

PREPARING TEACHERS TO ACHIEVE EDUCATIONAL EQUITY: LEARNING FOR ALL STUDENTS

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Abstract

Classrooms throughout the world are more diverse. Students differ in their language, culture, affluence, ability/disability, prior knowledge, religious beliefs. An educational system that requires same age peers learn the same content at the same time (i.e., the traditional grade level system) works against supporting the diversity of learners. This workshop will outline and provide opportunities to practice some of the critical elements teachers need competence with, in order to create personalized classrooms.

Keywords: *Inclusive education, personalized instruction, equity.*

“If we wish to give persons equal opportunity, we must treat them all differently.”

Harry S. Broudy, American Educator

1. Introduction

Assuming **same** age peers should learn the **same** content at the **same** time (i.e., the traditional grade level system) works against embracing the diversity of strengths and needs each student brings to a classroom. This model has not served a significant number of students well (OECD/PISA, 2023, OECD, 2025). One large recent study in the US found that 75% of high school students had negative feelings about their high school experience. (Moeller et al, 2020).

To provide equitable education we must identify the elements necessary to achieve it and provide teachers the supports to develop competence in each component. Some of these critical elements are discussed below.

2. Precise classroom-based learning data

A critical first step in creating more personalized instruction is a precise, standard classroom-based learning measurement process. Historically, teacher preparation has focused on methodology with one survey course on types of educational tests. Little attention is given to establishing competence in measuring learning.

“Performance **always** involves a number of responses and **always** occurs over time. Consequently, both number and time are essential parts of a performance measure. The scientific term for events per unit of time is frequency. Frequency is the most sensitive measure of student performance because it provides information that is the most *complete* (i.e., includes both number of responses and duration of time) and *direct* (i.e., quantifies what we see and hear students do). This is in contrast to other commonly used education measures: *derived scores* (e.g., % correct, achievement test scores) or *inferred scores* (e.g., rating and rubric scales).” (Starlin & Foo, 2025)

Accepting that frequency provides the most clarity regarding student performance then learning involves an increase in the trend of correct frequencies and/or a decrease in the trend of incorrect frequencies. Short, frequent performance measures provide low stakes learning feedback and provides an alternative to high stakes exams and yearly achievement tests. (Note: It requires 5 -11 days to establish an accurate learning trend line, Koenig, 1972.)

We achieve equity and accommodate the diversity of learners by placing students at developmentally appropriate skill levels and adjusting their programs based on learning progress.

3. Precise learning objectives

Creating precise learning objectives is a prerequisite to effective instruction. This ensures students and teachers are clear about the skill(s) to be mastered. There are three elements to a precise learning objective:

<i>Skill Description</i> (sensory & action channels)	<i>Standard Mastery Range</i>	<i>Conditions</i> (e.g., materials, setting)
<i>Sees</i> basic x problem <i>Writes</i> answer class	at 100 – 80 correct digits/minute	from sheet of 100 x facts, in grade 3

It is important to agree on mastery standards since learning entails progressing from non-mastery to mastery. Frequency based educational mastery standard ranges are available and are directly analogous to the *Standard Health Indicators Ranges*. (See Starlin, 2022)

Mastery standards indicate the skills we wish to be part of a student’s memory. In the internet and artificial intelligence era, less information needs to be in our memory. However, we do need to maintain some breadth of knowledge in our memory in order to communicate, solve problems and create.

4. Organization of: Materials, people, space & time

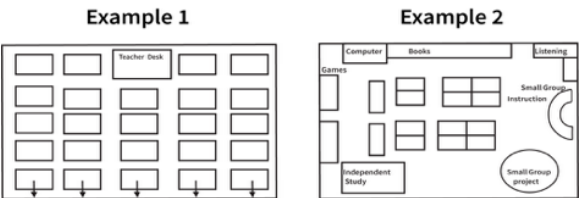
An important contributor to educational equity is organizing classroom materials, people, space and time that create feelings of predictability, safety and trust.

