

Effective Teaching Strategies in Special Needs Education

What works ?

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[Moving Towards Inclusion]

- **Teachers must be able to problem solve and have the ability to informally assess the skills a student needs**
- **Teachers must be able to set high but alternative expectations and assessments which are suitable for the students**
- **Teachers must be able to modify assignments and include all students in the lesson**
- **Teachers need to learn how to value all kinds of skills, not just academic ones, and provide daily success for all students**

Modifying & Adapting Curriculum

1. **Size**--Teachers should modify how many items the student is expected to learn or finish.
2. **Time**--Students should be given more time for learning, completing a task, or taking a test.
3. **Level of support given**--amount of personal assistance increased for students with special needs

Modifying & Adapting Curriculum

1. **Teaching method**--Teachers must change the way that instruction is delivered to the students.
2. **Level of difficulty**--Skill levels, problem types, and rules on how to approach the work should be modified to fit needs.
3. **Assessment**-- Modify how the student can respond to the instruction given, whether through hands-on materials, verbal responses, or communication books

22 teaching strategies (Mitchell, 2008)

1. Inclusive education
2. Cooperative group teaching
3. Peer tutoring
4. Collaborative teaching
5. Parent involvement
6. School culture
7. School-wide positive behavioural support
8. Indoor environmental quality
9. Classroom climate
10. Social skills training
11. Cognitive strategy instruction
12. Self-regulated learning

[24 teaching strategies]

13. Memory strategies
 14. Reciprocal teaching
 15. Phonological awareness
 16. Cognitive behavioral therapy
 17. Functional behavioral assessment
 18. **Direct instruction**
 19. Review and practice
 20. **Formative assessment and feedback**
 21. Assistive technology
 22. Augmentative and alternative communication
- + Differentiated Instruction**

[What do we mean by evidence?]

- 1. The intervention is clearly described and followed**
- 2. Behavioural outcomes are clearly described**
- 3. Learner characteristics are clearly described**
- 4. Variables are controlled**
- 5. There is no contamination**
- 6. Side effects are acceptable**
- 7. There is a sound theory underlying the intervention**
- 8. There has been adequate follow-up**
- 9. The research has been carried out in natural conditions**
- 10. The published results have been reviewed by peers**
- 11. The research has been replicated**
- 12. The intervention is cost effective**
- 13. The research has practical significance**
- 14. The research is accessible**

[Parent Involvement]

'Respect parents' rights, skills and needs'

- **Parents' roles**
- **Why develop partnerships?**
- **Why do some parents need support?**
- **What are the levels of parent involvement?**
- **How can we develop effective partnerships?**
- **Barriers**

[Cooperative learning]

- Group of students with different abilities working together to accomplish a goal (Johnson & Johnson, 1989).
- Cooperative activities compliment **direct instruction** and are structured so students are positively interdependent but individually accountable for their work.
- Teachers can efficiently provide help as needed for all students.

Cooperative Group Teaching

'Help learners to learn from each other'

- Four essential ideas:
 - Interdependence
 - Individual accountability
 - Cooperation
 - Evaluation
- Two types of groups
 - Mutual assistance groups
 - Cooperative groups (**jig-saw puzzle**)
- What are the teacher's roles in cooperative group teaching?
 - Design appropriate group tasks
 - Teach group process skills
 - Deal with problems

Peer Tutoring

“Utilize peers to teach each other”

Elements of Peer Tutoring include:

1. Peer Assisted Learning
2. Role Modelling
3. Mentoring
4. Facilitating experiences of school life

[Benefits of peer Tutoring]

- Enhance a Sense of Community
- Increase Student Motivation
- Increase Student Learning

Peer Tutoring

- One student acts a tutor and one as the tutee. Students can be same-age or cross-ages
- Typically 20 minutes of tutoring and 7 minutes of testing
- For drills, exercises, reading, etc..
- New materials,
- Teacher input,
- Whole-class explicit instruction,
- Active student responding,
- Exchangeable roles,
- Correction systems,
- Public displays of results,
- Social rewards.

