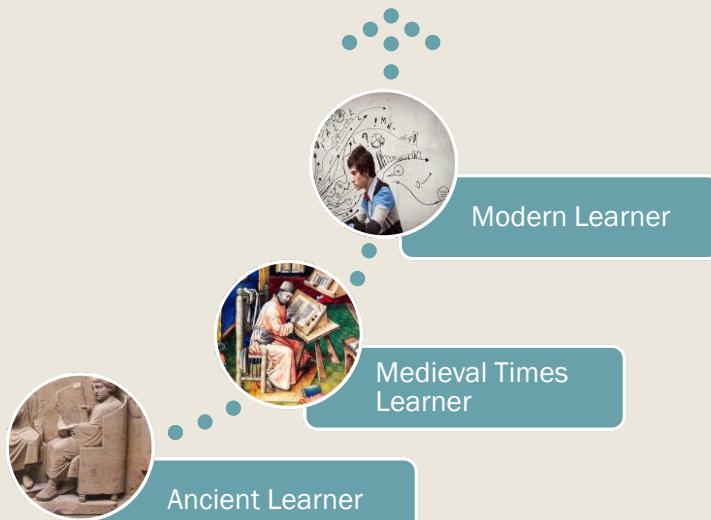# FOCUS ON LEARNERS IN ONLINE LEARNING SETTINGS

M. Betül Yılmaz, PhD
Yıldız Technical University, CEIT Department
beyilmaz@yildiz.edu.tr

Have our ways of learning changed over time?

Modern Learner

Medieval Times Learner

Ancient Learner

Characteristics of Online Learning

1. Existence of teacher and student, and at least, the existence of an agreement between them;
2. Spatial separation of teacher and the student;
3. Spatial separation of the student and the institution;
4. Continuous learning;
5. Interaction of student and learning materials;
6. Specially designed learning materials

Issues of Online Learning

Learners	• *Expectations* • *Readiness (Learning style, Cultural differences, Technical skills)* • *Identity* • *Participation*
Instructors	• *Changing faculty roles* • *Transitioning from face-to-face to online* • *Time management* • *Teaching styles*
Content development	• *Role of instructors in content development* • *Integration of multimedia in content* • *Role of instructional strategies in content development* • *Considerations for content development*

Researches in Online Learning

- Mostly try to control and understand the effect of CONTENT
  - *type of content*
    - static / dynamic / visual / verbal / 2d / 3d / …
  - *organizing of content*
    - multimedia principles, Gestalt principles, …
  - *way of delivering content to learner*
    - synchronous / asynchronous / mobile / web based / printed / …
- Mostly focus on the achievement of learner
  - *achievement ≠ learning*
  - *achievement doesn't predict success (in a long time period)*

LEARNERS ?

Learners

| Expectations	Readiness	Identity	Engagement
☐ Satisfaction,	☐ *Learning style,*	☐ *Feeling of isolation,*	☐ *Participation*
☐ Diploma, ...	☐ *Cultural differences,*	☐ *Being a member of learning society*	☐ Doing tasks
	☐ *Technical skills*		☐ Enjoying
	☐ ...		☐ Being interested in
			☐ Persistence
			☐ ...

## Still in the process of formation…

■ Psychological foundations of learning?

■ Implementation of information and communication technologies including online learning technologies ?

Learning ?

" Process of LPT (long term potentiation) is largely governed by chemical reactions between important receptors such as NMDA and AMPA receptors. NMDA receptors can actually block LTP by making it impossible for calcium ions to enter dentritic spines, a chemical process that is necessary to strengthen synapses between neurons while AMPA facilitates the release of glutamate which can amplify a post synaptic potential. AMPA can be more sensitive to glutamate depending CaM-KII level."

Everything psychological is biological.

These images are reasons, not causes!
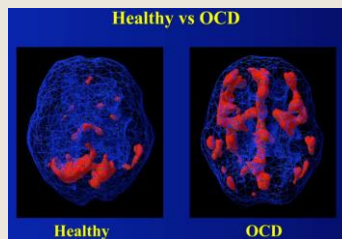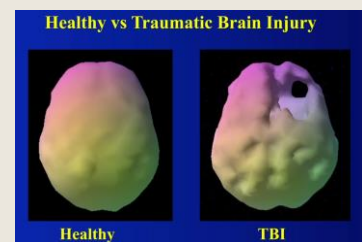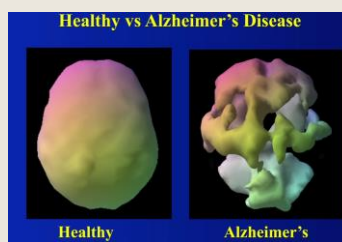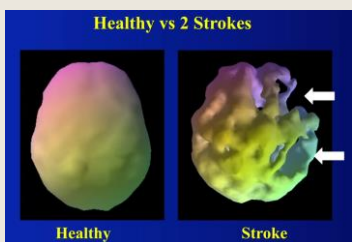
What am I suppose to do as an instructional technologist?

Fact #1 - We are not psychologist!

