

# Working with Your Preferred Learning Style

How do you connect with information?



or



What sensory input do you prefer?



How do you make information meaningful?



or



What is your pattern of learning?



or



# Working with Your Preferred Learning Style<sup>1</sup>

## 1. What is this all about?

**Learning** is an active mental process that involves at least 4 different activities: getting information into your brain through your senses, thinking about your experiences, remembering, and expressing your thoughts and feelings. The focus of learning is on making sense of the world around you, so you can adapt to new situations.

At university, the goal of learning is to increase your understanding of subject material: see patterns and connections, acquire skills, and develop critical thinking. Ultimately, “adaptation” translates to extending knowledge beyond known limits, creating a new method or product, or discovering a new phenomenon.

**Learning style** is a loose term that refers to your preferred way of learning, but not necessarily your best or only way of learning

Research in this area goes back at least 50 years. No specific test of learning style has been developed that is widely accepted. Many tests are used that tap different areas, with much attention being given to distinctions among visual/auditory/kinesthetic learning styles. Data is weak on the validity of the concept, and teaching approaches that favour one style of learner are often not specific to only that style. Links derived from Jung’s work are made between personality, learning style, and careers. But intuitively, the idea of “learning style” makes sense and many students find the strategies help them approach their work.

## 2. What’s your preferred style? How do you learn?

Think about your own habits, preferences, experiences:

- do you choose to learn by watching? doing? reading? discussing?
- do you like facts? practical information? theory?
- through what senses do you prefer to receive information? Visual? Auditory? Kinesthetic?
- do you like to learn step-by-step or do you just “get it” somehow?

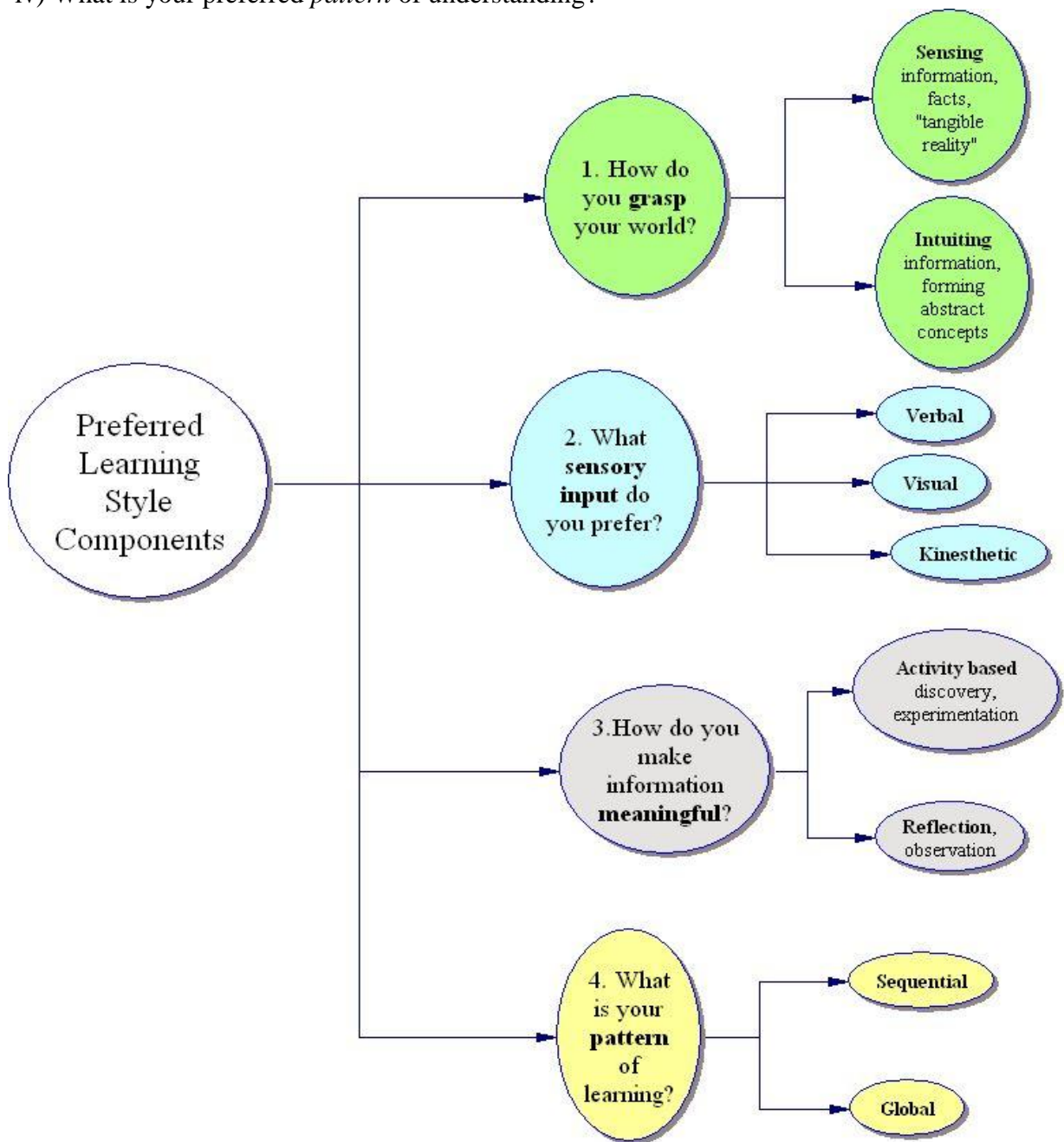
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<sup>1</sup> This information is most meaningful if you first complete the free, online *Index of Learning Styles* by Felder and Silverman.  
Reference: [www.ncsu.edu/felder-public/ILSpage.html](http://www.ncsu.edu/felder-public/ILSpage.html) for both the ILS questionnaire, and the general interpretation of your results.

