LEARNING, TEACHING, TRAINING MOBILITY

UNIVERSITA' DI TORINO
Via Giuseppe Verdi, 8
TORINO

04 – 08 July 2016

E-learning – flipped classroom material

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Welcome from the instructor

Dear colleagues, my name is Patrizia Busato, I am professor at University of Turin, I welcome you to this on-line materials on how to build a flipped classroom held in collaboration with Professor Remigio Berruto.

In this course you will view a series of online videos, that address three topics on building a course: first, how to state goals and objectives; second, how to align the assessment to the objectives, and third, what materials need to be created to allow the learner to successfully achieve the objectives and be successful in the assessment.

Following this, the group will meet to engage in discussion and exercises.

For an on-line course to be successful, independence, discipline, curiosity and a desire to learn are required on your part. I suggest that you review the videos as many times as necessary to learn the material. You can see them on PC, tablet and smartphone, wherever you are, at any time. It is very important that your cover the online materials before meeting in the classroom for discussion and collaboration activities. The method relies on the student coming prepared to class to engage in high level learning activities.

Since this is an experimental section, there may be things that are unclear.
If you have any questions please send an e-mail to me or Professor Berruto.
Thank you once more for participating in this flipped classroom workshop.
I hope you have a very positive experience!
See you soon.

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Module 1.1:
Goals and Objectives

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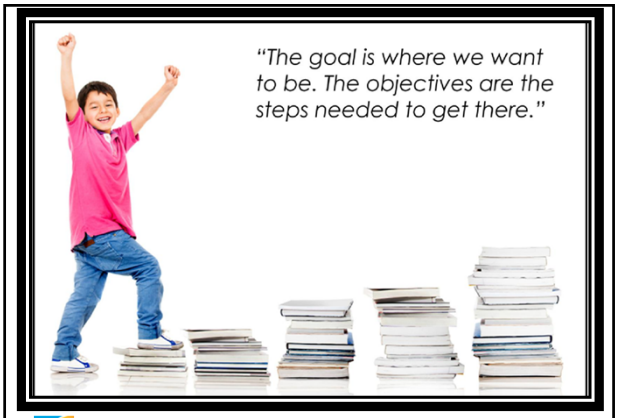
Goals and Objectives

Patrizia Busato

Goals and Objectives

- State the overall goals of your course
- List the steps (objectives) learners will need to take to reach the goals



Goal: Introduction to Astronomy

Introduction to Astronomy is to understand how the universe and all its contents began, have developed, and will end, and to appreciate our place in the cosmos.

What is the learning objective?

- Who
- Condition
- Performance
- Criteria

Example Objective: Introduction to Astronomy

When given 10 star charts the student will identify 8 cycles of the sky correctly.

Performance

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Module 1.2: Writing Learning Objectives

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Writing Learning Objectives

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Step 1 : Brainstorm

- Identify and list what the learner must be able to do to reach the course goal

Example: Intro to Astronomy

Kepler mathematical rules for orbits
Astronomy in Mayan civilization
Cycles of the sky
Types of galaxies
Big Bang Theory
Composition of stars
Measuring of interstellar distance
Astronomy in Greek civilization
Church impact on Astronomy
Solar System Geology
Heliocentricity vs. Geocentricity
Evolution of stars
Explanations for dark matter
Types of stars
Methods of data collection
Evolution of galaxies

Step 2 : Categorize

Must Know	Should Know	Nice to Know
•Cycles of the sky •Big Bang Theory •Solar System Geology •Composition of stars •Evolution of stars •Types of stars •Evolution of galaxies •Types of galaxies •Measuring of interstellar distance •Heliocentricity vs. Geocentricity •Church impact on Astronomy	•Astronomy in Mayan civilization •Astronomy in Greek civilization •Kepler mathematical rules for orbits	•Explanations for dark matter •Methods of data collection

Step 3: Order

- Module 1: History of Astronomy
  - The student will ____ Astronomy in Mayan civilization
  - The student will ____ Astronomy in Greek civilization
  - The student will ____ Church impact on Astronomy
  - The student will ____ Heliocentricity vs.Geocentricity
- Module 2: The Universe
  - The student will ____ Big Bang Theory
  - The student will ____ Measuring of interstellar distance
  - The student will ____ Solar System Geology
- Module 3: The Stars
  - The student will ____ Cycles of the sky
  - The student will ____ Evolution of stars
  - The student will ____ Types of stars
  - The student will ____ Composition of stars
- Module 4: The Galaxies
  - The student will ____ Evolution of galaxies
  - The student will ____ Types of galaxies
- Module 5: The Planets
  - The student will ____ Kepler mathematical rules for orbits

Step 4:
Assign a measurable performance

- Stars:
  - The learner will **read about** the types of stars
  - The learner will **watch a video** on the composition of a star
  - The learner will **understand** the cycles of the sky
  - The learner will **know** the current theories on the evolution of stars

