

**KOMPILASI RUJUKAN  
PEMBANGUNAN HASIL  
PEMBELAJARAN DAN  
TAKSONOMI PEMBELAJARAN**

**UNIT PENILAIAN DAN INOVASI KURIKULUM  
BAHAGIAN KURIKULUM  
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI  
2019**

## **I. Panduan Pembangunan Hasil Pembelajaran (*Learning Outcome*)**

Suatu hasil pembelajaran yang baik perlu memfokuskan dan merujuk kepada perspektif pelajar di mana pelajar boleh menunjukkan pencapaian di dalam sesuatu kursus. Oleh itu, dalam penulisan dan pembangunan hasil pembelajaran perlu lebih memfokuskan kepada kompetensi pelajar yang boleh diukur pada akhir sesi pembelajaran.

Hasil pembelajaran yang baik perlu mempunyai ciri-ciri berikut (SMART-O):

### **i. Spesifik (*specific*)**

- Hasil pembelajaran perlu digubal mengikut tahap taksonomi (kognitif, psikomotor & afektif) yang bersesuaian dan mempunyai hubungan dengan standard yang dirujuk dan domain MQF.
- Hasil pembelajaran hanya dipetakan dengan satu domain taksonomi tertentu sahaja, dengan memilih tahap tertinggi untuk domain taksonomi berkenaan.

### **ii. Boleh ukur (*measureable*)**

- Hasil pembelajaran perlu boleh diukur melalui kaedah penilaian yang telah dikenal pasti dan digubal menggunakan kata kerja tindakan (*action verb*).

### **iii. Boleh capai (*achievable/attainable*)**

- Hasil pembelajaran perlu mengambil kira tahap keupayaan pelajar dan boleh dicapai oleh pelajar biasa dan pencapaiannya boleh ditunjukkan oleh pelajar.

### **iv. Relevan (*relevant*)**

- Hasil pembelajaran perlu relevan dengan kurikulum, matlamat pendidikan dan objektif program serta boleh ditunjukkan secara objektif melalui pemetaan.

### **v. Mempunyai had masa (*time-bound*)**

- Hasil pembelajaran perlu boleh diukur dan dicapai dalam tempoh jangka masa pembelajaran yang ditetapkan, iaitu dalam semester berkenaan.

### **vi. Boleh ditunjukkan (*observable*)**

- Hasil pembelajaran perlu boleh diperhatikan dan ditunjukkan pencapaiannya melalui kaedah pentaksiran yang sesuai.

Semasa membangunkan hasil pembelajaran, pernyataan hasil pembelajaran perlu dimulakan dengan kata kerja tindakan yang boleh diukur. Kata kerja seperti “memahami”, “mempelajari”, “mengetahui” dan “mengkaji” perlu dielakkan dalam pernyataan hasil pembelajaran kerana ia sukar diitunjukkan oleh pelajar bagi membuktikan pencapaian kompetensi yang disasarkan di dalam hasil pembelajaran berkaitan.

**(Sumber: Garis Panduan Penyediaan Dokumen Program Pengajian Versi 2 (Semakan 2016), UKM)**

## **II. Panduan Penggunaan Taksonomi Pembelajaran Bagi Program Pengajian Politeknik dan Kolej Komuniti, Kementerian Pendidikan Malaysia.**

1. Taksonomi Pembelajaran yang dinyatakan dalam Garis Panduan Amalan Baik Penilaian Pelajar (MQA, 2014) yang merujuk kepada (Rujuk **Lampiran 1**):
  - i. **Domain Kognitif:** *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives (Anderson & Krathwohl ed., 2001).*
  - ii. **Domain Psikomotor:** *The Classification of Educational Objectives in the Psychomotor Domain. Washington, DC: Gryphon House (Simpson, 1972).*
  - iii. **Domain Afektif:** *Taxonomy of educational objectives: Handbook II: The Affective Domain. New York: McKay (Krathwohl et.al, 1964).*
2. Selain daripada itu, Jawatankuasa Pembangunan Taksonomi Politeknik Malaysia telah membangunkan Taksonomi Politeknik 2016 (Rujuk **Lampiran 2**). Perbezaan antara Taksonomi Politeknik 2016 dengan Garis Panduan Amalan Baik Penilaian Pelajar (MQA, 2014) adalah satu kata kerja pada satu aras/level (Anderson & Krathwohl ed., 2001) dan tambahan kata kerja *Digitized Taxonomy*. Manakala Domain Psikomotor (Simpson, 1972) dan Domain Afektif (Krathwohl et.al, 1964) adalah sama seperti dalam Garis Panduan Amalan Baik Penilaian Pelajar (MQA, 2014).
3. Berikut disenaraikan penggunaan taksonomi pembelajaran oleh unit/bidang seperti yang dinyatakan dalam surat bernombor rujukan JPPKK.BK. 600-5/4/3(9) bertarikh 17 Oktober 2019 yang berkuatkuasa terhadap dokumen kurikulum versi Jun 2019 (Rujuk **Lampiran 3**).
4. Bagi program/kursus yang menggunakan Bahasa Melayu sebagai bahasa penghantar yang merujuk kepada Garis Panduan Amalan Baik Penilaian Pelajar (MQA, 2014) boleh menggunakan Jadual Taksonomi Pembelajaran UKM (2016) (Rujuk **Lampiran 4**).
5. Bagi program/kursus yang menggunakan Bahasa Melayu sebagai bahasa penghantar, yang merujuk kepada Taksonomi Politeknik 2016 boleh menggunakan Jadual Taksonomi Politeknik 2016 Versi Bahasa Melayu (Kognitif) (Rujuk **Lampiran 5**).
6. Merujuk kepada surat MQA.100-1/7/1 Jilid 2(4) bertarikh 20 Mac 2018, Pemakaian Kerangka Kelayakan Malaysia (MQF), Edisi Kedua menyatakan Pemberi Pendidikan Tinggi (PPT) perlu menambah baik dan menyusun semula lapan domain hasil pembelajaran ke dalam lima *cluster* hasil pembelajaran. (Rujuk **Lampiran 6**).
7. Format dokumen kurikulum politeknik dan kolej komuniti menyatakan skills pada item nombor 9 dalam *Course Information, Transferrable Skills* adalah merujuk kepada *template excel* MQA. (Rujuk **Lampiran 7**).

Lampiran 1

**Appendix 2: Examples of Cognitive Processes and Action Verbs in Bloom's Taxonomy**

Bloom's levels of thinking process begin by recognizing and recalling facts, concepts, theories, principles, procedures, criteria and steps on self learning. The recognition and recalling process is essential towards performing more complex cognitive tasks especially in understanding events, abstraction, cause and effect of physical phenomena and answering familiar textbook problems. The cognitive complexity increases as the tasks move from understanding to higher order thinking skills such as justifying an idea or action and generating new products or new ways of viewing things.