### 3. What are the Essential Elements of the Concept?

Recent work by Felder and Silverman (2002, 1987) built on earlier thinking about cognitive style. Learning Style now consists of the following dimensions:

- i) How do you *connect* or grasp information?
- ii) What form of *sensory input* do you prefer?
- iii) How do you *make information meaningful* to yourself?
- iv) What is your preferred *pattern* of understanding?



#### 4. Next Step: Determine your own Preferred Learning Style

Take a **free** test to check out your self-perceptions:

- the work of Felder and colleagues: *Index of Learning Styles* at <http://www4.ncsu.edu/unity/lockers/users/f/felder/public/ILSpage.html>
- concerning visual, auditory, and kinaesthetic learning: *VAK* at <http://www.businessballs.com/vaklearningstylestest.htm>
- related to personality type: Myers Briggs at [www.teamtechnology.co.uk/mmdi-re/mmdi-re.htm](http://www.teamtechnology.co.uk/mmdi-re/mmdi-re.htm)  
Complete the *Mental Muscle Diagram Indicator*, and then read more about Myers Briggs personality types.

Or take a \$15.00 Kolb *Learning Style Inventory* test at [www.haygroup.com](http://www.haygroup.com)

#### 5. Working with your Preferred Learning Style: Strategies for University Students

The *Index of Learning Styles* (Felder and Silverman) defines 4 dimensions, each with 2 categories. The following strategies can be combined across the components to make an individually tailored plan for you.

Use this icon key to help you quickly locate different styles within each domain:

##### Domain 1: Connecting with Information



Sensor



Intuitior

##### Domain 2: Grasping Sensory Input



Visual



Verbal



Kinesthetic

##### Domain 3: Understanding Information



Activity based learners



Reflective learners

##### Domain 4: Patterns of Learning



Sequential learners



Global learners

## I) How do you CONNECT with information? Grasping Material Component



**Sensors** learn best by.... dealing with facts, what is known, seeking clarity, describing what is seen. You like the “tangible reality” of what can be directly touched or observed, and like logic more than tradition, emotion or intuition.

*Sensors* could try to:

- seek or create structure in your personal and school life
- have clear expectations from the professor, and refer to learning objectives in the course outline
- be organized in each course
- use the ‘practise to theory’ approach, ie. think about how details, applications and concepts are related
- look for the basic steps in a problem or concept
- break large projects into smaller units
- refer to examples of others’ work, as a sample or model
- recognize that complex, abstract ideas may feel uncomfortable at first....persist!  
Connect facts and concepts to the “real world”
- ask questions to reduce the uncertainty or ambiguity in an abstract topic
- be aware that extra effort is needed to understand new, abstract concepts (for a “sensor”, Bio will be easier than Physics or Philosophy!)