Step 4:
Assign a measurable performance

- Stars:
  - The learner will **analyze** the types of stars
  - The learner will **watch a video** on the composition of a star
  - The learner will **understand** the cycles of the sky
  - The learner will **know** the current theories on the evolution of stars

Step 4:
Assign a measurable performance

- Stars:
  - The learner will **analyze** the types of stars
  - The learner will **describe** on the composition of a star
  - The learner will **understand** the cycles of the sky
  - The learner will **know** the current theories on the evolution of stars

Step 4:
Assign a measurable performance

- Stars:
  - The learner will **analyze** the types of stars
  - The learner will **describe** on the composition of a star
  - The learner will **identify** the cycles of the sky
  - The learner will **know** the current theories on the evolution of stars

Step 4:
Assign a measurable performance

- Stars:
  - The learner will **analyze** the types of stars
  - The learner will **describe** on the composition of a star
  - The learner will **identify** the cycles of the sky
  - The learner will **debate** the current theories on the evolution of stars

Step 4: Condition and Criteria

- Specify conditions
- Assign a measurable criteria

Example

- **When given a star chart**, the learner will identify the cycles of the sky
- **When given 10 photographs**, the learners will identify 8 types of stars with **80% accuracy**

Summary

- learner centered
- One task
- Observable performance
- Condition

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Module 1.3: Reaching the Objectives

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Reaching the Objective

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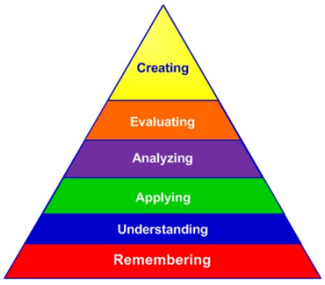
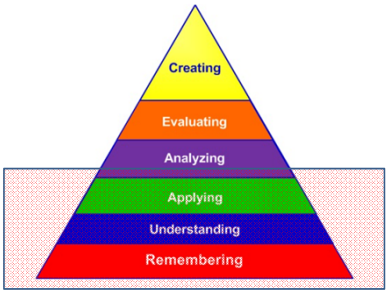
Objectives

- Identify level of Bloom's taxonomy that best fit your course.
- Identify learner learning process necessary to achieve objectives.

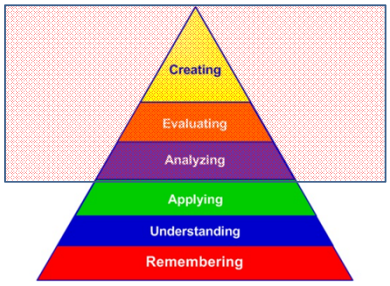
Bloom's taxonomy



Higher vs Lower



Higher vs Lower



Bloom's Taxonomy

- Is anything missing?
- Assessment method

Remembering

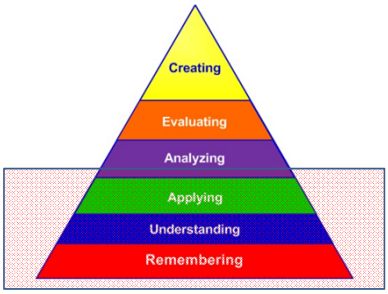
- Lower order "remembering"
  - Write a definition
  - State identify
  - Label
  - List
  - Name
  - Recite
- The learner will **identify** the type of stars

Understanding

- "Graps meaning"
  Draw conclusion
  - Summarize
  - Dramatize
  - Outline
  - Make a speech
  - Discuss
- The learner will **summarize** the events tha lead to the death of stars

Applying

- To use previosly learned materials in new situations
  - Apply
  - Change
  - Demonstrate
  - Develop
  - Calculate
  - Predict
  - Solve
  - Interpret
- The learner will **calculat**e the mean sequence lifetime of a G-type star



Analyzing

- Higher order
  - "Break down material into componet parts"
  - Debate
  - Model
  - Report
  - Compare
  - Analyze
  - Argue
  - Discuss
- The learner will **debate** the current theories on the evolution and death of stars

Evaluation (Creating)

- "Judge value"
  - Evaluate
  - Apply a standard
  - Recommend
  - Critique
  - Defend
  - Justify
  - Review
  - Validate
- The learner will **evaluate** a model sun and its solar system for astronomical anomalies

Creating

- "Put parts together to form a new whole"
- Apply rules or principles in new ways
  - Formulate a hypothesis
  - Design an experiment
  - Invent
  - Propose
  - Summarize
- When given the physical stucture of a star, the learner will **propose** a plausible life cycle for an 8 planet solar system

Worksheet

- Identify an overall course goal
- Brainstorm the topics that support the goal
- Categorize topics into must know , should know and nice to know
- Order topics in chronological or scaffold order
- Choose a measurable performance keyword
- Specify conditions and criteria
- Do this for one module, chapter or unit

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Module 2.1: Matching Objectives with Assessments

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Matching Objectives with Assessments

Patrizia Busato

Assessment Principles

- Assessment should help learners to learn.
- Assessment must be consistent with the objectives of the course and what is taught and learned.

