

המחלקה להוראת המדעים

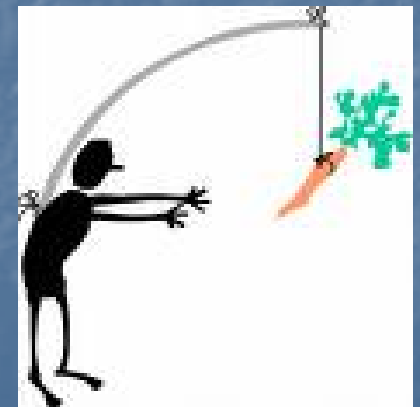
Motivation

David Fortus

Dana Vedder-Weiss

What is Motivation?

- “Motivation is the **process** whereby goal-directed **activity** is instigated and sustained”
(Motivation in Education. Schunk, Pintrich & Meece, 2008.)



What Characterizes Motivation?

Characteristics:

Push or pull (motives)

Direction

Perseverance

Intensity

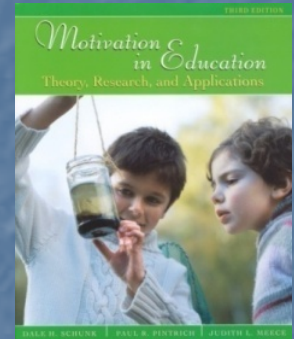
Quality

Motivation is **ACTION!**



“Motivation can influence what, when and how we learn.”

“Students motivated to learn about a topic are apt to engage in related activities...which improve learning”



Motivation in Education, Schunk, Pintrich & Meece, 2008

Motivation → Engagement → Learning

Different Terms Used in Motivational Research

- Interest - Interest refers to either (a) the psychological state of being engaged or the inclination to reengage with particular classes of objects, events, or ideas over time, which is often called individual interest or (b) situational interest which is a state of heightened awareness that is prompted by particular features of the environment.
- Attitudes - An attitude is a positive or negative stance, opinion and evaluation about just about anything, such as people, objects, events, activities, ideas, and professions. One can have a positive attitude about something (e.g., "I think neuroscience is very important") without being interested in it; however, we tend to have positive attitudes about things that interest us.

Different Terms Used in Motivational Research

- Self-efficacy is a competence belief. Self-efficacy is an expectancy about one's capabilities to learn or perform a given task. Self-concept is "beliefs, hypotheses, and assumptions that the individual has about himself. It is the person's view of himself as conceived and organized from his inner vantage [and] includes the person's ideas of the kind of person he is, the characteristics that he possesses, and his most important and striking traits". Self-efficacy is specific to a task; self-concept is not.

Motivational Theories

Motivational theories try to explain the process and influences that lead a person to behave in a particular way.

Motivational Theories

- Expectancy-Value Theory (Eccles, 1983)
- Attribution Theory (Weiner, 1986)
- Self-Determination Theory (Deci, 1980)
- Achievement Goal Theory (Ames, 1992)
- Social Cognitive Theory (Bandura, 1986)

Value-Expectancy Theory

Exercise:

1. What is the value of this course/class to you?
2. To what degree do you think you'll succeed in this course?

Expectancy-Value Theory

Level of Motivation = Value x Success Expectancy

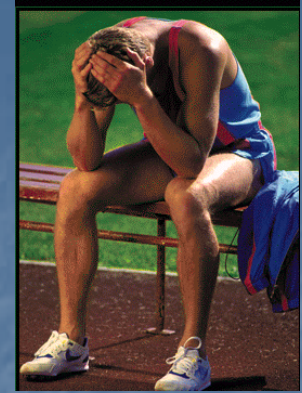
Is the task
important to me?

Am I able to succeed
at the task?





Success Expectancy



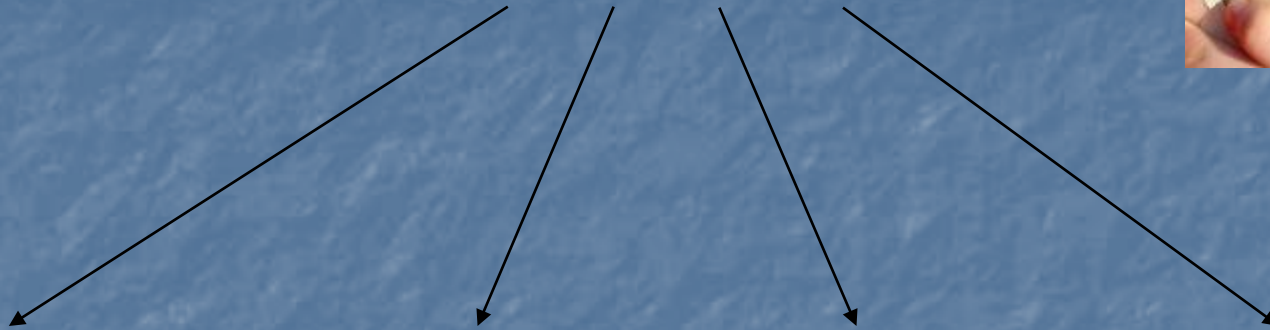
Self-Efficacy

Understanding the task

Influenced by:

