**TAXONOMY FOR INDENTIFYING, CLASSIFYING AND INTERRELATING TEACHING STRATEGIES[[1]](#footnote-1) – Measurement**

| CATEGORIES | Associative  **Group students based on their skills, needs and interests to help facilitate mental, emotional, and/or social growth.** | Deliberative  **Encourage a thoughtful exchange of ideas to promote cognitive, social, and verbal communications skills.** | Expositive  **Provide information, oral or written, in an orderly, authoritative and intelligible manner, to a receptive audience.** | Individualistic  **Provide instruction designed to meet the skill needs and interests of the student, based on individual assistance.** | Interrogative  **Use questioning skills to encourage participation, clarify and evaluate understanding and promote higher thinking.** | Investigative  **Solve problems, based on inductive reasoning, by collecting and analysing data, and drawing conclusions.** | Performative  **Encourage creative, aesthetic, and or psychomotor expression based on the dramatic/fine arts, and physical skills.** | Technological  **Allow students to access and record information by means of mechanical devices, from film projectors to computers.** |
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| STRATEGIES | E.g. dyads, partners, cross/multi-age, ability and interest groups, heterogeneous, homogeneous, cooperative learning teams | E.g. debate, round table, conference, panel, symposium, magic circle, fishbowl, brainstorm, buzz session, class discussion | E.g. lecture, recitation, review, oral or written report, textual readings, graphical materials, demonstration, modelling, testing | E.g. programmed self-paced, packet, contract, learning styles, mastery learning, independent study, tutorial, interest centres | E.g. convergent, divergent, prompt, probe, redirect, repetition, interview, open-ended, higher level Socratic questioning | E.g. inquiry, exploration, problem solving, critical thinking, experimentation, laboratory, case study/method, discovery | E.g. dramatic play, role play, story-telling, choral reading, calisthenics, dance, mock trial, rehearsal, simulation, gaming | E.g. audio/video-recording, data/film projection, televising, videoconferencing, word processing, webquest, emailing |
| STRATEGY  OBJECTIVES | 1. Encourage students to develop particular skills with the support of group members; 2. Facilitate a spirit of cooperation, decision making, and task resolution through group interaction; 3. Help each group member achieve self-confidence and self-esteem through a non-threatening group atmosphere; and 4. Encourage group members to respect each other’s contributions, weigh the merits of opposing arguments, and to achieve group consensus. | 1. Encourage student to examine attitudes and opinions objectively and to be receptive to new ideas; 2. Help students achieve higher levels of thinking, such as analysis, synthesis and evaluation; 3. Promote a consensus decision making after carefully examining various positions; and 4. Develop communication skills by encouraging students to express their ideas carefully and logically | 1. Develop the listener’s ability to identify the essential information by means of note- taking, highlighting text etc.; 2. Provide a body of precise information that the instructor can hold the listener responsible for learning; 3. Be efficient because the presenter can determine the amount of content and the time; and 4. Allow the providing source a structure that will minimise digressions and extraneous information | 1. Provide for personal one-on-one attention when needed; 2. Reduce the amount of frustration students might experience from group competition; 3. Allow individuals to assume responsibility and directing much of their own learning; and 4. Provide a sense of security by allowing the individual to work at a comfortable pace. | 1. Encourage a sequential development of thinking skills from recalling information to constructing generalisations and making value judgements; 2. Prompt students to identify critical information and to emphasise relevant information; 3. Encourage active participation by giving each student an opportunity to ask and respond to questions; and 4. Improve the student’s achievement and sense of accomplishment by asking appropriate questions and allowing sufficient time to respond. | 1. Increase motivation by allowing students to direct much of their own investigation with the teacher’s guidance; 2. Promote greater understanding and increased retention by often providing for active and hands-on learning; 3. Encourage the development of social skills and interdependence by means of small group investigations; and 4. Require students to arrive at valid conclusions based on supporting data. | 1. Encourage self-discipline by requiring practice and rehearsal; 2. Make learning more personal and relevant to students by fulfilling their cognitive, emotional physical and aesthetic needs; 3. Encourage the development and expression of personal values and feelings; and 4. Promote social responsibilities and values by means of group interaction, mutual assistance and shared decision making*.* | 1. To increase attention and motivation as students often regard technology as a major source of entertainment and learning; 2. Help organise information, provide multi-sensory communication, and immediate feedback, especially in the case of interactive technology; 3. Provide students with technical, interpersonal, and communication skills needed to be successful in the workplace; and 4. Encourage active participation and student-centred learning by means of interactive strategies. |
| Distinguish between scalar and vector measure (recognise that to specify velocity you need to define both direction and magnitude). Solve problems involving calculation of constant, relative speed and distance. |  |  |  |  |  |  |  |  |
| Use radian measures/calculates arc of a circle. Convert between radians and degrees. Use Pythagoras’ theorem and trigonometric ratios (sine, cosine and tangent) to find unknown lengths of sides, unknown angles or the area of right-angled triangles. |  |  |  |  |  |  |  |  |
| Calculate measures that are derived or composed from other measures i.e. density that is composed of mass and volume. |  |  |  |  |  |  |  |  |
| Apply angle rules for parallel lines and triangles to determine unknown angle size. Solve real world and mathematical problems involving finding an unknown side length given the perimeter and area. Finds area and perimeter of complex shapes. |  |  |  |  |  |  |  |  |
| Use multiplication by whole number or fraction to solve scaling problems. Convert measurement units within given measurement system. Reports a measurement as a value that lies within a given interval of measurement error. Make judgments about acceptable or reasonable error in a measurement context. |  |  |  |  |  |  |  |  |
| Relate measurement of area and volume to the operations of multiplication and addition. Estimate accuracy of a measurement and report lower and upper bound. Measure angles in whole-number degrees using a protractor. Recognize that angle measure is additive. |  |  |  |  |  |  |  |  |
| Apply mental math and estimation and estimation strategies with whole numbers decimals and fractions. Distinguish between linear, area and volume measurement. Measure area and volume by counting unit squares/cubes. |  |  |  |  |  |  |  |  |
| Estimate size/length of an object and express result in appropriate metric units. Convert between standard length units (larger to smaller). Add and subtract times and calculate elapsed time. Recognize area as an attribute of plane figures and understand concepts of area measurement. |  |  |  |  |  |  |  |  |
| Use number and unit to report result of measurement of directly measurable quantities such as weight, length and time. Develop unit and part of the whole concept. |  |  |  |  |  |  |  |  |
| Use ruler to compare objects of different length and express the difference in appropriate units. Add length to find perimeter of regular 2D shapes. Measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes. |  |  |  |  |  |  |  |  |
| Use ruler to measure and estimate length. Select appropriate unit (cm, m, km) to report, compare or estimate length. Read digital and analogue time to the nearest minute. |  |  |  |  |  |  |  |  |
| Count objects in sets and report result associated with the unit, i.e. three apples, two pies. Compare and order length of the shapes using direct comparison and informal measurements. Tell time in hours and half hours. |  |  |  |  |  |  |  |  |

1. Based on the work of Charles R. Beck, (1998), ‘A taxonomy for identifying, classifying, and interrelating teaching strategies’, Vol. 47, No. 1 , *The Journal of General Education*, pp. 37-62 [↑](#footnote-ref-1)