Assessment types

- Exams
- Quizzes
- Case studies
- Discussion
- Presentation
- Group critique
- Papers
  - Research
  - Reflection
  - Essay
- Project (individual and group)

Bloom's taxonomy

- The performance verb suggests the assessment
- Identify = Quiz
- Describe = Essay
- Evaluate = Peer review
- Create = Project

	Remember	Understand	Apply	Describe	Evaluate	Create
Tests & Quizzes	X	X	X			
Essays & Papers	X	X	X	X	X	X
Student Presentations	X	X	X	X	X	X
Labs		X	X	X	X	X
Case Studies		X	X	X	X	X
Debate		X	X	X	X	X
Performance			X	X	X	X
Self & Peer Assessment				X	X	X

Lower levels of learning

- Upon completion of the module, the learner will be able to correctly identify the galaxy types when presented with a list of galaxies

- Multiple choice question
- Short answer question
- Galaxy photos labeled according to type
- Discussion post: Skymap.org to find and post a link to a sky view that illustrates a paticular type of galaxy

Higher levels of learning

- After clompeting the assignment, the learner will be able to compare and contrast the features of two galaxy types
- Analysis paper
- Paragraph answer quiz question
- learner create ppt. presentation

Variety

- Provides a better view of learner learning
- Reduces potential risk of cheating
- Multiple assessments can help to keep learners moving through the course material

Use Rubrics!

Dimensions

Scale

Criteria

Work Effectively in Team

	Unsatisfactory 1	Developing 2	Satisfactory 3	Exemplary 4
Research & Gather Information	Does not collect any information that relates to the topic.	Collects very little information--some relates to the topic.	Collects some basic information--most relates to the topic.	Collects a great deal of information--all relates to the topic.
Fulfill Team Role's Duties	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties of assigned team role.
Share in work of team	Always relies on others to do the work.	Rarely does the assigned work--often needs reminding.	Usually does the assigned work--rarely needs reminding.	Always does the assigned work without having to be reminded.
Listen to Other Teammates	Is always talking--never allows anyone else to speak.	Usually doing most of the talking--rarely allows others to speak.	Listens, but sometimes talks too much.	

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Module 2.2: Managing Assessments

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Managing Assessments

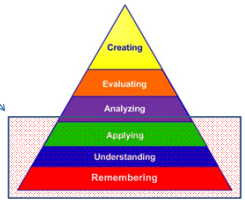
Patrizia Busato

Objectives

- Match your course objectives with appropriate assessments (first presentation)
- Determine the most suitable assessment methods for specific challenges
  - Common methods of online assessment
  - Manageable with existing resources
  - Support academic integrity (third presentation)

Best practices: Quizzes

- Assess lower level learning
- Automatic grading
- Good for large courses
- Encourage learners to do readings and watch lectures



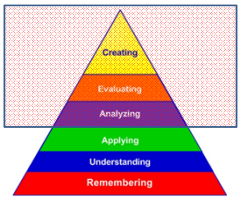
Best Practices: Discussion

- Assess higher level learning
- Use groups
- Provide grading guidelines or rubric
- Consider peer review

	Not acceptable	Meets Expectations
Format and Grammar	(6 points) Post is difficult to follow and grammar is poor	(8 points) Post is easy to understand, grammar is correct
Critical Analysis	(6 points) Statement does not present a new "take" on the topic	(8 points) Statement represents a new interpretation of the topic
Supporting Research	(6 points) The research link provided does not support your argument	(8 points) The research link provided supports your argument
Thoughtful Response	(12 points) Your response to another post does not add anything to the conversation	(16 points) Your response to another post adds to the conversation

Best Practices: Projects

- Assess higher level learning
- Clear instructions
- Use a rubric
- Consider groups
- Use interim deadlines
- Introduce new technology prior to the start of project
- Consider peer review



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Module 3.1: Course Materials

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Course Materials

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Active Learning

Pros	Cons
• Promotes critical thinking and collaboration • Learners take responsability for learning • Higher retention of material	• Requires re-thinking course material • May require "testing" multiple ideas • Can require more work from learners

How to present material?

- Think **DO**, not tell
- Use multiple formats
- Put pedagogy before technology!
- Set learners up for success

Less Effective

When creating your timeline be sure to allow time to let ideas ferment. This will help to keep you from "second guessing" yourself at the last minute as you will know that you have given a particular assignment or activity sufficient thought. Spend sufficient time on deciding what you want students to be able to do so that you are certain you have covered everything. These objectives are your foundation. Most faculty find that once the objectives are created, the supporting materials and assessment come fairly quickly. One area that may present a challenge is how to make an assignment "work" online. Do not be afraid to ask for assistance or advice with this! If your college does not have instructional design assistance, UFIT Instructional Design Services at CITT or Distance and Continuing Education are available for consultation and help with choosing appropriate technologies. These services can save you a significant amount of time--take advantage of them!