- Prior experiences of success/failure
- Observing others
- Verbal persuasion
- Psychological/emotional state

Value



Cost

(other options,
negative
feelings, effort)

Intrinsic

(pleasure,
interest)

Utility

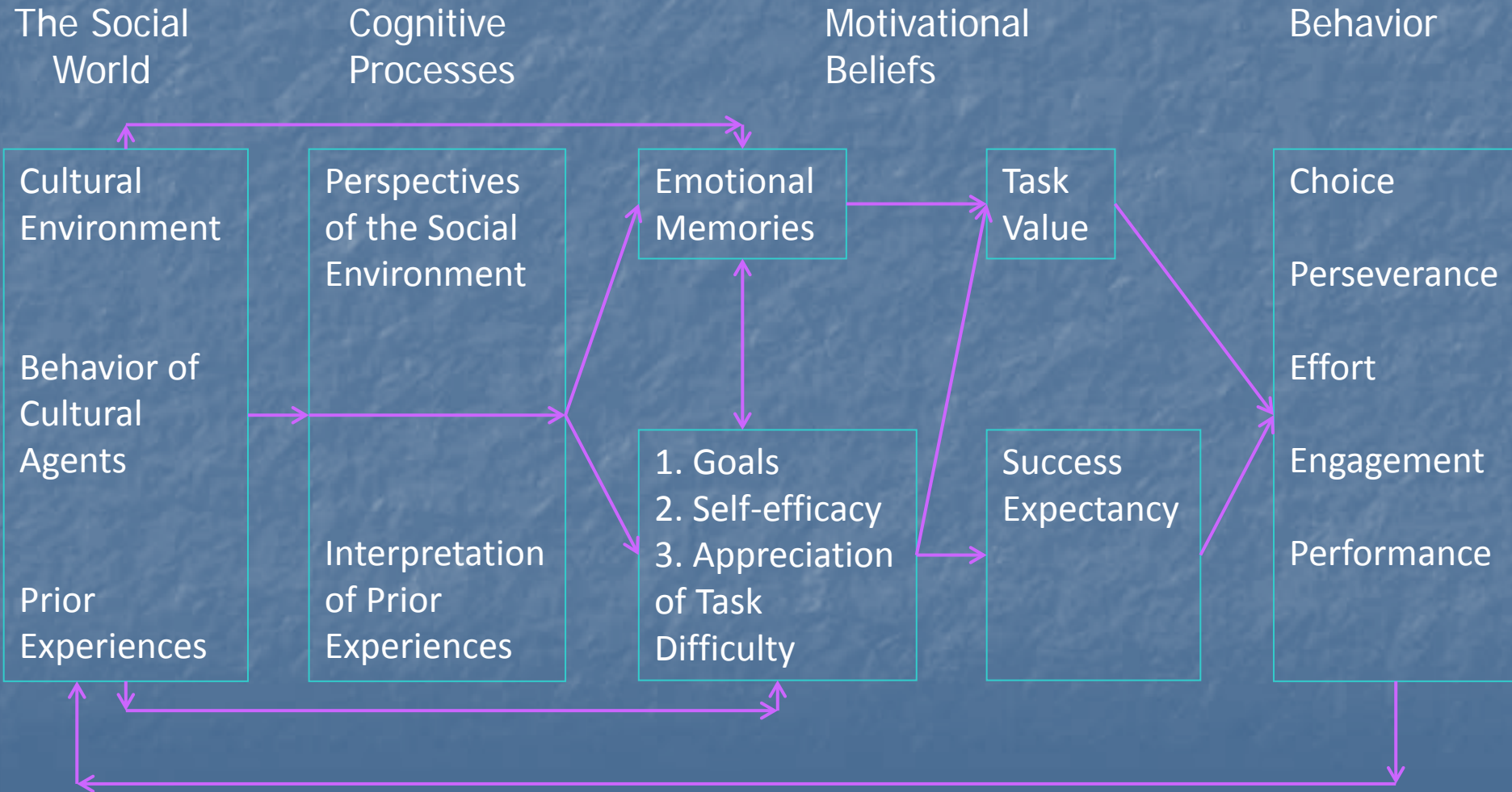
(for practical
purposes)

Attainment

(internal needs,
belonging,
values, identity)



Value-Expectancy Theory – The Full Model



Value-Expectancy Theory – Sample Items



Expectations

To what degree do you think you will succeed in the next test in science?