Cognitive Strategy Instruction

‘Teach learners ways of thinking’

- **What is cognitive strategy instruction?**
- **Some learners have inefficient learning strategies.**
- **General strategy instruction**
 - think ahead**
 - think during**
 - think back**
- **Specific strategy instruction, e.g., story-writing:**
 - Why, Who, Where, What, How**

[Learning Strategies]

- Acronym (ex. : What they know, what they want to know, what they learn (KWL))
- Semantic mapping
- Discussion webs
- Rhyme/Song
- Movement/Hands on learning
- Storytelling/Drama
- Key Word Picture
- Alternative Algorithm
- Scaffolding
- Lecturing/Activating prior knowledge
- Manipulation
- Analogy
- Technology

Lecturing

A common teaching strategy, is an effort to quickly cover the material: however, it often overloads and over-whelms students with data, making it likely that they will confuse the presented facts

Adaptation of KWL

K (what I know)	W (what I want to know)	H (how I can find this information)	L (what I learned)

[Scaffolding]

- Bridges the gap between what students know and can do and the intended goal
- Provides temporary support to students when new skills or concepts are presented
- Includes cueing, prompting, questioning, modeling, telling or discussing
- Is gradually removed as students demonstrate mastery
- Is no longer provided when students can perform the task independently

Critical Features of Scaffolded Instruction

- Modeling with verbal commentary
- Student imitation of the skill as modeled by the teacher
- Removal of the scaffolds (less assistance and more feedback)
- Independent task performance by the student

[Scaffolding and ZPD]

- Learning only occurs when students are “stretched” beyond their current competency.
- The metaphor of “scaffolding” has been used to describe the support that enables a learner to complete a task that would otherwise be unattainable without assistance.
- Social interaction between a learner and an individual with additional expertise are necessary.

[Zone of Proximal Development]

- The task must have the right level of difficulty to promote learning.
- A too difficult task will frustrate the learner and make learning impossible.
- A too easy task results in not enough productive work to build dendrites.

[Types of Scaffolding]

Modeling

- Give clear examples
- Show finished work
- Walk your students through a process

Bridging

- Connect ideas and show inter-relationships
- Activate prior knowledge and experience

[Types of Scaffolding]

Contextualization

- Provide environments your students are familiar with that will help illuminate and clarify new concepts for them
- Use analogies and metaphors

Questioning

- Ask higher order questions (why? How? So what?)
- Open a window of doubt and possibility
- Ask “leading questions” to stretch thinking

[Types of Scaffolding]

Metacognitive Development

- Plan how to tackle problems
- Be consciously aware of processes
- Teach self-assessment strategies
- Decide on steps in solving problems

Text Presentation

- Ask students to present learned concepts in an alternative format

[Direct Instruction]

Careful, systematic presentation and instruction of materials (Carnine, 1991).

- a. Show the student the process
- b. Demonstrate how to perform the skills
- c. Ask the student to imitate what you do
- d. Provide opportunities for frequent response / reinforcement through cues
- e. Reduce the cues as the student responds correctly

[Classroom Climate]

‘Create a positive, motivating classroom climate’

Three main factors:

- 1. Relationships**
 - 2. Personal development**
 - 3. System maintenance**
- Create a safe and trustworthy environment**
 - Help learners set goals**
 - Provide a motivating learning environment**
 - Convey high, but realistic expectations**
 - Establish clear rules and boundaries**
 - Take up appropriate positions in the classroom**

Formative Assessment and Feedback

‘Regularly check and inform learners of their progress’

- The underlying idea:
 - assessment should serve an educational purpose
 - formative assessment vs. summative assessment
 - it is important to probe for knowledge
 - feedback is valuable
- What is feedback?
 - timely
 - explicit
 - focus on strategy, not ability or effort
 - able to be used by learners

Two Views of Assessment --

Assessment is for:

Gatekeeping

Judging

Right Answers

Control

Comparison to
others

Use with single
activities

Assessment is for:

Nurturing

Guiding

Self-Reflection

Information

Comparison to
task

Use over multiple
activities

THINKING ABOUT ON-GOING ASSESSMENT

STUDENT DATA SOURCES

1. Journal entry
2. Short answer test
3. Open response test
4. Home learning
5. Notebook
6. Oral response
7. Portfolio entry
8. Exhibition
9. Culminating product
10. Question writing
11. Problem solving

TEACHER DATA MECHANISMS

1. Anecdotal records
2. Observation by checklist
3. Skills checklist
4. Class discussion
5. Small group interaction
6. Teacher – student conference
7. Assessment stations
8. **Exit cards**
9. Problem posing
10. Performance tasks and rubrics

[Exit Card]

- Before class ends, ask students to answer (in writing) two or three simple questions to elicit information that will help you adjust your next lessons.
- Example: What would you say was the main point of today's work? What is the main confusion/unanswered question you are leaving class with today?