**Intuitors** learn best by...thinking about ideas, exploring the unknown, generating new possibilities, considering what isn’t obvious, being independent. You like the “imagined possibilities”, and enjoy working alone to foster your depth, originality and creativity..

*Intuitors* could try to:

- work from “theory to practice”, so details and skills can also be learned
- learn about and practise working in groups...be patient with others who approach the world differently
- be aware of “time traps”: activities that enhance your learning and understanding, but exceed the course objectives.
- reward yourself for completion of assigned work with time to explore new ideas
- practice verbalizing or explaining your thinking, until others understand
- develop the habit of checking your work, even if it’s boring!

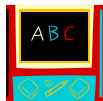
## II) What SENSE do you prefer? Sensory Mode of Input Component



**Visual learners** learn best through...what you see- activities, demonstrations, graphs, charts, and the visual features of what you see (colour, pattern, organization).

*Visual learners* could try to:

- build on natural preference for “a picture is worth 1000 words”
- use graphs, charts, diagrams, pictures to summarize information
- use mind-maps to plan essays, and summarize notes or texts
- use symbols, text boxes, and underlining in your notes to emphasize key concepts, etc
- use colour to distinguish one subject from another (blue binder, blue highlighter = biology, red= physics, etc.) or one topic from another in a course.
- prepare for class by reading web notes or skimming text: have a good idea of what will be lectured in class
- during lecture, create mental images of what professor is saying
- sit close enough to easily see all visual aids, and the professor
- try using a mind-map for note-taking in a lecture, or the Cornell note method that you can add colour or symbols to after class
- ask if other visual resources are available
- enhance your memory by verbalizing what you see in your mind, or in your visual aid...remember, you must be able to share your knowledge verbally with others



**Verbal learners** learn best through...words- either spoken, heard, written or read.

*Verbal learners* could try to:

- develop your ideas through talking and writing
- form a study group, and “teach” friends
- read the web notes or skim the text before class
- practice translating graphs and diagrams into words
- use the Cornell method of note-taking in lectures
- practice good listening skills during lectures and seminars
- participate in class discussions
- make clear notes of the process or desired behaviour to be learned, in lab or skill classes
- debrief with a friend after a lecture
- study using paraphrased and summarized notes (not memorized verbatim from the text)
- enhance your memory using rhymes, jingles, or listening to your own summary tapes



**Kinesthetic learners**, those who learn best through physical involvement while they are learning and with the material to be learned, often struggle with the sedentary and heavy verbal emphasis in instructional methods at university. Courses that are skill-based, such as athletics, fine arts, clinical skills and labs will mesh with this preferred learning style. Because this learning style is under represented at university, it is not the focus of the *Index of Learning Style*, but there is some overlap with the following dimension of Activity Based learning .

### III) How do you come to UNDERSTAND information? Making Material Meaningful Component



**Activity based learners** learn best by...interacting with the material through activity: performing experiments, lab work, clinical rotation, group discussion, note-making, explaining concepts to friends. You like to “let’s try and see” and discover as you go along.

*Activity based learners* could try to:

- maintain your interest in a topic by mentally engaging with it: allow time to think, read.
- study with others whom you can talk to or explain ideas to
- prepare for class by reading ahead, so you feel confident participating in discussions
- try to select some lab., seminar or production courses
- develop an intellectual relationship with the TA, an upper year student, or a friendly prof.
- practice the habit of “thinking before you speak” to develop critical thinking
- check out plans for research, design or projects with a reflective thinker to reduce potential problems
- internalize a methodical, careful approach to problem-solving in the maths and sciences
- integrate ideas or steps into a coherent whole before moving to a new topic
- enhance your memory by applying your knowledge...do something with it, either practically or by creating creative summary sheets like charts, diagrams, mind-maps



**Reflective learners** learn best by....thinking quietly by yourself, using objective logic, analyzing. You like to work it out in your head, first, before answering a question or perform a skill.