Elaboration on the six levels of thinking in Bloom's taxonomy						
<b>1 Remembering</b> Can the student RECALL information?	<b>2 Understanding</b> Can the student EXPLAIN ideas or concepts?		<b>3 Applying</b> Can the student USE the new knowledge in another familiar situation?	<b>4 Analysing</b> Can the student DIFFERENTIATE between and RELATE constituent parts?	<b>5 Evaluating</b> Can the student JUSTIFY an opinion, decision or course of action?	<b>6 Creating</b> Can the student GENERATE new products, ideas or ways of viewing things?
<b>Recognising</b> Locating knowledge in memory that is consistent with presented material. <u>Synonyms</u> • Identifying • Finding • Selecting • Indicating  <b>Recalling</b> Retrieving	<b>Interpreting</b> Changing from one form of representation to another. <u>Synonyms</u> : • Paraphrasing • Translating • Representing • Clarifying • Converting • Rewriting • Restating • Expressing	<b>Summarising</b> Drawing a logical conclusion from presented information. <u>Synonyms</u> • Abstracting • Generalising • Outlining • Précising  <b>Inferring</b> Abstracting a general theme or major point	<b>Executing</b> Applying knowledge (often procedural) to a routine task. <u>Synonyms</u> • Carrying out • Measuring • Constructing • Demonstrating • Computing • Calculating • Manipulating • Operating	<b>Differentiating</b> Distinguishing relevant from irrelevant parts or important from unimportant parts of presented material. <u>Synonyms</u> • Discriminating • Selecting • Focusing • Distinguishing between • Separating	<b>Checking</b> Detecting inconsistencies or fallacies within a process or product. Determining whether a process or product has internal consistency. <u>Synonyms</u> • Testing • Detecting	<b>Generating</b> Coming up with alternatives or hypotheses based on criteria. <u>Synonyms</u> • Hypothesizing • Proposing • Developing • Engendering • Synthesising • Providing options  <b>Planning</b> Devising a

Elaboration on the six levels of thinking in Bloom's taxonomy						
<b>1 Remembering</b> Can the student RECALL information?	<b>2 Understanding</b> Can the student EXPLAIN ideas or concepts?		<b>3 Applying</b> Can the student USE the new knowledge in another familiar situation?	<b>4 Analysing</b> Can the student DIFFERENTIATE between and RELATE constituent parts?	<b>5 Evaluating</b> Can the student JUSTIFY an opinion, decision or course of action?	<b>6 Creating</b> Can the student GENERATE new products, ideas or ways of viewing things?
relevant knowledge from long-term memory. <u>Synonyms</u> • Retrieving • Naming • Reproducing • Recounting	<b>Exemplifying</b> Finding a specific example or illustration of a concept or principle. <u>Synonyms</u> • Instantiating • Illustrating... • Representing • Giving examples of • Showing  <b>Classifying</b> Determining that something belongs to a category (e.g., concept or principle). <u>Synonyms</u> • Categorising • Subsuming	<u>Synonyms</u> • Extrapolating • Interpolating • Predicting • Concluding • Extending • Generalising  <b>Comparing</b> Detecting correspondences between two ideas, objects, etc. <u>Synonyms</u> • Contrasting • Matching • Mapping  <b>Explaining</b> Constructing a cause-and-effect model of a system. <u>Synonyms</u>	• Preparing • Producing • Drawing up • Practising  <b>Implementing</b> Applying knowledge (often procedural) to a non-routine task. <u>Synonyms</u> • Using • Estimating • Predicting • Solving • Changing • Discovering • Explaining how • Verifying • Finding	• (Sub)dividing • Examining • Relating  <b>Organising</b> Determining how elements fit or function within a structure. <u>Synonyms</u> • Outlining • Structuring • Integrating • (Re)arranging • Categorising • Ordering • Deriving  <b>Attributing</b> Determining the point of view, bias, values, or intent underlying presented material.	• Monitoring • Concluding • Assessing • Appraising • Discriminating • Determining  <b>Critiquing</b> Detecting the appropriateness of a procedure for a given task or problem. <u>Synonyms</u> • Judging • Questioning • Justifying • Defending • Discussing • Criticising • Arguing • Including • Rating	procedure for accomplishing some task. <u>Synonyms</u> • Designing • Formulating • Combining • Compiling • Devising • Revising • Putting together • Suggesting  <b>Producing</b> Inventing a product. <u>Synonyms</u> • (Re)constructing • Composing • Modifying • Altering • Building • Enlarging

Elaboration on the six levels of thinking in Bloom's taxonomy						
<b>1 Remembering</b> Can the student RECALL information?	<b>2 Understanding</b> Can the student EXPLAIN ideas or concepts?		<b>3 Applying</b> Can the student USE the new knowledge in another familiar situation?	<b>4 Analysing</b> Can the student DIFFERENTIATE between and RELATE constituent parts?	<b>5 Evaluating</b> Can the student JUSTIFY an opinion, decision or course of action?	<b>6 Creating</b> Can the student GENERATE new products, ideas or ways of viewing things?
	• Organising	• Elucidating • Constructing models		<u>Synonyms</u> • Deconstructing • Comparing • Contrasting • Diagnosing	• Ranking • Valuing	

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From <http://www.tedi.uq.edu.au/downloads/assessment/quickbites/Blooms-levels-of-thinking.doc>. From "Revised Bloom's Taxonomy" retrieved 20 May, 2005 from <http://rite.ed.qut.edu.au/oz-teachernet/index.php?module=ContentExpress&func=display&ceid=29> and *Using Learning Outcomes to Design a Course and Assess Learning Outcomes*. [http://www.hlst.heacademy.ac.uk/guide/current\\_practice/Learning.html](http://www.hlst.heacademy.ac.uk/guide/current_practice/Learning.html) and Moon, J. Linking Levels, Learning Outcomes and Assessment Criteria. Retrieved 30 May, 2007, from [http://www.see-educoop.net/education\\_in/pdf/edinburgh-moon-oth-enl-t02.pdf](http://www.see-educoop.net/education_in/pdf/edinburgh-moon-oth-enl-t02.pdf).

**Appendix 3: Two-Dimensional Bloom's Revised Cognitive Domain**

This two-dimensional cognitive domain allows you to specify the learning complexities (depth or competency) in the four knowledge dimensions. The cells can be used to indicate the learning outcomes and hence the assessment targeted for each course.