[Differentiated Instruction]

- Teaching Different Students Differently
- By Altering Readiness, Interest, Learning Preference
- on Content, Process, or Product

Differentiation of Instruction

- Differentiation means changing the pace, level, or kind of instruction to meet each student's individual learning needs.
- Curriculum compacting (compressing curriculum material into a shorter time frame, and allowing students to demonstrate mastery of content they already know)
- Ability grouping
- Flexible grouping
- Individualized instruction (independent study projects).

Differentiated Instruction Defined

“Differentiated instruction is a teaching philosophy based on the premise that teachers should adapt instruction to student differences. Rather than marching students through the curriculum lockstep, teachers should modify their instruction to meet students’ varying readiness levels, learning preferences, and interests. Therefore, the teacher proactively plans a variety of ways to ‘get at’ and express learning.” (Carol Ann Tomlinson)

Four Common Barriers to Differentiated Instruction

- Lack of curriculum clarity
- Lack of understanding of where students are and who they are
- Lack of use of effective instructional approaches
- Inability to manage flexible settings

The Foundation of Differentiated Instruction

- Learners need to make their “own” meaning of content
- Learning is best when content is “powerfully organized”
- Learning is best when it matches where learners are and then takes them a bit farther.
- Students have a wide range of:
 - abilities and skills
 - interests
 - intelligences.

How Does Research Support DI?

- Differentiated Instruction is the result of a synthesis of a number of educational theories and practices.
- Brain research indicates that learning occurs when the learner experiences moderate challenge and relaxed alertness –readiness
- Psychological research reveals that when interest is tapped, learners are more likely to find learning rewarding and become more autonomous as a learner.
- **BUT !!!**

Differentiation of Instruction

Is a teacher's response to learner's needs guided by general principles of differentiation

Respectful tasks

Flexible grouping

Continual assessment

Teachers Can Differentiate Through:

Content

Process

Product

According to Students'

Readiness

Interest

Learning Profile

8 Key Principles of a Differentiated Classroom

1. The teacher is clear about what matters in subject matter.
2. The teacher understands, appreciates, and builds upon student differences.
3. Assessment and instruction are inseparable.
4. The teacher adjusts content, process, and product in response to student readiness, interests, and learning profile.
5. All students participate in respectful work.
6. Students and teachers are collaborators in learning.
7. Goals of a differentiated classroom are maximum growth and individual success.
8. Flexibility is the hallmark of a differentiated classroom.

[What is essential content?]

- What the learner should **know, understand and be able to do** at the end of a unit of instruction (uses levels of learning).
- Answers the question “Why should we learn this?”
- Makes connections between isolated facts and skills so they have meaning.

[Know]

- These are **the facts, vocabulary, dates, places, names, and examples** you want students to give you.
- The “know” is massively forgettable.
- *“Teaching facts in isolation is like trying to pump water uphill.”* (Carol Tomlinson)

[Understand]

Major Concepts and Sub-concepts

- These are the written **statements of truth**, the core to the meaning(s) of the lesson(s) or unit. These are what **connect the parts of a subject** to the student's life and to other subjects.
- It is through the understanding component of instruction that we teach our students to truly grasp the “**point**” of the lesson or the experience.
- Understandings are purposeful. They focus on the **key ideas** that require students to understand information and **make connections** while evaluating the relationships that exist within the understandings.

A Student who UNDERSTANDS something can...

- Explain it clearly, giving examples
- Use it
- Compare and contrast it with other concepts
- Relate it to other instances in the subject studies, other subjects and personal life experiences
- Transfer it to unfamiliar settings
- Discover the concept embedded within a novel problem
- Combine it appropriately with other understandings
- Pose new problems that exemplify or embody the concept
- Create analogies, models, metaphors, symbols, or pictures of the concept
- Pose and answer “what-if” questions that alter variables in a problematic situation
- Generate questions and hypotheses that lead to new knowledge and further inquiries
- Generalize from specifics to form a concept
- Use the knowledge to appropriately assess his or her performance, or that of someone else.