More Effective

- Objectives are your foundation
- Allow sufficient time
  - Let ideas ferment
  - Helps to avoid "second guessing"
- Challenge
  - Making an assignment "work" online
- Ask for assistance
  - UFIT Instructional Design Services at CITT
  - Distance and continuing education
  - Your college/department instructional designer

Recorded Lecture

- Information Delivery
- Passive
- Lower order objectives
  - Identify
  - State
  - Label
  - List
  - Name
  - Recall
  - Recognize

External Recordings

- Variety
- Texbook materials
- Youtube
- Requires search
- Possible learner contributions

Other materials

- Power point
- Papers
- Book chapters
- Solved exercises
- Web resouces
- Gaming-simulation
- Useful questions
- …

Good Practice

The instructional materials and learning activities should:

- Support achievement of the learning objectives and
- Be appropriate to the knowledge, skills, and/or attitudes being learned

Good Practice

- The instructional materials are current
- All resources and materials in the course are appropriately cited
- There is a clear distinction between required and optional materials

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Flipped Classroom Workshop

A Workbook for Active Learning Pedagogy and Andragogy

Patrizia Busato
Remigio Berruto

July 2016

Table of Contents

STEP 1: Articulate the high level goals of the course. (Not to be confused with Learning Objectives)

Course Goal(s)	Goal #
Example: The goal of Introduction to Astronomy is to understand how the universe and all its contents began, have developed, and will end--and to appreciate our place in the cosmos.	1

STEP 2: Brainstorm - Identify and list what the student must be able to do to reach the course goal (the course goals are a general statement of that the student will achieve, these are the details):

STEP 3: Categorize

Must Know	Should Know	Nice to Know

STEP 4: Order and organize into modules and describe what the student will do as a learning objective. For each item listed under the modules write a Learning Objective. A Learning Objective should have an observable performance (Table 1), condition and criteria. Example: Provided with plant samples, the student will identify the four types of grasses used in Florida urban landscapes.

Module 1:_____ _____

The student will _____ BT level: __

The student will _____ BT level: __

The student will _____ BT level: __

Module 2:_____ _____

The student will _____ BT level: __

The student will _____ BT level: __

The student will _____ BT level: __

Module 3:_____ _____

The student will _____ BT level: __

The student will _____ BT level: __

The student will _____ BT level: __

Develop as many modules and LOs as needed.

Alignment of objectives, assessment and materials

Using the tables below follow steps 5 to 8 to align assessments, instructional materials and tools.

STEP 5: For each learning objective design how you will evaluate the level of performance of the student (Table 2).

STEP 6: List materials that can be used by the student to learn.

Step 7: List needed educational technology tools.

Step 8 Add Flipped classroom activities (Table 3)

Module (*1*): *Example of using the form to align objectives, assessment and materials*

Goal	Objective (students will be able to. . .)	Level	Assessment	Instructional Materials	Tool
1	Identify 4 types of galaxies.	1	Quiz with photos	View video lecture, visit Global Telescope Network website	Flashcards created with Study Blue
1	(sub-objective) Describe the composition of each type of galaxy.	1	Essay regarding the composition of an assigned galaxy.	Video Lecture (create outline), textbook reading	Google Sky
1	(sub-objective) Identify the types of matter that make up a galaxy.	2	PowerPoint presentation (peer reviewed) Rubric for grading	Video Lecture (above), textbook reading	PowerPoint, lynda.com, need upload instructions, peer review instructions

Module Template for the Individual Learning Component

Goal	Objective (students will be able to. . .)	Level	Assessment	Instructional Materials	Tool

Module Template for the Active Learning Component

Goal	Objective (students will be able to. . .)	Level	Activity

Table 1: Action Words for Bloom's Taxonomy

Action Words for Bloom's Taxonomy					
Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Create**
define	explain	solve	analyze	reframe	design
identify	describe	apply	compare	criticize	compose
describe	interpret	illustrate	classify	evaluate	create
label	paraphrase	modify	contrast	order	plan
list	summarize	use	distinguish	appraise	combine
name	classify	calculate	infer	judge	formulate
state	compare	change	separate	support	invent
match	differentiate	choose	explain	compare	hypothesize
recognize	discuss	demonstrate	select	decide	substitute
select	distinguish	discover	categorize	discriminate	write
examine	extend	experiment	connect	recommend	compile
locate	predict	relate	differentiate	summarize	construct
memorize	associate	show	discriminate	assess	develop
quote	contrast	sketch	divide	choose	generalize
recall	convert	complete	order	convince	integrate
reproduce	demonstrate	construct	point out	defend	modify
tabulate	estimate	dramatize	prioritize	estimate	organize
tell	express	interpret	subdivide	find errors	prepare
copy	identify	manipulate	survey	grade	produce
discover	indicate	paint	advertise	measure	rearrange
duplicate	infer	prepare	appraise	predict	rewrite
enumerate	relate	produce	break down	rank	role-play
listen	restate	report	calculate	score	adapt
observe	select	teach	conclude	select	anticipate
omit	translate	act	correlate	test	arrange
read	ask	administer	criticize	argue	assemble
recite	cite	articulate	deduce	conclude	choose
record	discover	chart	devise	consider	collaborate
repeat	generalize	collect	diagram	critique	collect
retell	give examples	compute	dissect	debate	devise
visualize	group	determine	estimate	distinguish	express
	illustrate	develop	evaluate	editorialize	facilitate
	judge	employ	experiment	justify	imagine
	observe	establish	focus	persuade	infer
	order	examine	illustrate	rate	intervene
	report	explain	organize	weigh	justify
	represent	interview	outline		make
	research	judge	plan		manage
	review	list	question		negotiate
	rewrite	operate	test		originate
	show	practice			propose
	trace	predict			reorganize
	transform	record			report
		schedule			revise
		simulate			schematize
		transfer			simulate
		write			solve
					speculate
					structure
					support
					test
					validate

