



# Command terms in the Middle Years Programme

December 2010





# Command terms in the Middle Years Programme

## Introduction

This document aims to help students and teachers gain a better understanding of the role of the command terms in teaching and learning. Understanding IB command terms may help students and teachers to appreciate better the relationship between the Middle Years Programme (MYP) and the Diploma Programme (DP). It also provides some theoretical information that underpins the rationale for the use of command terms in teaching and learning. The bibliography includes suggested further reading.

This document is intended to:

- provide schools with a standardized and comprehensive list of command terms used in the MYP
- offer a rationale to schools for the use of command terms for teaching and learning that may support students in their transition from the MYP to the DP.

## Historical background and rationale

The command terms, previously referred to as *action verbs* or *instructional verbs*, have been used in the DP since its inception. The command terms are part of the assessment objectives in the DP and have been classified following Bloom's taxonomy of educational objectives.

The DP *Psychology guide* states:

In the learning outcomes the command terms are associated with assessment objectives 1, 2 or 3 and indicate the depth of understanding that is required of students in relation to each item of content. The grouping of command terms under assessment objectives reflects the cognitive demand of each term and is related to Bloom's taxonomy.

(*Psychology guide*, February 2009: 8)

The list of IB command terms has been revised for the DP with the aim that students and teachers within IB World Schools, together with IB staff, share a common understanding of their meanings and precise definitions. Relevant sections of the command terms list have been included in the subject guides as an appendix. The list presented in this document has been based upon the DP command terms list but has been adapted for its use in the MYP.

The following table illustrates the correspondence between the DP assessment objectives and their corresponding command terms within the categories of Bloom's taxonomy. Please note that only a summary of the DP command terms has been included in the table.

Table 1 shows the relationship between IB Diploma Programme command terms and Bloom's taxonomy.

Bloom's taxonomy	DP group 4 assessment objectives	DP group 4 command terms (summary)
Knowledge Comprehension	Assessment objective 1	Define
		List
		Label
		State
Application Analysis	Assessment objective 2	Apply
		Describe
		Distinguish
		Outline
Synthesis Evaluation	Assessment objective 3	Analyse
		Compare
		Deduce
		Discuss
		Evaluate
		Explain
		To what extent

**Table 1**

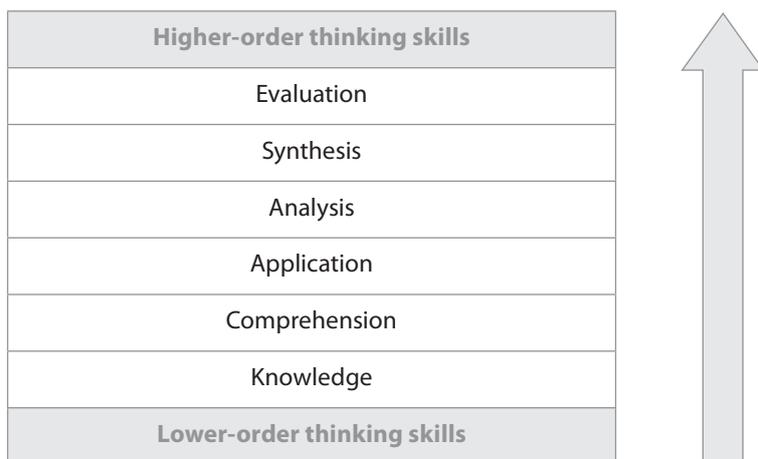
*The relationship between IB Diploma Programme command terms and Bloom's taxonomy*

## Research underpinning the command terms

Benjamin S Bloom, an educational psychologist concerned with the reliability of assessment items and practices, developed a framework for classifying educational objectives according to their cognitive complexity. His work, which is commonly known as Bloom's taxonomy, consists of six categories of the cognitive domain. The categories identified in Bloom's taxonomy were: **knowledge, comprehension, application, analysis, synthesis** and **evaluation**. The taxonomy provided definitions for each cognitive process in every category and sub-category. Bloom proposed that the categories were hierarchical and ranged from the simple and concrete thinking process (lower-order thinking skills) to more complex and abstract functions of thought (higher-order thinking skills).

Bloom's original taxonomy was published under the title *Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook I: Cognitive Domain* (Bloom, Englehart, et al 1956).

Figure 1 shows a summary of Bloom’s taxonomy categories for classifying objectives.