*Reflective learners* could try to:

- practice taking a risk in expressing less than perfectly formulated ideas
- break large topics or complex concepts into smaller steps; learn and share components as you resolve them, rather than feeling the need to complete the whole topic first
- ask yourself questions as you read or study, to engage your thinking
- summarize readings or lectures, in your own words
- use supplemental resources to understand topic better, if desired
- enhance your memory by using mind-maps to clarify associations and relationships

#### IV) Are you linear and logical or an “end result” learner? PATTERN of Learning and Understanding Component



**Sequential learners** learn best by...following a step-by-step process, with logically connected steps. It may be difficult for you to associate information and to relate several concepts into an overview of a topic.

*Sequential learners* could try to:

- prepare for lectures by creating a lecture outline, based on web notes or text
- use the Cornell method of note-taking in class, and summarize notes afterwards
- re-do notes after class so they are orderly, if lecturer jumps from topic to topic.
- summarize whole picture, not just logical details
- associate details (steps, facts, etc.) to see inter-relationships, and over riding concepts, eg. using mind maps
- study by creating an outline of the material, relating this to the learning objectives, and then fill in the details



**Global learners** learn best by...exposing yourself to factual information but having the “mental space” to allow your mind to work in its own mysterious way. You typically understand the “big picture” without knowing details, steps, or connections, or may be able to solve abstract problems in math or physics but have difficulty explaining your thinking process.

*Global learners* could try to:

- read the learning objectives in each course outline, introduction to the lecture, lab. instruction etc to determine the goal of the activity.
- attempt to relate the learning objectives to what you have already learned on the topic
- when reading a text: read the outline, introduction and chapter summary before reading the chapter contents for detail. This will help provide an overview.
- prepare for class by reading web notes or skimming text to learn the general direction of the lecture
- tape record lectures if you lose detail in your notes, due to thinking on a point and losing the flow
- after class, prepare notes that include details, as well as theories, concepts or innovative possibilities
- articulate verbally (on paper or to a friend) the logical steps to reaching a conclusion
- allow enough time to be immersed in a subject (with short breaks!), so your train of thought isn't interrupted

## 6. How can I Relate my Preferred Learning Style to Academic Activities?

Effective reading is a basic learning and study skill that can be enhanced by applying strategies useful to your own learning style to the demands of the task of reading. The strategies you might first want to first adopt are those that are listed for several of your learning dimensions.

### Strategies for Reading with Different Learning Styles

#### I. Grasping Material



If you are a *Sensor* your focus during reading will be on the details, facts, what has already been discovered and described. Thus, your notes will tend to be copies of the details in the text, article or lab manual.

- Relate those details to the broader concepts
- Apply facts to the “real world”
- Think of implications of the facts.



If you are an *Intuitior* your preference is to focus on a deep understanding and you may get side-tracked on appealing new ideas.

- Focus on “theory-to-practise”, i.e. push yourself to move from your theoretical understanding to actually applying concepts to problems or key themes.
- Record facts in your notes so you have something specific to study from later on.
- Provide enough detail to be able to teach or explain your notes to someone else.

#### II. Preferred Sensory Input



If you are a *Visual learner* you will be attracted to pictures, graphs, charts, and the visual construction of words.

- Represent as much of the written text as possible in graphic form like a mind map or CONstruct to visualize details and connections, or tables and charts to compare and contrast information. Go to the “Reading and Note-Making” module in the Learning Strategies Development website for details of these methods.
- Study by translating graphics into words, as ultimately words will be required to communicate with others or write exams.
- Learn new vocabulary by parsing words into familiar sections, and using cue cards for drilling.
- Use colour, underling and boxes to highlight key concepts.

- Learn how to use mind maps for summarizing texts and notes. Use arrows to draw relationships between concepts.



If you are a **Verbal learner** then you enjoy spoken or written words. Reading is your thing!