Table 2: Assessment Types and Examples

Principles:

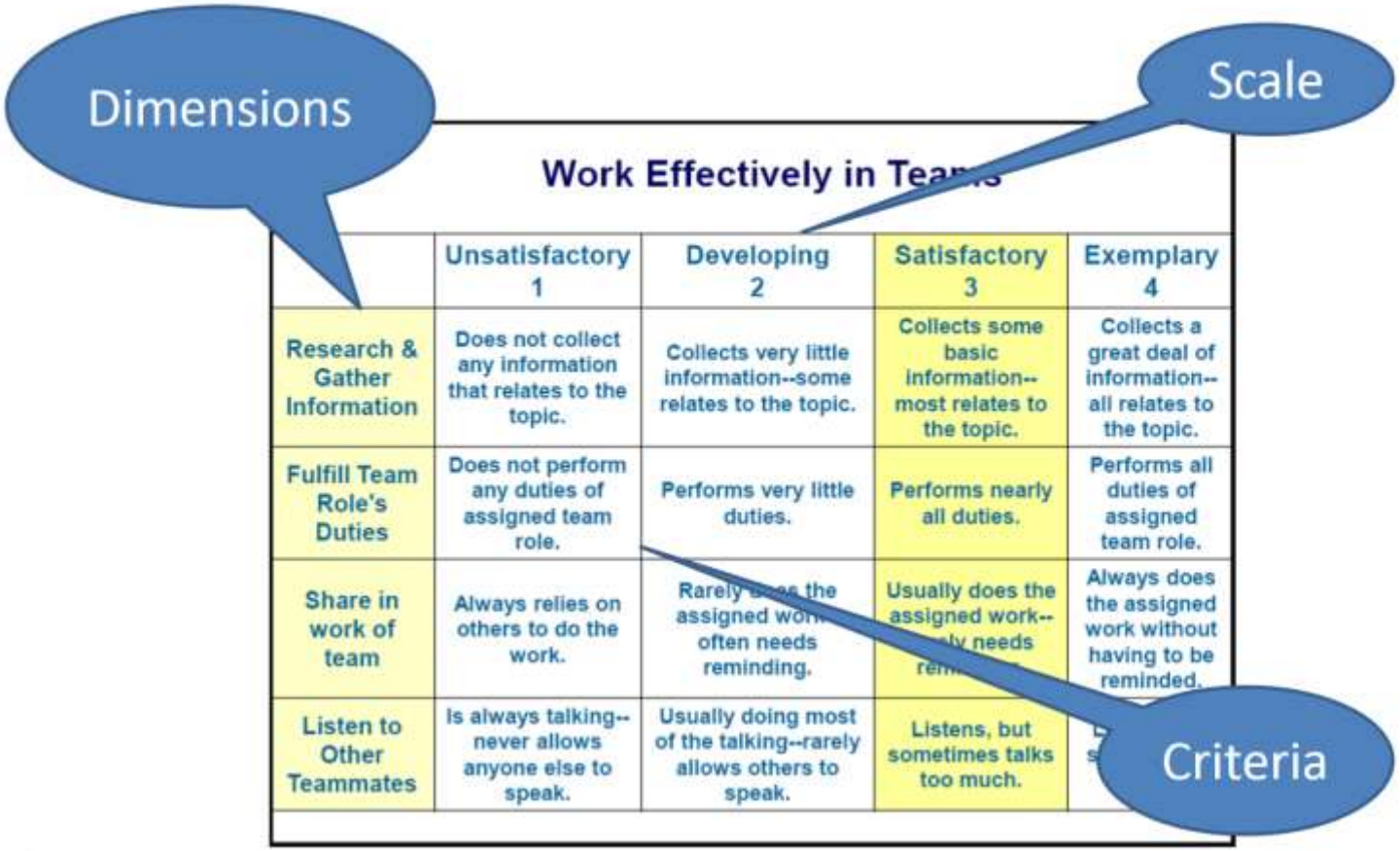
Assessment should help students to learn.