Cognitive Process Dimension: From Lower Order (1 & 2) to Higher Order (3-6) Thinking Skills							
	This revised Bloom's Taxonomy will assist you as you work to improve instruction to ensure that <ul style="list-style-type: none"> <li>Standards, lessons, and assessments are aligned.</li> <li>Lessons are cognitively rich.</li> <li>Instructional opportunities are not missed.</li> </ul>	<b>1. Remember:</b> retrieving relevant knowledge from long term memory 1. Recognizing 2. Recalling	<b>2. Understand:</b> determining the meaning of instructional messages 1. Interpreting 2. Exemplifying 3. Classifying 4. Summarizing 5. Inferring 6. Comparing 7. Explaining	<b>3. Apply:</b> carrying out or using a procedure in a given situation 1. Executing 2. Implementing	<b>4. Analyze:</b> breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose 1. Differentiating 2. Organizing 3. Attributing	<b>5. Evaluate:</b> making judgments based on criteria and standards 1. Checking 2. Critiquing	<b>6. Create:</b> putting elements together to form a novel, coherent whole or make an original product 1. Generating 2. Planning 3. Producing
Knowledge Dimension	<b>A. Factual Knowledge:</b> basic elements that students must know to be acquainted with a discipline or solve a problem in it. a. Knowledge of terminology b. Knowledge of specific details and elements						
	<b>B. Conceptual knowledge:</b> the interrelationships among the basic elements within a larger structure that enable them to function together a. Knowledge of classification b. Knowledge of principles and generalizations c. Knowledge of theories, models and structures						

Cognitive Process Dimension: From Lower Order (1 & 2) to Higher Order (3-6) Thinking Skills							
	This revised Bloom's Taxonomy will assist you as you work to improve instruction to ensure that <ul style="list-style-type: none"> <li>Standards, lessons, and assessments are aligned.</li> <li>Lessons are cognitively rich.</li> <li>Instructional opportunities are not missed.</li> </ul>	<b>1. Remember:</b> retrieving relevant knowledge from long term memory 1. Recognizing 2. Recalling	<b>2. Understand:</b> determining the meaning of instructional messages 1. Interpreting 2. Exemplifying 3. Classifying 4. Summarizing 5. Inferring 6. Comparing 7. Explaining	<b>3. Apply:</b> carrying out or using a procedure in a given situation 1. Executing 2. Implementing	<b>4. Analyze:</b> breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose 1. Differentiating 2. Organizing 3. Attributing	<b>5. Evaluate:</b> making judgments based on criteria and standards 1. Checking 2. Critiquing	<b>6. Create:</b> putting elements together to form a novel, coherent whole or make an original product 1. Generating 2. Planning 3. Producing
Knowledge Dimension	<b>C. Procedural knowledge:</b> How to do something: methods of inquiry, and criteria for using skills, algorithms, techniques and methods a. Knowledge of subject specific skills and algorithms b. Knowledge of techniques and methods c. Knowledge of criteria for determining when to use appropriate procedures						
	<b>D. Metacognitive knowledge:</b> knowledge of cognition in general as well as awareness of one's own cognition a. Strategic knowledge b. Cognitive tasks, including appropriate contextual and conditional knowledge c. Self-knowledge						

\*SC SDE (Pat Mohr). Adapted from Lorin W. Anderson, David R. Krathwohl et al (Eds.) *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives* © 2001; published by Allyn and Bacon, Boston, MA © 2001 by Pearson Education; reprinted by permission of the publisher

Source: Krathwohl, D. R. (2002). A Revision of Bloom's Taxonomy: An Overview. *THEORY INTO PRACTICE*, Volume 41, Number 4, Autumn 2002. Copyright (C) 2002 College of Education, The Ohio State University. From [http://www.unco.edu/cetl/sir/stating\\_outcome/documents/Krathwohl.pdf](http://www.unco.edu/cetl/sir/stating_outcome/documents/Krathwohl.pdf). Accessed Jan 2011.

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**Appendix 4: Psychomotor Domain – Simpson's Model**

The psychomotor domain (Simpson, 1972) includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution. The seven major categories are listed from the simplest behavior to the most complex. The MQA and MOE LO domains belonging to the psychomotor taxonomy include practical skills and entrepreneurship.

Level	Category or 'level'	Description	Examples of activity or demonstration and evidence to be measured	Action verbs which describe the activity to be trained or measured at each level
1	Perception	Awareness, the ability to use sensory cues to guide physical activity. The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation.	Use and/or selection of senses to absorb data for guiding movement  Examples: Detects non-verbal communication cues. Estimate where a ball will land after it is thrown and then moving to the correct location to catch the ball. Adjusts heat of stove to correct temperature by smell and taste of food. Adjusts the height of the forks on a forklift by comparing where the forks are in relation to the pallet.  "By the end of the music theatre program, students will be able to relate types of music to particular dance steps."	chooses, describes, detects, differentiates, distinguishes, feels, hears, identifies, isolates, notices, recognizes, relates, selects, separates, touches
2	Set	Readiness, a learner's readiness to act. Readiness to act. It includes mental, physical, and emotional sets. These three sets are dispositions that	Mental, physical or emotional preparation before experience or task  Examples: Knows and acts upon a sequence of steps in a manufacturing process. Recognize one's abilities and limitations. Shows desire to learn a new process (motivation). NOTE: This subdivision	arranges, begins, displays, explains, gets set, moves, prepares, proceeds, reacts, shows, states, volunteers, responds, starts

Level	Category or 'level'	Description	Examples of activity or demonstration and evidence to be measured	Action verbs which describe the activity to be trained or measured at each level
		predetermine a person's response to different situations (sometimes called mindsets).	of Psychomotor is closely related with the "Responding to phenomena" subdivision of the Affective domain.  "By the end of the physical education program, students will be able to demonstrate the proper stance for batting a ball."	
3	Guided Response	Attempt. The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.	Imitate or follow instructions, trial and error  Examples: Performs a mathematical equation as demonstrated. Follows instructions to build a model. Responds hand-signals of instructor while learning to operate a forklift.  "By the end of the physical education program, students will be able to perform a golf swing as demonstrated by the instructor."	assembles, builds, calibrates, constructs, copies, dismantles, displays, dissects, fastens, fixes, follows, grinds, heats, imitates, manipulates, measures, mends, mixes, reacts, reproduces, responds sketches, traces, tries
4	Mechanism	basic proficiency, the ability to perform a complex motor skill. This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.	Competently respond to stimulus for action  Examples: Use a personal computer. Repair a leaking faucet. Drive a car.  "By the end of the biology program, students will be able to assemble laboratory equipment appropriate for experiments."	assembles, builds, calibrates, completes, constructs, dismantles, displays, fastens, fixes, grinds, heats, makes, manipulates, measures, mends, mixes, organizes, performs, shapes, sketches

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Level	Category or 'level'	Description	Examples of activity or demonstration and evidence to be measured	Action verbs which describe the activity to be trained or measured at each level
5	Complex Overt Response	expert proficiency, the intermediate stage of learning a complex skill. The skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. This category includes performing without hesitation, and automatic performance. For example, players often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce.	Execute a complex process with expertise  Examples: Maneuvers a car into a tight parallel parking spot. Operates a computer quickly and accurately. Displays competence while playing the piano.  "By the end of the industrial education program, students will be able to demonstrate proper use of woodworking tools to high school students."	assembles, builds, calibrates, constructs, coordinates, demonstrates, dismantles, displays, dissects, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches  NOTE: The key words are the same as Mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc.
6	Adaptation	adaptable proficiency, a learner's ability to modify motor skills to fit a new situation.	Alter response to reliably meet varying challenges.  Examples: Responds effectively to unexpected experiences. Modifies instructions to meet the	adapts, adjusts, alters, changes, integrates, rearranges, reorganizes, revises, solves,

Level	Category or 'level'	Description	Examples of activity or demonstration and evidence to be measured	Action verbs which describe the activity to be trained or measured at each level
		Skills are well developed and the individual can modify movement patterns to fit special requirements.	needs of the learners. Perform a task with a machine that it was not originally intended to do (machine is not damaged and there is no danger in performing the new task).  "By the end of the industrial education program, students will be able to adapt their lessons on woodworking skills for disabled students."	varies
7	Origination	creative proficiency, a learner's ability to create new movement patterns. Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.	Develop and execute new integrated responses and activities.  Examples: Constructs a new theory. Develops a new and comprehensive training programming. Creates a new gymnastic routine.	arranges, builds, combines, composes, constructs, creates, designs, formulates, initiate, makes, modifies, originates, re-designs, trouble-shoots

<http://www.humboldt.edu/~tha1/bloomtax.html> & <http://academic.udayton.edu/health/syllabi/health/lesson01b.htm>. Accessed June 2009.