- Read aloud or sub-vocalize the text. Hear the sound of the words in your mind.
- Verbally interpret graphics, charts, etc
- Talk to yourself as you read: ask questions to help guide your focus, and then answer your own questions
- Write notes at the end of each section or sub-section of a chapter. The Cornell method may be helpful to you. See the “Reading and Note-Making” for details of this method.
- Tape yourself as you summarize key points in a text, and then listen to the tape as a memory aid.
- Create songs, rhymes or jingles as a memory aid to key points.
- Read with a study friend, and discuss things you don’t understand



If you are a **Kinesthetic learner**, then reading may be challenging due to the need for concentrated focus and the lack of physical, motor-based learning involved.

- Read with a pointer or your finger on the line of print
- Make notes as you go along, summarizing each small section
- Draw diagrams or flow charts of how you would conduct an experiment or solve a problem. Go beyond the words on the page and try to apply the ideas.
- Think of the “real world” implications of what you are reading.
- Read within your attention span. Take breaks as needed and involve physical activity to reduce restlessness.
- Try to determine the key sections of readings (ask your professor) to reduce the amount to be read.
- Tap a rhythm or talk with your hands if it helps you concentrate.

### III. Styles of Making Information Meaningful



**Activity based learners** benefit by emphasizing the active components of reading

- Interact with the written material by sub-vocalizing the text
- Use the SQ3R method, especially the Question, Read, and Recite elements. See the “Reading and Note-Making” module for a description of this method.
- Make notes in written or graphic form.
- At the end of a chapter section apply your understanding by imagining how you could test the theory, generate an experiment, or design a piece of equipment.

- Generate study questions for later use, focussing on key concepts, relationships and applications.
- Read with a friend, and talk about ideas at the end of the reading.



**Reflective observer learners** often enjoy reading.

- Read in a quiet space.
- Designate time to think and develop your ideas.
- Read small sections and then make notes of details. It is not reasonable to expect yourself to understand the whole chapter after 1 reading from start to finish.
- Summarize in your own words.
- Engage your thinking by asking questions as you read.
- Balance the need to learn details with your desire to understand and generate abstract conceptualizations.

#### IV. Patterns of Learning



If you are a **Sequential learner**, then you will appreciate methodically presented textbooks, journal articles or lab manuals.

- Inspect the layout of the material for cues as to its organization: pay attention to bold print, size of type for titles and subtitles, use of side bars, review questions.
- Develop an outline before you read, by writing down titles. This “road map” will help you see the logical pattern and goal of the reading.
- Make notes of key ideas at the conclusion of each section.
- Stretch your thinking by looking for associations and connections between details. Try using a mind map to understand the Big Picture, as described in the “Reading and Note-Making” module.



If you are a **Global learner** your tendency will be to read material and form conclusions, without necessarily knowing how you got there.

- Read the chapter outline, article abstract or lecture learning objectives before reading the material. Gain an overview and so that your attention is more drawn to the individual steps, facts or concepts to be learned.
- Make notes that include both major themes and details and facts, eg. by using a mind map.
- After reading, talk to a friend about the logical steps or relationships involved in the Big Picture. Practise teaching the individual concepts that lead up to your conclusion or global understanding.

## 7. What is the goal of learning about my learning?

Regardless of your own preferred approach to learning, your goal is to be the best student you can be: enthusiastic, efficient, engaged, and balanced in other areas of your life. Challenging sometimes, but not impossible!

Each of us have a preferred ways of learning, but all of us are capable of learning in many ways. Given the variety of experiences you will have at university, it is useful to develop a variety of strategies, so you can adapt to different situations.

### Characteristics of Effective Learners

- understand your learning style: how do you approach and make meaning of material.
- recognize your uniqueness
- identify your strengths: try to match your style with course delivery methods or content
- predict gaps or challenges in your learning experience e.g. someone who prefers to learn by watching will be challenged in a seminar requiring quick discussion
- anticipate discomfort in some stages of the learning process, due to misfit with your preferred learning style
- apply extra care or effort to develop skills in non-preferred dimensions
- seek others with a different learning style, to develop new skills
- Develop excellent thinking skills:
  - ✓ organize knowledge and facts
  - ✓ become automatic (accurate and fast) with basic skills, facts
  - ✓ look for patterns in a new task
  - ✓ recognize connections, to achieve a deep understanding
  - ✓ experiment with different learning strategies, and learn when to apply them
  - ✓ be self-aware, about when you do or do not understand
  - ✓ seek to understand