Compared to other students, how do you think you'll succeed in science this year?

Values

I think it's important to be good at solving math problems.

I'm very interested in this course.

Value-Expectancy Theory

Examples for Classroom Practice

- Helping students develop high, but realistic expectations (reasonable challenge level, realistic and specific feedback).
- Supporting positive beliefs about learning (ability can be developed, minimizing social comparisons).
- Supporting positive values about learning (modeling enthusiasm, supporting personal interests through autonomy & choice).



Attribution Theory

Exercise:

1. Recall two experiences, one of success and one of failure.
Describe each in one sentence.
2. Describe which emotions were aroused in you by each experience.
3. Describe what you think were the reasons for success/failure in each case.

Attribution Theory

(Weiner, 1986)

Attributions = Factors that are grasped as reasons for outcomes





Attribution Theory

Possible Attributes for Success and Failure



Talent – Ability

Skill

Effort

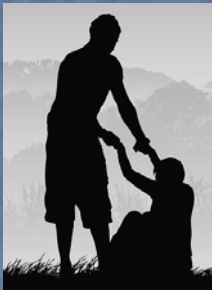
Difficulty of task

Luck

Fatigue

Health

Help from others



Attribution Dimensions

- **Locus** – is the attribute located in the student or out of him?
- **Controllability** – Is the attribute grasped as something one can control and manipulate?
- **Stability** – Is the attribute grasped as something constant or variable?

Categorizing Attributes according to their Dimensions

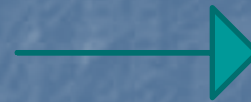
	Internal		External	
	Controlled	Non-controlled	Controlled	Non-controlled
Constant	Long-term effort	Talent	Teacher support?	Task difficulty
Variable	Short-term effort; skills	Health, fatigue	Help from others?	Luck

The student's perception is what counts!!!

Attribute Dimensions

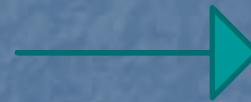
Emotion

Pride
Self-value



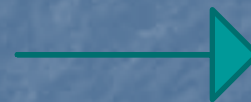
Locus

Helplessness, Despair
Hope



Stability

Guilt
Shame



Controllability



For Example

A failure that is attributed to a constant factor, internal, and
uncontrolled (such as lack of ability) → poor motivation



A failure that is attributed to an internal factor, variable,
and controllable (such as effort) → high motivation



Attribution Theory

Examples of Classroom Practice



- Reliable, accurate, and informative feedback
- Relating failure to lack of effort only when no effort was made
- Relating success to effort only when an effort was really made
- Relating success to constant factors (encourages expectation of future success)

Self-Determination Theory

Deci, Vallerand, Pelletier, & Ryan, 1991

Emphasize 3 human needs:

- The need to belong
- The need for ability
- The need for autonomy



The satisfaction of these needs will bring people to be deeply and effectively engaged.

Extrinsic Motivation

Doing something because it leads to certain results



Intrinsic Motivation

Doing something for its own sake



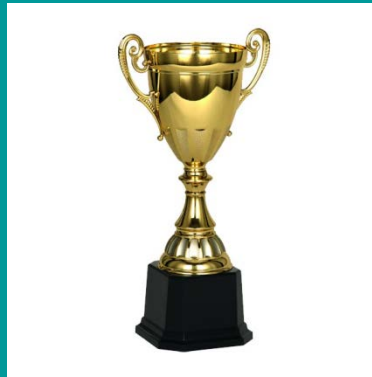
Doing homework because it's important for the matriculation exams – intrinsic or extrinsic?

Research shows that ...

Intrinsically motivated students tend to develop autonomous styles of self-determination, to achieve more, to better adapt and to understand better than extrinsically motivated students.

Do external rewards detrimentally influence
intrinsic motivation?

?



?

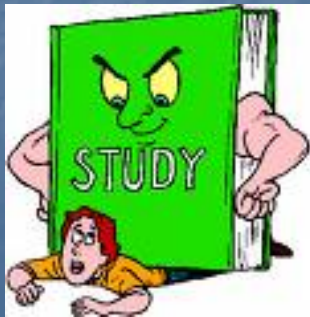
?