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**Appendix 5: Affective Domain- Krathwohl**

The Affective Domain addresses interests, attitudes, opinions, appreciations, values, and emotional sets. This domain includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. The MQA and MOE LO domains belonging to the affective taxonomy include communication, teamwork and social responsibilities, ethics, morality, professionalism, lifelong learning, management and leadership.

Level	Category	Description	Examples	Action Verbs
1	Receiving	The student passively attends to particular phenomena or stimuli [classroom activities, textbook, music, etc.] The teacher's concern is that the student's attention is focused. Intended outcomes include the pupil's awareness that a thing exists. Emphasis is on awareness, willingness to hear, selected attention.	<p>Listens attentively, shows sensitivity to social problems.</p> <p>Listens to others with respect. Listens for and remembers the name of newly</p> <p>"By the end of the lesson, students will listen attentively to ideas from their team members."</p>	Attends, accepts, asks, chooses, describes, follows, gives, holds, identifies, listens, locates, names, points to, selects, selectively attends to, replies, uses.
2	Responding	<p>The student actively participates. The student not only attends to the stimulus but reacts in some way.</p> <p>Emphasis is on active participation on the part of the learners. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).</p>	<p>Completes homework, obeys rules, participates in class discussions, shows interest in subject, enjoys helping others.</p> <p>Gives a presentation. Questions new ideals, concepts, models, in order to fully understand them. Knows safety rules and practices</p>	Acclaims, aids, answers, applauds, approves, assists, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes, volunteers.

Level	Category	Description	Examples	Action Verbs
			<p>them.</p> <p>"By the end of the lesson, students will able to perform a quick check on their team participation performance."</p>	
3	Valuing	<p>The worth a student attaches to a particular object, phenomenon, or behavior. Ranges from acceptance to commitment (e.g., assumes responsibility for the functioning of a group). Attitudes and appreciation.</p> <p>Valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner's overt behavior and are often identifiable.</p>	<p>Demonstrates belief in democratic processes, appreciates the role of science in daily life, shows concern for others' welfare, demonstrates a problem-solving approach.</p> <p>Is sensitive towards individual and cultural differences (value diversity). Shows the ability to solve problems. Proposes a plan to bring about social improvement and follows through with commitment. Informs management on strongly felt matters.</p> <p>"By the end of the program, students will be able to demonstrate the scientific approach when resolving physical issues."</p>	Assists, completes, debates, demonstrates, denies, differentiates, explains, follows, forms, increases proficiency in, initiates, invites, joins, justifies, proposes, protests, reads, relinquishes, reports, selects, shares, studies, supports, works.
4	Organization	Brings together different values, resolving conflicts among them, and starting to build an internally	Recognizes the need for balance between freedom and responsible behavior.	Accommodates, adheres, alters, arranges, balances, combines, compares,



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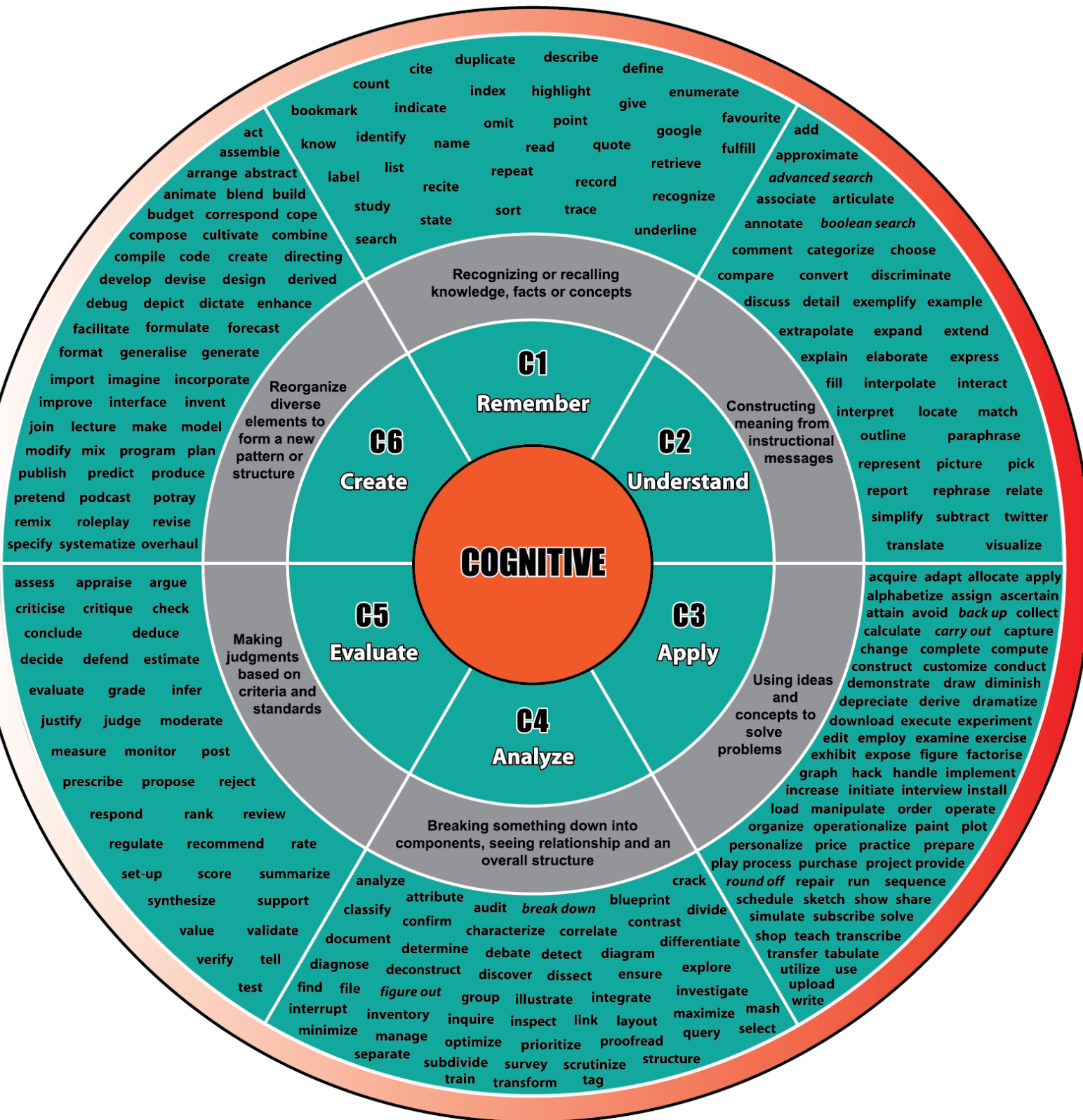
Level	Category	Description	Examples	Action Verbs
		<p>consistent value system--comparing, relating and synthesizing values and developing a philosophy of life.</p> <p>Organizes values into priorities by contrasting different systems. The emphasis is on comparing, relating, and synthesizing values.</p>	<p>Understands the role of systematic planning in solving problems. Accepts responsibility for own behavior.</p> <p>Explains the role of systematic planning in solving problems. Accepts professional ethical standards. Creates a life plan in harmony with abilities, interests, and beliefs. Prioritizes time effectively to meet the needs of the organization, family, and self.</p> <p>"By the end of the environmental studies program, students will be able to organize the conservation efforts of urban, suburban and rural communities."</p>	<p>completes, defends, explains, formulates, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes.</p>
5	Internalizing values: Characterization by a Value or Value Complex	<p>At this level, the person has held a value system for a sufficiently long time to control his/her behavior, has developed a characteristic "life style." Behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Instructional objectives are concerned with the student's general patterns of</p>	<p>Concerned with personal, social, and emotional adjustment: displays self reliance in working independently, cooperates in group activities (displays teamwork), maintains good health habits.</p>	<p>Acts, discriminates, displays, influences, interprets, listens, maintains objectivity modifies, performs, practices, proposes, qualifies, questions, respects, revises, serves, solves, uses evidence, verifies.</p>