Materials
Ensuring the availability and organization of needed technologies and assessment, instructional and practice materials facilitates efficient classroom functioning. One example is to divide the vocabulary and concepts of a particular unit into: *Must Know*, *Should Know* and *Nice to Know*. Those students with more challenges (e.g. 10%) may only master the *must know* material, 90 % of the students should master the *should know* content and the most advanced students will also master the *nice to know* content (e.g., 10%).

People
Regardless of the class size it is always a challenge for one teacher to provide individualized support to the diversity of students. Spending time to organize an array of helpers can create more individualized opportunities. Helpers may include: within class peers, outside class students, teacher aides, parent or community volunteers. It is important to provide training for helpers and ensure they commit to a weekly schedule.

Space
Creating a classroom design that provides more comfort and flexibility for grouping arrangements, delivery of instruction, assessment, etc. is an important part of supporting personalized education. Figure 1 compares a traditional classroom arrangement with a more flexible option. (from Starlin, 2022, p. 130)

Figure 1. Contrasting arrangements of classroom space.



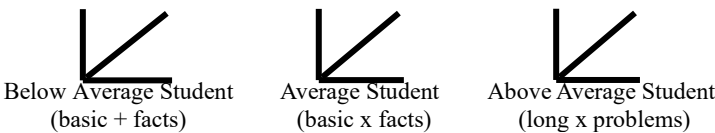
Time
Organizing time relates to establishing expectations, assigning duties, establishing routines and creating schedules. Investing time in these elements creates time savings throughout a school year.

5. Best practice learning tactics

The areas of: *skill chunking*, *centives/consequences*, *demonstration/instruction* and *practice* are core learning tactics that apply to all skill and knowledge areas.

Skill Chunking
Providing curriculum materials so students can be placed at developmentally appropriate skill levels promotes learning equity. For example, Figure 2 depicts three students in a 3rd grade class each working at a different skill level but making equal progress. (from Starlin, 2022, p. 138)

Figure 2. Same Age, Different Content, Equivalent Learning (i.e., Learning Equity).



Centives/Consequences

Centives and consequences relate to what students find motivational. **Incentives** relate to “if-then” relationships intended to increase performance. (e.g., **If** you increase the number of new vocabulary words in your writing assignments then you will see growth on your vocabulary graph.) While **disincentives** relate to if - then relationships intended to decrease performance. (e.g., **If** you decrease the number of unkind comments **then** the number of friendly interactions will likely improve.)

Ideally motivational consequences are intrinsic e.g., seeing a record of improvement, the ability to apply a learned skill outside of school or the ability to function at a higher level due to mastery of lower order skills.

Demonstration/Instruction

Demonstration and instruction are traditionally viewed as the core of teaching and certainly continue to be important. The model of *My turn, Our turn, Your turn* is often an effective means to support student engagement and learning. Some research suggests that the brain reacts in the same way when viewing a demonstration of a skill as when actually performing the skill. (Frey & Gerry, 2007)

Practice

Even young children when asked – *How do you get good at something?* answer – “by practicing.” Most disciplines (e.g., skilled trades, skilled crafts, performing arts, athletics) design learning experiences with 70 - 80% active practicing (which may include some coaching) and 30 - 20% more passive demonstration and instruction. (Côté & Gilbert, 2009). The profession of education is characteristically just the opposite. (Tao & Chen, 2024)

We now from brain research that practicing creates the grooved neural pathways that enable us to retain and apply learned information. (Ratey, 2008)

6. Conclusion

Requiring same age peers “learn” (be exposed to) the same content at the same time is at the heart of educational inequity. Equitable education means designing learning experiences that adapt to each student’s strengths, needs, interests, and goals. The core values of an equitable education include:

- Belief that all children can learn;
- Emphasis on learning equity vs achievement equity;

Creating personalized education often requires changing educational structures and policies which can be difficult. But the challenge of individualized education is not as complicated as landing a person on the moon.

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