An Important Distinction

- **Self Determination** - "The ability to have choices and some degree of control in what we do and how we do it." (Koballa and Glynn, 2007)
- **Self Regulation** – "An active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment." (Pintrich, 2000)

Suppressing Intrinsic Motivation

- Rewards
- Threats
- Deadlines
- Evaluation



Supporting Intrinsic Motivation

- Optimal Challenge
- Sense of control & choice
- Curiosity, fantasy
- Positive feedback about ability
- Empathy & personal relations



Example Items

- I do my homework and assignments because they interest me.
- I study seriously because it will help me in the future.
- I do my homework so that I won't feel bad about myself.
- I study seriously because I don't want to be punished.



Achievement Goal Theory

(Ames, 1992a)



How was it in school today?

Fun...

???



I was the first one to finish the math worksheet... I was the only one who knew to answer the teacher's question in bible... In literature the teacher showed everybody my essay as an example of excellent work

How was it in school today?

Fun...

???



I finally succeeded in to doing division by myself... In bible I participated in a really interesting discussion on Jonah... In literature I worked with a friend and we had some great ideas

Mastery Goal Orientation

Persistence

Cognitive engagement

Self-regulated learning

Preference for challenges

Advanced learning strategies

Effort

Long-term memory

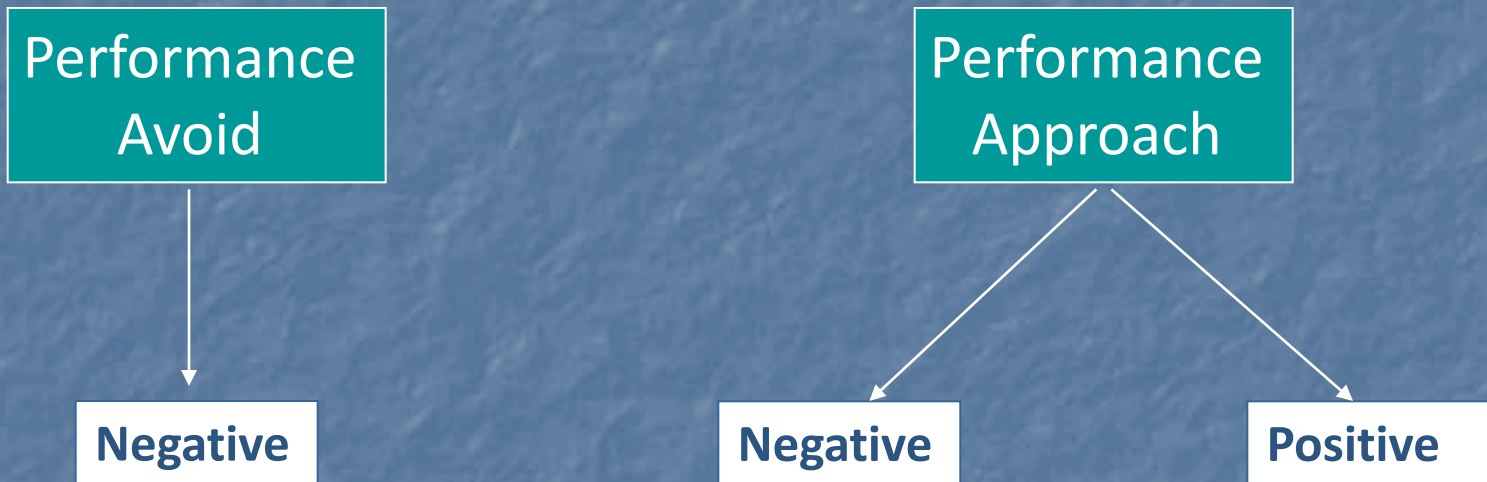
Interest

Positive affect

Self-Efficacy

Transfer of problem-solving strategies

Performance Goal Orientation



Environmental Factors that can Influence Goal Orientation

Perceptions

School ■

Teacher ■

Peers ■

Parents ■



TARGETS

- **Task** – classroom activities
- **Autonomy/Authority** – choice
- **Recognition** – praising in public
- **Grouping** – according to ability
- **Evaluation** – tests, portfolio
- **Timing** – submitting tasks late
- **Social interaction** – class discussion, availability of teacher after class



Example Items

- An important reason I pay attention in science class is because it's important to me to improve my knowledge (mastery)
- One of my goals is to seem smart in science class in comparison to the other students (performance approach)
- It's important to me not to seem stupid in science class (performance avoid)

Continuing Motivation

“Education is not the filling of a pail, but the lighting of a fire.”