Level	Category	Description	Examples	Action Verbs
		<p>adjustment (personal, social, emotional).</p>	<p>Uses an objective approach in problem-solving. Displays a professional commitment to ethical practice on a daily basis. Revises judgments and changes behavior in light of new evidence. Values people for what they are, not how they appear.</p> <p>"By the end of the counseling program, students will be able to objectively interpret evidence presented by clients during a therapy session."</p>	

<http://www.humboldt.edu/~tha1/bloomtax.html> & <http://academic.udayton.edu/health/syllabi/health/lesson01b.htm>. Accessed June 2009. Adopted from: Benjamin S. Bloom, Bertram.

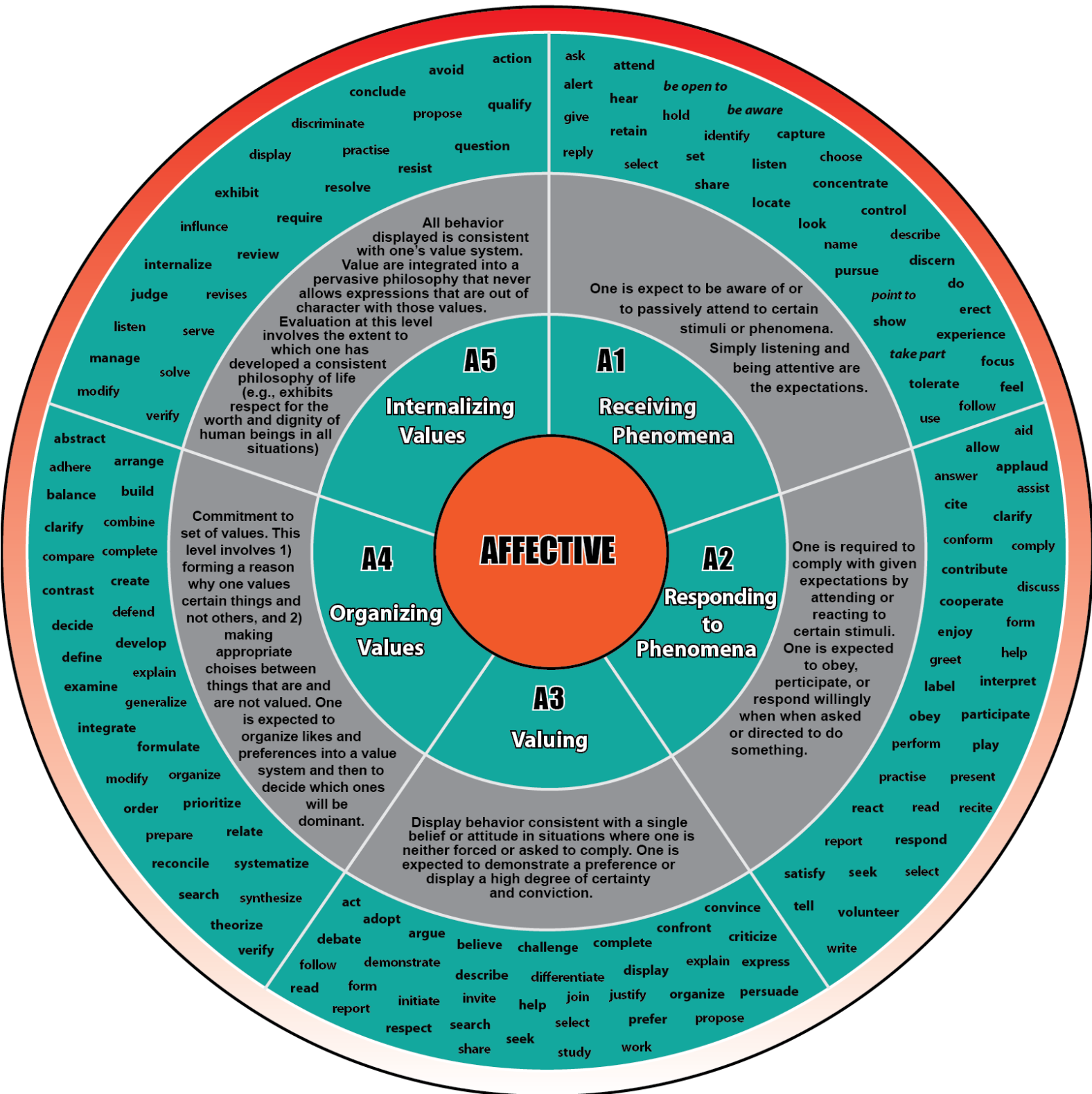
B. Mesia, and David R. Krathwohl (1964). *Taxonomy of Educational Objectives (two vols: The Affective Domain & The Cognitive Domain)*. New York. David McKay.