Fact #2 - We do work with/on learners

Suggestions

Recent Brain Research Finding	Implications for Learning
Frequency and recency of neuron synapses increase memory	Increase frequency through practice and maintain fluency through use
Emotions strengthen memory	Appeal to and engage emotions while learning
Learning causes changes to the physical structure of the brain	Engaging in learning increases our ability to learn throughout our lives
Memories are stored in multiple parts of the brain	Engage all senses when learning
Our brains are programmed to focus on new and unusual input	Learning should tap into the brain's natural curiosity and intrinsic motivation

Some findings from researches

- *Busari, 2017*
  - *Agreeableness, conscientiousness, emotional stability, extroversion, general intelligence, learning style, motivation and self-esteem made joint contribution to the prediction of academic stress among the distance learners.*
  - *Learners with high self-esteem and appropriate learning skills are not prone to academic stress because they must have overcome stress producing stimuli through adequate preparation.*
- Blau *et al*, 2017
  - *Regarding the impact of personality,*
    - neurotic students tended to enjoy and succeed more in face-to-face learning,
    - whereas emotionally stable students enjoyed and succeeded in all of the learning conditions.
    - Extroverts tended to enjoy more natural learning environments but had lower achievements in these conditions.
    - In accordance with the 'poor get richer' principle, introverts enjoyed environments with a low-level of medium naturalness.
    - However, they remained focused and had higher achievements in the face-to-face learning

Some findings from researches

- *Croft, 2010*
  - *To* build a learning community on a non-cohort asynchronous programme*;*
    - provide service level agreements to clarify expectations;
    - designate 'staging points' to encourage and motivate;
    - develope student generated content as footprints 'buried' in the material;
    - humanise the material;
    - and introduce mechanisms to provide students with their peers' thoughts/views on course material
- *Pozdnyakova & Pozdnyakov, 2017*
  - *To decrease adult Students' Problems in the Distance Learning*
    - provide students with timely and appropriate information;
    - organize students' forums in order to exchange views and concerns and discuss these issues with fellow students;
    - Offer some kind of preparatory courses to prospect students:
    - involve professional psychologists to work with distance learning students along with lecturers and tutors

TWO RESEARCHES

Research #1

THE IMPACT OF DIGITAL ASSESSMENT TOOLS ON STUDENTS' ENGAGEMENT IN CLASS: A CASE OF TWO DIFFERENT SECONDARY SCHOOLS

THE IMPACT OF DIGITAL ASSESSMENT TOOLS ON STUDENTS' ENGAGEMENT IN CLASS: A CASE OF TWO DIFFERENT SECONDARY SCHOOLS

- Behavioral, emotional and cognitive dimensions of the academic engagement of students are ultimately important for their learning.

- Among the Web 2.0 tools that have recently become highly popular in education, digital assessment tools offer students the opportunity to respond promptly to questions posed via computers/cell phones/tablets.

- These tools promise teachers instant feedback for individual or group evaluation in a colorful, competitive environment. In this study, it was researched whether students' academic engagement was affected by digital assessment tools.

- Participants were 65 sixth grade students who took "Information Technologies and Software" course in two different schools with high (school-1) and low socioeconomic status.

- The data were collected by adapted Turkish version of Wang, Bergin and Bergin's "Course Engagement Inventory".

- Following the usage of the digital assessment tool, comparing the pre-tests, the averages of 'behavioural engagement–compliance' and 'cognitive engagement' subscales increased significantly in School-1, while the 'behavioural engagement– effortful class participation' subscales decreased in the same school.

- On the other hand, for the School-2 significant difference was only observed in the subscales of 'affective engagement'.

- The research provides some clues that digital assessment tools may have a positive impact on students' academic engagement.

Research #2

The Relation between Academic Procrastination of University Students and Their Assignment and Exam Performances: The Situation in Distance and Face-to-Face Learning Environments

The Relation between Academic Procrastination of University Students and Their Assignment and Exam Performances: The Situation in Distance and Face-to-Face Learning Environments

- The relation between assignment and exam performances of the university students and their academic procrastination behaviors in distance and face-to-face learning environments was investigated in this study.

- Empirical research carried out both in face-to-face and online environments have generally shown a negative correlation between academic procrastination and academic performance.

- However, the effect of academic procrastination on assignments in distance learning setting has not been analysed extensively.

- To understand the interaction between academic procrastination and the learning environment; assignment and exam performances of eighty-eight university students in face-to-face (FtF) and distance learning (DL) environments were investigated.

- According to the findings of the study, students' academic procrastination and assignment scores were negatively correlated in both environments but especially in DL setting.

- Contrary to this, academic procrastination and exam scores were correlated to each other only in FtF environment.

- On the other hand, there was no correlation between total assignment and exam scores for DL group, while a medium

- positive correlation was found in FtF group.

- The findings of binary logical regression analysis demonstrated that predictive value of the DL environment for assignment score is much stronger than academic procrastination behaviour of students.

The essence of this presentation…

- Identify the characteristics of the participants in your research as possible as you can

- Do not see participants as a single mass, each of them has differences in terms of learning

- Try to focus on one or a few differences, and control others

References

■ Akther, U. M. (2013). Psychological Impact Of Distance Education Technologies In Students' Personal Development. *International Journal of Developmental and Educational Psychology*, *2*(1), 203-211.

■ Blau, I., Weiser, O., & Eshet-Alkalai, Y. (2017). How do medium naturalness and personality traits shape academic achievement and perceived learning? An experimental study of face-to-face and synchronous e-learning. *Research in Learning Technology*, *25*.

■ Busari, A. O. (2017). The Relationship Between Personality Types, Learning Styles, Motivation, Self-esteem And Academic Stress Among Distance Learners In Ibadan Study Center. *International Journal of Innovation and Applied Studies*, *19*(4), 850.

■ Croft, N., Dalton, A. & Grant, M. (2015). Overcoming Isolation in Distance Learning: Building a Learning Community through Time and Space, *Journal for Education in the Built Environment*, 5:1, 27-64

■ Ford, D. J. (2011). How the Brain Learns. https://trainingindustry.com/articles/content-development/how-the-brain-learns/

■ Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education: A Literature Review. *Journal of Educational Technology Systems*, *46*(1), 4-29.

■ Pozdnyakova, O., & Pozdnyakov, A. (2017). Adult Students' Problems in the Distance Learning. *Procedia Engineering*, *178*, 243-248.