reasoning, critical thinking become important. Organization provides the metadata to observation.

### **Execution**

Once students are able to receive inputs, share their experience of these inputs, and arrange the inputs into logical sequences, they are prepared to begin searching for uses for the information. This is a transition stage from learning what is to asking how it can effect the physical and non-physical worlds of objects and relationship. Execution may be as simple as remembering information. However, it will more likely be demonstrated through skills in rhetoric and dialectic as students begin to learn through constructivism.

### **Specialization**

As students discover their propensities toward certain types of execution, they can begin to personalize their interaction with information. They know how to find, absorb, share, organize, and use information effectively. Now they take control of this process to achieve some particular goal that they desire. Learning is a way that students are empowered to express their individuality. It is integrated with their lifestyle. However, students are still dependent on received skills sets.

### **Innovation**

Innovation can begin as early in the process of learning as observation, however, it should come fully to life and be the primary function of students near the beginning of the fourth realm of learning. Innovation involves independent and novel engagement with

all academic proficiencies and combinations thereof. Students become scholars that create their own tools of learning.

Assessment reveals which areas of proficiency need more focus. Proficiencies are measured relative to student goals as determined by Life and Learning Coaches, Discussion Groups, Subject Groups, and learner Self-Assessment.

## Appendix C - Four Factors of Learning

Academic Proficiencies and Outputs are two of the four factors of learning. They are the point at which inputs are converted and applied. Typically assessment measures the effectiveness of inputs. However as seen in the last paragraph, assessment must go beyond this to provide incentive for advanced levels of learning.

### **Inputs**

Nearly every aspect of life can be an input for learning. Individuals are surrounded by inputs. Books, lectures, personal experience, conversations, observations, media, online resources, thinking, imagination, and more can become effective tools of learning as students develop academic proficiency. An excellent student is able to learn from every aspect of life. Education exists to equip students to do so.

### **Learning Tools**

Inputs are not valuable to people that don't have the right tools. For the sake of this assessment plan, these tools fall under six categories of Academic Proficiencies: Observation, Communication, Organization, Execution, Specialization, Creation.

### **People**

Assessment of Learning Tools and Output Opportunities takes place in the context of relationships. Outside of this context, assessment cannot provide meaningful opportunities for change or improvement. Many of the Academic Proficiencies also depend heavily on a student's ability to apply their principles in the context of relationships. For the sake of definition, these contexts of relationships have been categorized into three communities of learning: Individual as Community, Scholastic Community, and the Global (local) community.

## **Output Opportunities**

Most students will take advantage of different kinds of output opportunities that reflect their personalities, interests, and fields of specialization. Output opportunities can be as simple as a discussion with another person or as complicated as developing an organization. Output opportunities used to design this assessment model include:

- Discussions with discussion groups or student union
- Presentation on specialty field or as a project
- Teaching: every student functions as a teacher within field of specialty
- Mendota Portfolio: Collects student research and tracks digital community participation.
- Project: applying the field to solve a particular problem.
  - All students participate in a project upon entering the second learning realm
  - Project examples: public education, new business, non-profit startup, consulting, or employment.

Conversations about student learning takes place on a regular basis. Similar to performance reports by a company. Those who are involved in the learning process use assessment to identify opportunities for improvement of learning tools and outputs. These people can be categorized in three different communities of learning.

## Appendix D - Three Communities of Learning

### **Individual as Community**

- Example Competencies: Reading, Comprehension, Memory, Logic, Analysis
- Individual Students (Self-assessment) – assess attitudes, perceptions, experiences, difficulties, passions, progress etc...
- Life and Learning Coaches – assess learning methods and context to maximize student experience. Coaches are classified under individual community since they are a resource for maximizing individual community.
- Academic Coach: assesses learning contract changes to insure compliance with accreditation and desired graduation date.
- Output and Proficiency Specialist: assess student performance in particular output or proficiency category.

### **Scholastic Community**

- Example Competencies: Rhetoric, Dialectic, Mendota Score
- Subject Group – Assess value of interaction around content.
- Discussion Groups – assess communication skills, leadership, and other skills outlined by the “Discussion Group Rubric for Peer Review”
- Project Group – three way assessment of practical application of information and skills by and for leaders, juniors, and peers
- Learning Group – Assess learning methods and life performance
  - Begins with Year 1 Peers and does not change through academic career
- Students – because every student learns through facilitating learning for others, there is excellent opportunity to receive feedback from these learners on academic



- proficiencies and certain kinds of output. Defined more fully in evaluation plan.
- Mendota Score: automatically assesses public/academic perception of scholar's contribution to the field of learning as a whole, may be drilled down to measure engagement, contribution, original content, learning proficiencies, etc... in student's field.