Lampiran 2





Lampiran 2



## Lampiran 3

**Penggunaan Taksonomi Pembelajaran oleh Unit/Bidang bagi Program Pengajian di  
Politeknik dan Kolej Komuniti, Kementerian Pendidikan Malaysia.**

BIL	UNIT/BIDANG	TAHAP PENGAJIAN	TAKSONOMI POLITEKNIK 2016	TAKSONOMI DALAM GGP 2014
1	Bidang Kejuruteraan Elektrik	Sijil		/
		Diploma (Poli)	/	
		Diploma (KK)	/	
		Ijazah Sarjana Muda	/	
2	Bidang Kejuruteraan Mekanikal	Sijil		/
		Diploma (Poli)	/	
		Diploma (KK)		/
		Ijazah Sarjana Muda		/
3	Bidang Pelancongan dan Hospitaliti	Sijil		/
		Diploma (Poli)	/	
		Diploma (KK)	/	
		Ijazah Sarjana Muda	/	
4	Bidang Pengurusan dan Perdagangan	Sijil	/	
		Diploma (Poli)	/	
		Diploma (KK)	/	
		Ijazah Sarjana Muda		
5	Bidang Rekabentuk dan Kreatif	Sijil		/
		Diploma (Poli)	/	
		Diploma (KK)		/
		Ijazah Sarjana Muda		/
6	Bidang Kejuruteraan Awam dan Alam Bina	Sijil		/
		Diploma (Poli)		/
		Diploma (KK)		/
		Ijazah Sarjana Muda		/
7	Bidang Teknologi Pertanian	Sijil		/
		Diploma (Poli)		/
		Diploma (KK)		/
		Ijazah Sarjana Muda		
8	Bidang Perkomputeran	Sijil		/
		Diploma (Poli)		/
		Diploma (KK)		/
		Ijazah Sarjana Muda		
9	Bidang Pengajian Umum	Sijil		/
		Diploma (Poli)		/
		Diploma (KK)		/
		Ijazah Sarjana Muda		/
10	Bidang Perkhidmatan	Sijil		/
		Diploma (Poli)		
		Diploma (KK)		/
		Ijazah Sarjana Muda		

## Lampiran 4

## Jadual Taksonomi Pembelajaran UKM (2016)

Contoh kata kerja tindakan domain kognitif (*Revised Bloom's Taxonomy, 2001*)

Domain Kognitif: “Pada akhir kursus ini, pelajar seharusnya ...”	
<b>Ingat (C1)</b>	<b>Berkebolehan untuk:</b> mengatur, mengumpul, menentukan, menerangkan, memeriksa, mengenal pasti, menyenaraikan, mengingat, menamakan, mengaitkan, memetik, mengulangi, menghasilkan semua, merekodkan, menunjukkan, menyatakan.
<b>Faham (C2)</b>	<b>Berkebolehan untuk:</b> mengaitkan, menjelaskan, mengklasifikasikan, membezakan, membincangkan, menganggarkan, menyatakan, melanjutkan, mengenal pasti, menunjukkan, mentafsir, mengesan, meramalkan, menegaskan, memilih.
<b>Aplikasi (C3)</b>	<b>Berkebolehan untuk:</b> mengira, menukar, memilih, melengkapkan, mengira, membina, menunjukkan, menghasilkan penemuan, mengambil, meneliti, menggambarkan, mentafsir, mengubah suai, mengamalkan, melakarkan, menguji, menyelesaikan, mengiktiklak, mengaitkan, mengaplikasi.
<b>Analisis (C4)</b>	<b>Berkebolehan untuk:</b> menganalisis, menilai, menyusun, mengira, mengkategorikan, mengklasifikasikan, membandingkan, menyambung, membezakan, mengkritik, membahaskan, membezakan, membahagikan, menguji, menyimpulkan, meneliti, menyiasat, mempersoalkan, mengasingkan.
<b>Nilai kewajaran (C5)</b>	<b>Berkebolehan untuk:</b> menilai, memberi hujah, melampirkan, memilih, membandingkan, meyakinkan, mengkritik, menyokong, membela, menghakimi, mengukur, meramal, mengesyorkan, menyemak, memberikan skor, membuat pertimbangan, membuat kesimpulan, menilai kewajaran.
<b>Cipta (C6)</b>	<b>Berkebolehan untuk:</b> berhujah, menyusun, mengumpul, mengarang, membina, mencipta, mereka bentuk, membangun, menubuhkan, membentuk, menghasilkan, mengintegrasikan, mengurus, menyusun, merancang, menyediakan, mencadangkan, mengaitkan, menulis semula, membuat kesimpulan.

(Sumber: Garis Panduan Penyediaan Dokumen Program Pengajian Versi 2 (Semakan 2016), UKM)

## Contoh kata kerja tindakan domain psikomotor

Domain Psikomotor: “Pada akhir kursus ini, pelajar seharusnya ...”	
<b>Persepsi (P1)</b>	<b>Berkebolehan untuk:</b> memilih, menerangkan, mengesan, mengenal pasti, membezakan, mengecam, menghubungkan kait, menysisihkan.
<b>Set (P2)</b>	<b>Berkebolehan untuk:</b> memulakan, mempamerkan, menghuraikan, memindahkan, meneruskan, memberi tindak balas, menyatakan, menunjukkan.
<b>Respons Berpandu (P3)</b>	<b>Berkebolehan untuk:</b> menyalin, menjejaki, mengikuti, memberi respons, menghasilkan semula, memberikan tindak balas.
<b>Mekanisme (P4)</b>	<b>Berkebolehan untuk:</b> mencantumkan, menentu ukur, membina, merungkai, mempamerkan, memasang, memanipulasi, membaiki, mengorganisasikan, melakarkan, mencampurkan, mengukur.
<b>Respons Ketara Kompleks (P5)</b>	<b>Berkebolehan untuk:</b> mencantumkan, membina, mempamerkan, mengukur, memanipulasi, menganjurkan, melakar, merungkai, mengenakan, membaiki.
<b>Adaptasi (P6)</b>	<b>Berkebolehan untuk:</b> mengadaptasi, mengubahsuai, menukar, mengatur semula, mengorganisasikan semula, menyemak, mempelbagaikan
<b>Lakuan Tulen (P7)</b>	<b>Berupaya/Berkebolehan untuk:</b> menyasarkan, mereka bentuk, mencipta, membangunkan, mengarang, mencantumkan, membina.

## Contoh kata kerja tindakan domain afektif

Domain Afektif: “Pada akhir kursus ini, pelajar seharusnya ...”	
<b>Terima Fenomena (A1)</b>	<b>Berkebolehan untuk:</b> mengikut, memegang, menamakan, menggunakan, menjawab.
<b>Beri maklum balas (A2)</b>	<b>Berkebolehan untuk:</b> membantu, menjawab, mematuhi, membincangkan, menolong, melaksanakan, mengamalkan, membentangkan, menulis, melaporkan, memilih, mendeklamasikan.
<b>Nilai (A3)</b>	<b>Berkebolehan untuk:</b> menerangkan, menunjukkan cara, membezakan, mewajarkan, melaporkan, memilih.
<b>Organisasi (A4)</b>	<b>Berkebolehan untuk:</b> mengatur, menyatu padu, mengorganisasi, menghubungkan kait, membuat sintesis, menghuraikan, membandingkan.
<b>Hayati Nilai (A5)</b>	<b>Berkebolehan untuk:</b> membezakan, mempamerkan, mempengaruhi, memupuk, membudayakan, menyemak, menyelesaikan, mengesahkan, mencadangkan.