Assessment must be consistent with the objectives of the course and what is taught and learned.

1. Thinking critically and making judgements (Developing arguments, reflecting, evaluating, assessing, judging) Essay Report Journal Letter of Advice to .... (about policy, public health matters .....) Present a case for an interest group Prepare a committee briefing paper for a specific meeting Book review (or article) for a particular journal Write a newspaper article for a foreign newspaper Comment on an article's theoretical perspective	2. Solving problems and developing plans (Identifying problems, posing problems, defining problems, analysing data, reviewing, designing experiments, planning, applying information) Problem scenario Group Work Work-based problem Prepare a committee of enquiry report Draft a research bid to a realistic brief Analyse a case Conference paper (or notes for a conference paper plus annotated bibliography)	3. Performing procedures and demonstrating techniques (Computation, taking readings, using equipment, following laboratory procedures, following protocols, carrying out instructions) Demonstration Role Play Make a video (write script and produce/make a video) Produce a poster Lab report Prepare an illustrated manual on using the equipment, for a particular audience Observation of real or simulated professional practice	4. Managing and developing oneself (Working co-operatively, working independently, learning independently, being self-directed, managing time, managing tasks, organising) Journal Portfolio Learning Contract Group work
5. Accessing and managing information (Researching, investigating, interpreting, organising information, reviewing and paraphrasing information, collecting data, searching and managing information sources, observing and interpreting) Annotated bibliography Project Dissertation Applied task Applied problem	6. Demonstrating knowledge and understanding (Recalling, describing, reporting, recounting, recognising, identifying, relating & interrelating) Written examination Oral examination Essay Report Comment on the accuracy of a set of records Devise an encyclopaedia entry Produce an A - Z of ... Write an answer to a client's question Short answer questions: True/False/ Multiple Choice Questions (paper-based or computer-aided-assessment)	7. Designing, creating, performing (Imagining, visualising, designing, producing, creating, innovating, performing) Portfolio Performance Presentation Hypothetical Projects	8. Communicating (One and two-way communication; communication within a group, verbal, written and non-verbal communication. Arguing, describing, advocating, interviewing, negotiating, presenting; using specific written forms) Written presentation (essay, report, reflective paper etc.) Oral presentation Group work Discussion/debate/role play Participate in a 'Court of Enquiry' Presentation to camera Observation of real or simulated professional practice

Example of a Rubric

Rubrics are very useful to ensure a good assessment. Students will understand what is expected and evaluation will be uniform and fair.



	Unsatisfactory 1	Developing 2	Satisfactory 3	Exemplary 4
Research & Gather Information	Does not collect any information that relates to the topic.	Collects very little information--some relates to the topic.	Collects some basic information--most relates to the topic.	Collects a great deal of information--all relates to the topic.
Fulfill Team Role's Duties	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties of assigned team role.
Share in work of team	Always relies on others to do the work.	Rarely does the assigned work--often needs reminding.	Usually does the assigned work--rarely needs reminding.	Always does the assigned work without having to be reminded.
Listen to Other Teammates	Is always talking--never allows anyone else to speak.	Usually doing most of the talking--rarely allows others to speak.	Listens, but sometimes talks too much.	Listens and speaks a fair amount.

Table 3: In Class Activities

Example Activities for Different Levels of Blooms Taxonomy

Remembering	Understanding	Applying
Analogies	Comparisson	Build/Create
Examples	Diagram Cartoon Outline	Demonstrations
Illustrations	Discussion Board	Diagram
Lecture	Implication from an Idea	Drama
Multiple Choice Test	Match	Follow an Outline
Poster Presentation	Model	Forecast
Short Answer Test	Multiple Choice Test	Illustrate
Visuals/Audio	Oral Report	List
	Own Statement	Map
	Photograph	Project
	Poster Presentation	Propose Questions/Solutions
	Short Answer Test	Role Play
	Speech	Simulations
	Summary	Sketches
	Written Report	

Analyzing	Evaluating	Creating
Argument	Appraisals	Alternative Action Plans
Case Studies	Case Study	Articles
Critical Incidents	Critiques	Case Study
Discussion	Project	Construct Simulation
Graphs	Self-Evaluation	Consulting
Problem Exercises	Simulation	Creative Exercises
Propaganda	Standard Compared/Standard	Develop Plans
Questionnaire	Established	Experiment
Survey	Survey	Formulation of Standards
Syllogism Breakdown	Valuing	Games
	Writing Conclusions	Hypothesis
		Invent
		Problem
		Project
		Set of Rules

LEARNING, TEACHING, TRAINING MOBILITY

UNIVERSITA' DI TORINO
Via Giuseppe Verdi, 8
TORINO

04 – 08 July 2016

E-learning standards and markers of excellence

Questo progetto è stato finanziato con il sostegno della Commissione Europea.
Questa pubblicazione riflette il punto di vista degli autori, e la Commissione non può essere ritenuta responsabile per l'uso che potrà essere fatto delle informazioni in essa contenute.