### **Global (local) Community**

- Example Competencies: Project, Publication, Teaching, Online
- Peers in the field (Constructive Realm Only) – assess content/field contributions from creative process
- Field Experts – assess content mastery looking for learning opportunities
- Project Stakeholders (beneficiaries, connections, sponsors): assess the effects of learning/project
- Online Connections: informal assessment of community interaction, collaboration, and content leadership.
- Presenter/Learner events:
  - Learner assesses value of content, teaching methods, and communication
  - Presenter assesses information transfer and perceived engagement on a group basis.

Assessment takes place by members of each category. Students must interact on all community levels to master a subject.

## Appendix E - Four Realms of Learning

- Practical - I can do this
- Technical - I can explain the process
- Contextual - I understand its significance
- Constructive - I am changing how it's done.

Must proceed in order or else learning is destructive or useless. Similar types of assessment takes place at all levels depending on the students degree of field mastery.

Learning skills include all six of the academic proficiencies exercised in the three relational communities. Students are required to participate in training on each proficiency throughout learning realms 1 and 2. These required courses may be governed by separate learning contracts, but most likely they will be standardized as core curriculum. Assessment, however, still takes place along the same multi-dimensional model and effects the students' learning contracts for their field of interest.

## Appendix F - Program Transition Assessments

### **Program Completion**

This level measures student readiness to participate in ongoing learning, contribution, and/or performance in his or her selected field of interest. Graduation is determined by successful entry into the field of interest. Students will not graduate until that point and once graduation occurs, learning is ongoing through sharing knowledge, building knowledge, mentoring new students and expanding breadth of knowledge through experience.

### **Module Completion**

This level measures student readiness to participate in the next stage of learning. This includes 360 degree student assessment including, mental, emotional, physical, spiritual, and relational aspects of learning. Designed to measure student relationship to learning, subject material, field of interest, and future ambitions. Failure to complete a module indicates that student may be pursuing the wrong field or need to take remedial steps to fix learning issues.

Each student will complete a module built around the “Project” output. Final project is assessed by peer approval to continue application of material, by field experts who give money or advice to the individual and by mentors of the individual. May also include online rating trends for research, discussion contributions and team leadership.

### **Learning Contract Completion**

This level measures whether the student has completed the requirements of his or her learning contract. Assessments at this level help field experts and academic advisors determine student needs and abilities for ongoing learning.

Overall completion of one large project (Module) to assess learning and application of class objectives. The specific form of application is selected by the student. Then smaller pieces are broken out into learning contracts that are necessary for the larger project. These are completed and assessed along the way.

### **Learning Sub-contract Completion**

This level determines student ability to function in the skill or knowledge set defined by the learning sub-contract. Required for revising learning sub-contracts and continuing to subsequent sub-contracts. Sub-contract completion provides the ongoing checkpoint for student progress.

Teachers should try to create contracts that require application of knowledge, critical thinking and relational skills in order to complete. Then measure various levels of these aspects in the completed work to determine emphasis of the next contract.

### **Learning Objective Completion**

This level determines measures completion of activities that require interaction with certain skill or knowledge sets. Emphasis of assessment is on research, writing, speaking, thinking, communication, interpersonal, and creative skills. HOW does the student learn? What is the quality of this learning?

Learning Objectives are all mastery exercises. If a student puts forth the effort to master each one, then the final grade reflects mastery. If they don't, the final grade for the overall project will suggest room for improvement. However students will know exactly where this is and how to fix it in the next contract.

### **Ongoing Assessments**

Ongoing assessment includes measurement of student experience of learning, attitudes,

self-awareness, relational skills, interests, personality, career aptitude, areas of difficulty, areas of success, life effectiveness, etc...take place with students L+L Coaches, Field Experts, and Subject Groups, and Learning Groups. Program, instructor, learning experience, subject matter evaluation take place regularly but are described more fully in the evaluation plan. Assessment of required core curriculum (Learning Proficiency training) takes place on a predefined basis or at teacher discretion, but follows the same multi-dimensional model.

Ongoing Assessment is 3 dimensional. Learning Proficiencies are assessed, Outputs are assessed, and Life Skills are assessed. Recall and repetition are not assessed (as per usual assessment programs) but are suggested as a learning method to increase the efficiency of application. Students are expected to learn through experience.

All areas of learning are peer and mentor reviewed through weekly discussions and interactions around information and individuals. Many of the interactions between the scholastic community take place through Mendota and can be ranked on a randomized basis by various participants.

Outputs are assessed through completion of projects. Life Skills and Learning Proficiencies are both assessed through the quality of the project and through weekly check-ins with the Life and Learning Coach, and student Learning Group.

## Appendix G – Integrated Chart of Multi-Dimensional Model of Assessment

Please click on the link to open the Dropbox version of the file.

[https://www.dropbox.com/s/qtpjthz0jlu0vhz/Comprehensive Program Assessment  
Chart.xlsx?dl=0](https://www.dropbox.com/s/qtpjthz0jlu0vhz/Comprehensive%20Program%20Assessment%20Chart.xlsx?dl=0)