(Sumber: Garis Panduan Penyediaan Dokumen Program Pengajian Versi 2 (Semakan 2016), UKM)

TAKSONOMI POLITEKNIK 2016 VERSI BAHASA MELAYU (KOGNITIF)											
C1		C2		C3		C4		C5		C6	
REMEMBER	MENINGAT	UNDERSTAND	MEMAHAMI	APPLY	MENGAPLIKASI	ANALYZE	MENGANALISIS	EVALUATE	MENILAI	CREATE	MENCIPTA
Recognizing or recalling knowledge, facts or concepts.		Constructing meaning from instructional messages.		Using ideas and concepts to solve problems.		Breaking something down into components, seeing relationships and an overall structure.		Making judgments based on criteria and standards.		Reorganize diverse elements to form a new pattern or structure.	
bookmark	menanda	add	menambah	acquire	mendapatkan	analyze	menganalisis	appraise	menilai	abstract	abstrak
cite	menyatakan	advanced search	carian terperinci	adapt	mengadaptasikan	attribute	menyifatkan	argue	mempersoalkan	act	melakonkan
count	mengira	annotate	menganotaskan	allocate	memperuntukkan	audit	mengaudit	assess	menilai	animate	menganimasi
define	menakrifkan	approximate	menganggarkan	alphabetize	mengabjadkan	blueprint	merangka tindak	check	menyemak	arrange	menyusun
describe	menerangkan	articulate	mengartikulasikan	apply	mengaplikasi	break down	mecah kecil	conclude	menyimpulkan	assemble	menghimpunkan
duplicate	menyalin	associate	mengaitkan	ascertain	memastikan	characterize		criticise	mengkritik	blend	mengisar
enumerate	menghitung	boolean search	carian boolean	assign	menugaskan	classify	mengklasifikasikan	critique	mengkritik	build	membina
fulfill	memenuhi	categorize	mengkategorikan	attain	memperolehi	confirm	mengesahkan	decide	memutuskan	code	mengekodkan
give	memberi	choose	memilih	avoid	menghindarkan	contrast	membandingkan	deduce	menyimpulkan	combine	menggabungkan
google	mencari	comment	mengulas	calculate	menghitung	correlate	menghubungkaitkan	defend	mempertahankan	compile	mencantumkan
highlight	menyerlahkan	compare	membandingkan	capture	menangkap	crack	memecahkan	estimate	menganggarkan	compose	mncipta
identify	mengenalpasti	convert	menukarkan	carry out	menjalankan	debate	membahaskan	evaluate	menilai	cope	menyesuaikan
index	mengindeks	detail	memperincikan	change	mengubah	deconstruct	meruntuhkan	grade	menggred	correspond	memberi maklum balas
indicate	menyatakan	discriminate	mendiskriminasi	collect	mengumpulkan	detect	mengesan	infer	menyimpulkan	create	menciptakan
know	mengetahui	discuss	membincangkan	complete	melengkapkan	determine	menentukan	judge	menghakimi	cultivate	memupuk
label	melabelkan	elaborate	menghuraikan	compute	mengira	diagnose	mendiagnosis	justify	justifikasi	depict	menggambarkan
list	menyenaraikan	example	contoh	conduct	mengendalikan	diagram		measure	mengukur	derived	memperolehi
name	menamakan	exemplify	mencontohi	construct	membina	differentiate	membezakan	moderate	moderasikan	design	mereka
omit	mengeluarkan	expand	mengembangkan	customize	menyesuaikan	discover	menemukan	monitor	memantau	develop	membangunkan
point	menunjukkan	explain	menerangkan	demonstrate	tunjukkan	dissect	membedah	prescribe	menetapkan	devise	merancang
quote	memetik	express	menzahirkan	depreciate	menyusutkan	distinguish	membezakan	propose	mencadangkan	dictate	mengarah
read	membaca	extend	melanjutkan	derive	memperolehi	divide	membahagikan	rank	susunkan	directing	mengarah
recite	melafazkan	extrapolate	mengekstrapolasi	diminish	kurangkan	document	mendokumentasikan	rate	menilai	enhance	mempertingkatkan
recognize	mengenalpasti	fill	mengisi	download	muat turun	ensure	memastikan	recommend	mengesyorkan	facilitate	memudahcara
record	merakam	interact	berinteraksi	dramatize	melakonkan	explore	meneroka	regulate	mengawal selia	forecast	meramal
repeat	mengulangi	interpret	mengintrepretasi	draw	melukis	figure out	selesaikan	reject	menolak	format	memformat
search	mencari	locate	mengesan	edit	menyunting	file	memfailkan	respond	membalas	formulate	memformulasikan
sort	menyusun	match	memadankan	employ	menggajikan	find	mencari	review	mengkaji semula	generalise	mengeneralisasikan
state	menyatakan	outline	menggariskan	examine	memeriksa	group	mengelompokkan	score	mencapai	generate	menjana
study	mempelajari	paraphrase	menfrasakan	execute	melaksanakan	illustrate	mengilustrasikan	set-up	menetapkan	imagine	membayangkan
trace	menekap	pick	mengambil	exercise	melatih tubi	inquire	bertanyakan	summarize	menyimpulkan	import	mengimport
underline	menggariskan	picture	menggambarkan	exhibit	mempamerkan	inspect	memeriksa	support	menyokong	improve	meningkatkan
		relate	mengaitkan	experiment	ujikaji	integrate	mengintegrasikan	synthesize	mensintesis	incorporate	menggabungkan
		rephrase	menfrasakan semula	expose	mendedahkan	interrupt	mencelah	tell	memberitahu	interface	mengantaramukakan
		report	melaporkan	factorise	memfaktorkan	inventory	menginventorikan	test	menguji	invent	mencipta
		represent	mewakili	figure	menjangkakan	investigate	menyiasat	validate	menvvalidasi	join	menyertai
		simplify	meringkaskan	graph	menggraf	layout	menyusun atur	value	menilai	lecture	bersyarah
		subtract	menolak	hack		link	mengaitkan	verify	mengesahkan	make	membuat
		translate	menterjemahkan	handle	mengendalikan	manage	menguruskan			mix	mencampurkan
		twitter	ciapan	implement	melaksanakan	mash	melumatkan			modify	mengubahsuai