UNIVERSITÀ DEGLI STUDI DI TORINO

DISAFA

Course Goals and Objectives

Standard		
Standard	**Annotation**	**Example**
Overall course goals are clearly stated.	The course goals give students the big picture regarding what they should get out of the course	Goals are clearly stated in the syllabus in order for students to understand what they will learn in the course.
Course goals are relevant to the course purpose/level.	Course goals need to be appropriate for the content that is to be covered and the academic level of the students who are expected to take the class.	A lower 1000 or 2000 level course will most likely require students to be familiar with a body of information. A higher level undergraduate or graduate course will most likely expect students to peform tasks related to synthesis, analysis and evaluation.
Learning objectives are measurable and can be utilized as a measure of student performance/success in the course.	Learning objectives state what students will be able to do when they complete a segment of learning. These objectives are measured by assessments.	In an introductory astronomy class, many of the objectives use keywords such as, identify, list, summarize, discuss, and demonstrate.
Learning objectives align with the learning activities and assessment activities.	Activities and assessments are designed based on the objectives in order to measure student understanding.	A sample objective in an introductory astronomy class might be: The student will identify 8 types of stars with 100% accuracy. Such an objective could be measured through a quiz or test.
Exemplary		
Exemplary	**Annotation**	**Example**
Learning objectives are posted in the weekly overview or subsections of the course. These objectives also relate to the overall course goals.	It is a good idea to provide the learning objectives in the module, chapter, or unit where they will be used.	The first week of instruction in an introductory astronomy course might list objectives that support a terminal objective for the module. Each successive week would build upon the knowledge and skills learned during the first week.
Assignments and assessments specify the learning objectives that are relevant to the task/assignment.	As part of the assignment instructions, include the learning objective that is supported by the assignment.	In an introductory astronomy class, the students evaluate a model sun and its solar system for astronomical anomalies. Supporting objectives require students to: identify stars, outline physical properties of planets, and list current theories about the evolution and death of stars.

Supporting Research

MIT Teaching and Learning Laboratory. Learning Objectives. Retrieved from: http://web.mit.edu/tll/teaching-materials/learningobjectives/index-learning-objectives.html

Jones.J. Putting Learning Goals Into Your Syllabus. *The Chronicle of Higher Education.* August 2009. Retrieved from: http://chronicle.com/blogs/profhacker/put-learning-goals-into-your-syllabus/22614

Assessment and Measurement

Standard		
Standard	**Annotation**	**Example**
Assessments measure the stated learning objectives.	The performance verb of the learning objective should suggest the method that will be used to assess the objective.	An objective that requires the student to "identify" something might be matched with a quiz that uses images for identification questions.
Assessments are consistent with the course materials, activities, and resources.	The course material must support the objective and ultimately, the assessment of that objective.	In a biology class, students were given flashcards with photos of different organisms to study. The exam to test this knowledge included images in the questions.
Expectations and requirements for student performance are clearly provided (guidelines, rubrics, checklists).	Clear expectations and requirements are provided by using guidelines, rubrics, and/or checklists.	An art class that requires a final project, provides interim deadlines with specific elements due at those times. Students peer review each other using a rubric before turning in the final project.
Assessments are given in an appropriate time period after the learning activities have taken place.	Assessments and learning activites are related to each other and are completed within a short time frame of each other.	In a math class, students learn about probability during the 3rd week of the semester. They have a quiz on what they have learned the following week.
Courses that have more than 50% of the grade from online quizzes and exams use appropriate online security measures.	Quizzes follow best practices with randomized questions and answers and exams are proctored.	A geology course assigns 30% of the course grade in quizzes and 70% of the course grade divided between a proctored midterm and final.
Feedback about student performance is provided in a timely manner throughout the course as stated in the syllabus.	Feedback is provided many times throughout the course, not just at the end, and within a reasonable time of assignment completion	An English course assigns a writing assignment each week. The first draft is returned within 2 days of the deadline. The final draft is returned within 3 days of the deadline.

Assessment and Measurement Exemplary		
Exemplary	**Annotation**	**Example**
Ongoing, multiple assessment strategies are used to measure content knowledge, attitudes and skills.	Different types of assessments are given through out the course to measure student learning.	An anthropology course gives weekly low-stakes quizzes, a weekly discussion, 4 papers and a final project.
Assignments or project-based assessments encourage students to utilize critical thinking skills.	Assignments ask students to understand content at a deeper level.	An engineering course requires students to create a proposal as a final project.
Student's achievement of stated learning outcomes is documented and provided to the student as feedback on their learning activities and assessments.	Feedback is provided to students that directly addresses their understanding of learning outcomes.	In a German language course, the instructor meets with each student several times during the semester to review assignments and progress.

Supporting Research

American Association of Higher Ed. *Principles of Good Practice to Assess Student Learning.* Retrieved

Glenn, D. Online Courses Should Always Include Proctored Finals, Economist Warns. *The Chronicle of*

Hattie, J. and Temperly, H. The Power of Feedback. *REVIEW OF EDUCATIONAL RESEARCH.* March 2007 vol.