[Able to DO]

Skills

- These are the basic skills of any discipline. They include the thinking skills such as analyzing, evaluating, and synthesizing. These are the skills of planning, the skills of being an independent learner, the skills of setting and following criteria, the skills of using the tools of knowledge such as adding, dividing, understanding multiple perspectives, following a timeline, calculating latitude, or following the scientific method.
- The skill portion encourages the students to “think” like the professionals who use the knowledge and skill daily as a matter of how they do business. This is what it means to “be like” a doctor, a scientist, a writer or an artist.

[Social Studies



Students will:

Know:

Names and roles of groups in the feudal class system.

Do:

Research
See events through varied perspectives
Share research & perspectives with peers

Understand:

Roles in the feudal system were interdependent.
A person's role in the feudal system will shape his/her perspective on events.

[KDU – Circulation]



Know:

- 3 types of blood vessels—arteries, veins and capillaries.
- Human heart has 4 distinct chambers.
- Blood flows away from the heart in arteries and back to the heart in veins.

Do:

- Trace the blood flow through the heart and lungs
- Analyze the effect of different chemicals on blood vessel

Understand: Interdependence, health

- Describe in detail how the circulatory system and other systems are interdependent.
- Understand that heart health is an interaction of genetics and environment.

Differentiated Content

- Reading Partners / Reading Buddies
- Choral Reading/Antiphonal Reading
- Flip Books
- Split Journals (Double Entry – Triple Entry)
- Books on Tape/Highlights on Tape
- Digests/ “Cliff Notes”
- Note taking Organizers
- Varied Texts
- Varied Supplementary Materials
- Highlighted Texts
- Think-Pair-Share/Preview-Mid view-Post view

[Differentiated Process]

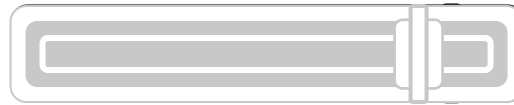
- Different kind of Activities
- Interests
- Grouping
- Learning styles
- Contracts
- ...

[Learning Styles]

- ❑ Are you an **auditory** learner, someone who learns best by listening and talking?
- ❑ Are you a **kinesthetic** learner, who learns best by actively exploring your environment?
- ❑ Or are you a **visual** learner, who learns best by watching and then by visualizing what you have learned?
- ❑ Are you a **tactile** learner who learns best by writing, drawing, taking notes, using hands-on manipulations, and involving your emotions and feelings while learning?

The Equalizer

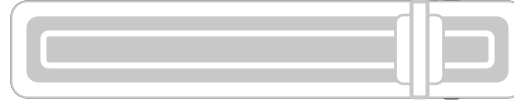
1. Foundational



Transformational

Information, Ideas, Materials, Applications

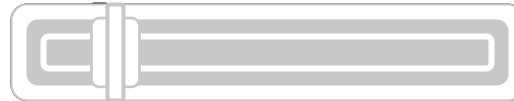
2. Concrete



Abstract

Representations, Ideas, Applications, Materials

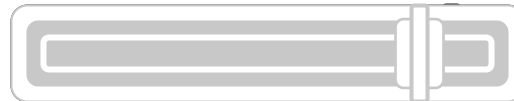
3. Simple



Complex

Resources, Research, Issues, Problems, Skills, Goals

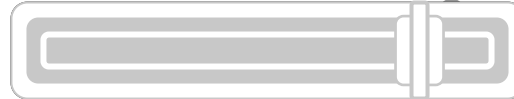
4. Single Facet



Multiple Facets

Directions, Problems, Application, Solutions, Approaches, Disciplinary Connections

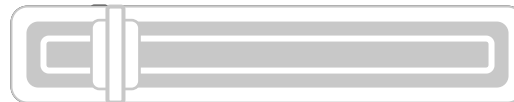
5. Small Leap



Great Leap

Application, Insight, Transfer

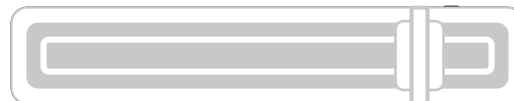
6. More Structured



More Open

Solutions, Decisions, Approaches

7. Less Independence



Greater Independence

Planning, Designing, Monitoring

8. Slow



Quick

Pace of Study, Pace of Thought

[Flexible Grouping]