Lampiran 5

C1		C2		C3		C4		C5		C6	
REMEMBER	MENINGAT	UNDERSTAND	MEMAHAMI	APPLY	MENGAPLIKASI	ANALYZE	MENGANALISIS	EVALUATE	MENILAI	CREATE	MENCIPTA
		visualize	menggambarkan	increase	meningkatkan	maximize	memaksimumkan			overhaul	membbaikpulihan
				initiate	memulakan	minimize	meminimumkan			plan	merancang
				install	memasang	optimize	mengoptimakan			portray	menggambarkan
				interview	menemuramah	prioritize	mengutamakan			predict	menjangkakan
				load	memuatkan	proofread	mengesahkan			pretend	mengandaikan
				manipulate	memanipulasikan	query	menyanyakan			produce	menghasilkan
				operate	mengoperasikan	scrutinize	meneliti			publish	menerbitkan
				order	menyusun	select	memilih			remix	mencampuradukkan
				organise	mengatur	separate	mengasingkan			revise	menyemak semula
				paint	mengecat	structure	menstrukturkan			roleplay	memainkan peranan
				personalize	memperibadikan	subdivide	memecahbahagikan			specify	menetapkan
				play	memainkan	survey	mengkaji			systematize	mensistemkan
				plot	plot	tag	menanda				
				practice	latihan	train	melatih				
				prepare	menyediakan	transform	mengubah				
				price	harga						
				process	memproses						
				project	memaparkan						
				provide	menyediakan						
				purchase	pembelian						
				repair	memperbaiki						
				round off	membundarkan						
				run	ujilari						
				schedule	menjadualkan						
				sequence	urutan						
				share	berkongsi						
				shop	membeli						
				show	menunjukkan						
				simulate	mensimulasikan						
				sketch	melakarkan						
				solve	menyelesaikan						
				subscribe	melanggan						
				tabulate	tabulasikan						
				teach	mengajar						
				transcribe	transkripsi						
				transfer	memindahkan						
				upload	memuat naik						
				use	menggunakan						
				utilize	memanfaatkan						
				write	menulis						

## Lampiran 6

## Cluster Hasil Pembelajaran

MQF LEVEL	Summary of Learners' Profile	CLUSTER 1: Knowledge and Understanding	CLUSTER 2: Cognitive skills	CLUSTER 3: FUNCTIONAL WORK SKILLS				CLUSTER 4: Personal and entrepreneurial skills	CLUSTER 5: Ethics and Professionalism
				Practical skills	Interpersonal and Communication Skills	Digital and Numeracy Skills	Leadership, Autonomy and Responsibility		
	Demonstrate age-appropriate local civic engagement and awareness of global issues.								
<b>Level 4 DIPLOMA</b>	<p>Learners will have a broad knowledge of the general theories, principles and demonstrate skills in a focused area of study/discipline enabling them to undertake specialized work leading to a career path in technical, professional or management fields.</p> <p>Learners express interest in pursuing further education.</p> <p>Learners will have a commitment for appropriate ethical behavior and express an appreciation of national aspirations within global perspectives.</p>	Demonstrate systematic comprehension (understanding) of a broad range of complex technical and theoretical knowledge and skills to undertake varied, complex, routine and non-routine tasks/study within a field/discipline.	<p>Identify, interpret, apply and evaluate general concepts, theory and/or operational principles within a well-defined context of a subject/discipline and/or work with minimal supervision.</p> <p>Solve problems of a common and well-defined kind as well as those others of a non-routine nature.</p>	<p>Apply a limited range of practical skills, essential tools, methods and procedures to perform required tasks/work.</p> <p>Reflect and make adjustments to practices and processes, as necessary, related to routine or non-routine tasks.</p>	<p>Communicate clearly, both orally and in writing, ideas, information, problems and solutions, to others including peers, experts and non-experts.</p> <p>Interact effectively, individually or as member of a team with supervisors, peers and subordinates.</p> <p>Demonstrate a high level of proficiency in at least one other language besides the national language.</p>	<p>Use a range of digital applications to support study/work as well as to seek and process data related to work or study.</p> <p>Demonstrate skills to use and interpret routine and complex numerical and graphical/visual data.</p>	<p>Perform work with significant degree of personal responsibility and autonomy under broad guidance and direction on well-defined and non-routine study/work activities performed in a variety of contexts.</p> <p>Lead and manage diverse teams to manage issues at work.</p>	<p>Identify self-improvement initiatives and possibilities for further education. Develop realistic career and professional goals.</p> <p>Explore and engage in activities relating to entrepreneurship.</p> <p>Show interest in and participate at professional and civic activities leading to local and region wide communities building.</p>	<p>Demonstrate ability to understand and comply with, organizational and professional ethics in work environment. Demonstrate ability to apply sustainable practices in the context of local and global work and social environment.</p>

MQF LEVEL	Summary of Learners' Profile	CLUSTER 1: Knowledge and Understanding	CLUSTER 2: Cognitive skills	CLUSTER 3: FUNCTIONAL WORK SKILLS				CLUSTER 4: Personal and entrepreneurial skills	CLUSTER 5: Ethics and Professionalism
				Practical skills	Interpersonal and Communication Skills	Digital and Numeracy Skills	Leadership, Autonomy and Responsibility		
<p><b>Level 3</b></p> <p><b>CERTIFICATE</b></p>	<p>Learners will have the fundamental, theoretical and technical knowledge of facts and principles at an intermediate level. Demonstrate balanced operational skills as required.</p> <p>Show an interest in pursuing further studies in specific subjects or disciplines pertaining to their field of interest or work.</p> <p>Acquired elementary proficiency in one additional language [e.g. English].</p>	<p>Describe basic principles, theories and skills, within a significant range of knowledge in a subject and discipline to address well-defined, varied and routine tasks/work.</p>	<p>Apply knowledge, familiar solutions and skills to solve predictable problems of routine tasks and/or study.</p>	<p>Organise, operate and complete, using information appropriate methods, tools, technologies, materials to solve/address routine and some non-routine tasks/problems within an area of work and/or study under supervision.</p>	<p>Communicate effectively and clearly orally or in writing, ideas, information, problems and solutions, individually or as a team to peers, experts and non-experts.</p> <p>Develop elementary proficiency in at least one other global language, besides the national language.</p>	<p>Use basic digital technology applications to support study/work to seek and process data related to a subject of study/work.</p> <p>Interpret and use familiar and uncomplicated numerical and graphical data.</p>	<p>Demonstrate capacities to work with considerable autonomy and minimal supervision.</p> <p>Provide guidance to others within context of work/study.</p> <p>Undertake considerable responsibility for quality and impact of outputs.</p> <p>Take responsibility for, and reflect on, performance of tasks/work/study.</p>	<p>Initiate self-improvement through study or seek further training with minimal guidance.</p> <p>Show awareness and general knowledge of Malaysia and its ASEAN partners in the region.</p> <p>Demonstrate basic understanding of entrepreneurship knowledge and skills.</p>	<p>Demonstrate ability to comply with work ethics in task(s) or learning especially in diverse multi-cultural contexts.</p> <p>Pursue active engagement with local civil societies on matters of interest to local and global communities [e.g. environmental issues].</p>
	<p>Demonstrate age-appropriate local civic engagement and awareness of global issues.</p>								

**Senarai Item 9 *Transferrable Skills* dalam *Course Information***

- a. Cognitive Skills
- b. Interpersonal Skills
- c. Communication Skills
- d. Digital Skills
- e. Numeracy Skills
- f. Leadership, autonomy and responsibility
- g. Personal Skills
- h. Entrepreneurial Skills

**(Sumber: *Course Information Template (Excel)* (Table 4 In MQA-01 & MQA-02, 2017) - Last Updated : 11 September 2019)**