Instructional Materials

Standard		
Standard	**Annotation**	**Example**
Course materials are presented to students in manageable segments.	Long paragraphs of wordy text is harder to retain than short segments.	Color code, use bullets, or use charts with concise chunks of content.
The instructional materials and learning activities support achievement of the learning objectives and are appropriate to the knowledge, skills, and/or attitudes being learned.	Everything that a student does within a course should relate to a specific learning objective.	In an Astronomy course, one objective is to identify the 7 types of stars. The learning activity asks them to visit a start chart website and categorize the different features. Students are not asked to find literary references to star types.
The instructional materials are current.	Textbook, journal articles, videos and any other course resources reflect the current thinking about the topic.	In an Astronomy course, articles that reference Pluto indicate that it is no longer categorized as a planet.
All resources and materials in the course are appropriately cited.	Set a good example for your students by providing proper citations for any supportin materials.	Images of star charts come from the NASA website and are cited at the end of the PowerPoint presentation.
There is a clear distinction between required and optional materials.	Students should not have to ask which materials are mandatory or optional.	Students are required to review the starcharts on a specific website. Additional websites with more information about stars are also provided and labeled "optional."
Detailed instructions for student work are provided and clearly outline expectations and requirements (guidelines, rubrics, checklists)	Giving students as much information about an assignment saves the students time and frustration. It also can reduce the number of e-mails the instructor receives.	A discussion about types of stars lists requirements for the initial post and two responses. Sample posts and a grading rubric are also provided.
Access to a wide range of resources supporting course content is clearly provided.	Learning is multifaceted. Providing your students with different view points and multiple formats increases their ability to incorporate the learning into their own knowledge base.	The module on star types contains a video overview, a link to the NASA website on star identification, and a journal article detailing the identification process of a specific star.

Instructional Materials Exemplary		
Exemplary	**Annotation**	**Example**
Students engage with course content in a variety of ways.	Keep in mind that students learn content in different ways.	To teach students about the different types of stars, students are given a short video overview, a textbook reading, and an assignment to visit the NASA website.
Instructional materials and learning activities encourage critical thinking skills when appropriate.	Use instructional materials that are dynamic and can be expanded upon. Students will get more out of content if they have to do more than simply recall what they read.	Challenge students to use higher order thinking skills with the content and activities that are used in the course. Use Bloom's Taxonomy Action Verbs as a guide.
The instructor uses formal and informal student feedback in an ongoing basis to help plan instruction and assessment of student learning throughout the semester.	Listen to what students are saying about the course. Their opinions are valuable to the success of the course.	A language course requires students to fill out 3 surveys during the course of the semester. Students meet with their instructor privately 3 times during the semester through Skype. Feedback from the surveys and meetings is used to update assignments and assessments.
Supporting Research		
http://www2.ed.gov/about/inits/ed/implementation-support-unit/tech-assist/targeting-growth.pdf		
http://teach.ufl.edu/resources/copyright/		
Toward deep learning for adult students in online courses Fengfeng Kea, Kui Xieb, 1, a MSC05-3040, Organizational Learning and Instructional Technology, College of Education, University of New Mexico, Albuquerque, NM, 87131, United States		

Course Technology

Standard		
Standard	**Annotation**	**Example**
Provisions are in place to allow for potential failures of technology, and are clearly expressed to students.	The professor has explained what students are to do if there is a technology failure.	A section in the course explains to students what they are to do if technology fails.
Navigation throughout the online components of the course is logical, consistent, and efficient.	The course layout is easy to navigate in order for students to be successful in the course.	The assignments are in an order that allows students to easily find the correct assignment(s) for the correct module.
The technology tools and media support the learning objectives of the course.	Use tools and media that support student learning.	The discussion tool provides students with a way to interact on a variety of topics within a course.
The technology used in the course is readily accessible and available to students.	Check to make sure that all components of the course are ready and available.	Course assignments and documents are made available as students need them.
The tools and media are compatible with prevailing standards and formats.	Students are able to access tools and media on a variety of devices.	Students are able to use the discussion tool in Sakai on a computer, as well as, on mobile devices.
Exemplary		
Exemplary	**Annotation**	**Example**
Faculty have opportunities to develop course content using technology.	Faculty use available tools to develop course content.	Use of Camtasia to record content for the course.
Technology use encourages higher level thinking and activity.	Use of technology in the course requires students to use higher levels of thinking.	Use of student blogs in the course may require students to create new information to share with the class.
Supporting Research		
Panagiotis Zaharias. Usability in the context of e-learning: a framework augmenting 'traditional' usability constructs with instructional design and motivation to learn. *International Journal of Technology and Human Interaction* . 5.4 (October-December 2009) p37.		
Moller, L., Huett, J. B., & Harvey, D. M. (2009). Learning and instructional technologies for the 21st century: Visions of the future. New York, NY: Springer.		