- Students are part of many different groups (and also work alone) based on the match of the task to student readiness, interest, or learning style.
- Teachers may create skills – based or interest – based groups that are heterogeneous or homogeneous in readiness level.
- Sometimes students select work groups, and sometimes teachers select them. Sometimes student group assignments are purposeful and sometimes random.

Example of flexing grouping



1

Teacher and whole class begin exploration of a topic or concept

3

Students and teacher come together to share information and pose questions

5

The whole class reviews key ideas and extends their study through sharing

7

The whole class is introduced to a skill needed later to make a presentation

9

The whole class listens to individual study plans and establishes baseline criteria for success

2

Students engage in further study using varied materials based on readiness and learning style

4

Students work on varied assigned tasks designed to help them make sense of key ideas at varied levels of complexity and varied pacing

6

In small groups selected by students, they apply key principles to solve teacher-generated problems related to their study

8

Students self-select interest areas through which they will apply and extend their understandings

Designing a Differentiated Learning Contract

A Learning Contract has the following components

1. A Skills Component

- Focus is on skills-based tasks
- Assignments are based on pre-assessment of students' readiness
- Students work at their own level and pace

2. A content component

- Focus is on applying, extending, or enriching key content (ideas, understandings)
- Requires sense making and production
- Assignment is based on readiness or interest

Designing a Differentiated Learning Contract

3. A Time Line

- Teacher sets completion date and check-in requirements
- Students select order of work (except for required meetings and homework)

4. The Agreement

- The teacher agrees to let students have freedom to plan their time
- Students agree to use the time responsibly
- Guidelines for working are spelled out
- Consequences for ineffective use of freedom are delineated
- Signatures of the teacher, student and parent (if appropriate) are placed on the agreement

Differentiated products

- Choices based on readiness, interest, and learning profile
- Clear expectations
- Timelines
- Agreements
- Product Guides
- Rubrics
- Evaluation

Possible Products

Map
Diagram
Sculpture
Discussion
Demonstration
Poem
Profile
Chart
Play
Dance
Campaign
Cassette
Quiz Show
Banner
Brochure
Debate
Flow Chart
Puppet Show
Tour

Lecture
Editorial
Painting
Costume
Placement
Blueprint
Catalogue
Dialogue
Newspaper
Scrapbook
Book
Questionnaire
Flag
Scrapbook
Graph
Debate
Museum
Learning Center
Advertisement

Book List
Calendar
Coloring Book
Game
Research Project
TV Show
Song
Dictionary
Film
Collection
Trial
Machine
Book
Mural
Award
Recipe
Test
Puzzle
Model
Timeline

Toy
Article
Diary
Poster
Magazine
Computer
Program
Photographs
Terrarium
Petition
Drive
Teaching
Lesson
Prototype
Speech
Club
Cartoon
Biography
Review
Invention

ASSESSING TEACHER CREATED PRODUCTS

STRONG 1

PRESENT 2

MARGINAL 3

ABSENT 4

1. Product designed to expand on all key concepts				
2. Product designed to expand on all key principles / generalizations				
3. Product designed to expand on all key skills.				
4. Product facilitates students use and extension of key knowledge.				
5. Product rationale is made clear to students.				
6. Clear directions are provided that are both thorough and open.				
7. Product provides clear criteria for successes at a high level of expectations for content, process and product.				
8. Product assignment necessitates creativity.				
9. Product assignment supports creativity.				
10. Product challenges a full range of readiness levels.				
11. Product allows/encourages pursuit of student interest.				
12.. A menu of product options and/or working arrangements supports varied learning profiles.				
13. On going support is provided as needed throughout product assignment.				
14. Product uses timelines, check in dates or process logs.				
15. Product encourages varied forms of research, expressions, and technology.				
16. Product provides formative and summative evaluation by peers.				
17. Product provides formative and summative evaluation by self.				
18. Product provides formative and summative evaluation by teacher.				