

# APPENDIX 1

# Bloom's Trajectory

## Examples of the Use of Bloom's Trajectory - Learning to drive a car

Stage of Learning	Knowledge Mastery	Skills Mastery
Before you start, you know that you want to learn, and that you have not yet done it all, nor do you know the theory.	'conscious incompetence' (K0)	'conscious incompetence' (S0)
Before your first practical lesson you learn the theory, rules and basic sequences, either from a handbook or from the instructor.	'remembering' (K1)	'readiness' (S1), leading to 'understanding' (K2)
Your first practical lesson is driving around a marked track. You very slowly and carefully carry out each move in accordance with the sequence you have learned by heart. You consciously adjust the throttle, depress the brake pedal, etc. Initially you do this when driving in a straight line, then you practice as you negotiate bends. You maneuver for parallel parking and changing lanes.		'attempting' (S2)
After sufficient practice you achieve some mastery/fluency and are allowed onto a public road with other traffic. You are encountering new situations and have to think how to respond and then do it. But you still concentrate on every move you make.	'applying' (K3)	'basic proficiency' (S3)
Considerable and varied practice so that your movements achieve greater mastery / fluency. You no longer have to concentrate to the exclusion of everything else, maneuvering the car is no longer a series of separate actions but has become a single process. You achieve acceptable performance levels.		'expert proficiency' (S4)
With further practice your movements become so natural that you no longer think about them consciously.		'unconscious competence' / 'adaptable proficiency' (S5)

There is a similar trajectory for most learning. For some competencies, certain stages appear to be omitted. For example some people have learned their interpersonal skills unconsciously without being taught, without any theory, and so neither 'remembering' (K1) nor 'understanding' (K2). Whereas many others have had to be explicitly taught these skills at college or in the work-place. But with sufficient practice, most will progress to 'adaptable proficiency' (S5)

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## Knowledge Domain

	Name	Level descriptors
K0	Awareness	'Conscious incompetence'
K1	Remembering	'Know what'. Recall data or information; quote rules, definitions, laws
K2	Understanding	'Know why'. Understand the meaning, translate, interpolate, and interpret instructions and problems. State a problem in one's own words.
K3	Applying	Know how to use a concept in a new situation or unprompted use of an abstraction. Apply what was learned in the classroom into novel situations in the work place. Put a theory into practical effect; demonstrate, solve a problem, manage an activity.
K4	Analyzing	Know how to examine information in order to understand, explain or predict. Separate material or concepts into component parts so that its organisational structure may be understood. Distinguish between facts and inferences. Interpret elements, organizational principles, structure, construction, internal relationships. Determine quality, reliability of individual components.
K5	Evaluating	Know how to weigh up ideas and make a judgement. Make judgments about the value of ideas or materials. Assess effectiveness of whole concepts, in relation to values, outputs, efficacy, and viability. Exercise critical thinking. Conduct strategic comparison and review; make judgements relating to external criteria.
K6	Creating	Know how to bring information together in order that something can be decided or acted upon. Build a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure. Create new patterns/concepts, structures, systems, models, approaches, ideas.

# Bloom's Trajectory

## Skills Domain (including mental skills as well as physical dexterity)

	Level Name	Level descriptors
S0	Awareness	'Conscious incompetence'
S1	Readiness	Know and be ready to act upon a sequence of steps in a process. Recognize one's abilities and limitations (health & safety).
S2	Attempting	Imitation: Observe and pattern behaviour after someone else, following instructions and practising. Performance may be of lower quality. Guided Response: Learn a complex skill (early stages) including imitation and trial and error. Adequacy of performance is achieved by practising.
S3	Basic proficiency	Learned responses have become habitual and the movements can be performed with some confidence, precision and proficiency. A few minor errors are apparent. Conscious competence.
S4	Full proficiency	Skilful performance involves complex patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. Coordinate and integrate a series of actions, achieving harmony and internal consistency. This category includes performing without hesitation and automatic performance.
S5	Adaptable proficiency	'Unconscious competence'. A high level performance becomes natural, without needing to think much about it. Skills are well developed and the individual can modify movement patterns to fit special requirements. Respond effectively to unexpected experiences. For example: Modify instruction to meet the needs of the learners. Use equipment to perform a task it was not originally intended to do (equipment is not damaged and there is no danger in performing the new task).
S6	Creative proficiency	Create new routines to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills. Develop new techniques and/or procedures.

## Attitudes (and Values) Domain

	<b>Level Name</b>	<b>Level descriptors</b>
A0	Alertness	Awareness, willingness to hear, selected attention.
A1	Complying	Active participation on the part of the learner. Attends and reacts to a particular phenomenon. Attitudes are adopted without consideration or modification, and may be imposed upon the learner by those in authority. Learning outcomes may emphasise compliance in responding, willingness to respond, or satisfaction in responding (motivation).
A2	Valuing	Attaches values and expresses personal opinions. Decides the worth and relevance of ideas and experiences, but as independent instances, not fully integrated. Accepts/adopts a particular stance or demonstrates attitudes which (while remaining constant), are not consistent with each other.
A3	Relating	Considers ethical issues at an abstract, conceptual level. Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating a coherent value system. The emphasis is on comparing, relating, and synthesizing attitudes and values so that they are consistent.
A4	Commitment	Commits to a value system that shapes behaviour. The behaviour is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Learner can act as a role model. Instructional objectives concern the student's general patterns of adjustment (personal, social, emotional).