**Figure 1**  
*Bloom’s taxonomy*

IB assessment places an emphasis on the development of the “higher-order” cognitive skills (synthesis, reflection, evaluation and critical thinking) as well as more fundamental cognitive skills (knowledge, understanding and application). Understanding of and competency in the cognitive skills represented by the command terms supports the development of students as reflective thinkers. These are students who, in accordance with the *IB learner profile booklet* (2009), “exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions” and who would “give thoughtful consideration to their own learning and experience”.

In the 50 years since its publication, the taxonomy has been subject to ongoing revisions (Anderson, Krathwohl, et al 2001) and criticisms (Marzano, Kendall 2007). However, the fundamental concept proposed by the taxonomy has been significant and influential in providing guidance for understanding, planning and developing educational objectives and assessment tools. Bloom’s taxonomy, and the subsequent revised versions, offers a useful framework through which to express the diversity of the thinking skills required as part of teaching and learning.

It is worth considering similar concepts to Bloom’s taxonomy that can influence the way in which schools look at the structures of learning. Säljö’s (1979) and Bateson’s (1972) work relates to levels of learning; whereas, both Bloom’s and Biggs’ (2003) work connects levels of understanding (addressing cognition and skills building) and are thus more directly relevant to the development of command terms.

Assessing the relevance of these similar concepts, revisions and the criticisms of Bloom’s original taxonomy goes beyond the scope of this document. For those readers interested in these aspects the suggested reading list will provide a starting point.

## Use of command terms in IB programmes

What matters is not the absorption and regurgitation either of facts or of predigested interpretations of facts, but the development of powers of the mind or ways of thinking which can be applied to new situations and new presentations of facts as they arise.

(Alec Peterson, first IB Director General, 2003: 47)

---

## Command terms in the Diploma Programme

The phrase *command term* is used in the DP to refer to the words, generally verbs, specifically associated with the learning outcomes and assessment objectives of the programme. However, the use of the command terms is not exclusive to IB programmes. The thinking skills and cognitive processes represented by the command terms are an integral part of the daily communication that takes place between students and teachers during teaching and learning. Teachers use command terms when giving instructions, when questioning students, when posing problems and when eliciting responses from a class. Students are expected to understand and be able to respond effectively to the command terms present in teaching instructions, questions and problems presented to them.

Evidence of the use of command terms can be found in the objectives of the subject guides as well as in many examination questions in the DP. For example, students in the DP could be required to “**describe** the phenomenon of natural radioactive decay” or to “**discuss** the effectiveness of two strategies to reduce violence”, or they could be asked to “**evaluate** the importance of Gandhi’s leadership and methods in the struggle for Indian independence”. To *describe*, to *discuss* and to *evaluate* are some examples from an extensive list of terms that the IB refers to as **command terms**.

Students and teachers are expected to be confident using the command terms as part of teaching, learning and assessment. In an attempt to provide a working definition for the command terms, these could be defined as those *instructional terms that indicate the level of thinking and type of performance and/or behaviour that is required of students*.

## Command terms in the Middle Years Programme

MYP subject guides make no explicit mention of the phrase “command term”. However, the command terms are embedded in the objectives and assessment criteria of each subject area in the MYP. For example, in MYP sciences students are expected to “**apply** scientific knowledge and understanding to solve problems”; in MYP language A students “**compare** and **contrast** works, and connect themes across and within genres”; and in MYP arts students “**reflect** critically on their own artistic development and processes at different stages of their work”.

### The command terms and ATL

MYP approaches to learning (ATL) gives students the opportunity to develop a range of learning skills and strategies that will allow them to become more effective and reflective learners.

ATL skills areas include: **organization, collaboration, communication, information literacy, reflection, thinking** and **transfer skills**. Alongside the development of cognitive (thinking) skills, ATL promotes the development of **attitudes and dispositions** important for lifelong learning. It is through ATL that students are given the opportunity to reflect upon their own learning (metacognition), become aware of how they learn best, and consequently develop effective lifelong learning habits. Students are more likely to develop deeper conceptual understanding when they are aware of their own learning and can identify the type of thinking to draw upon in different contexts.

As teachers integrate ATL within subject content, they explicitly provide appropriate opportunities for the development of a range of learning skills and strategies, including those related to the use and application of the command terms. It is important that teachers make teaching and learning of command terms explicit to students when planning student learning expectations for ATL, as well as for other areas of interaction.

The outcome of using command terms is that students understand and know what to do when asked to “describe” as opposed to “discuss”, or to “infer” as opposed to “explain”. An understanding and mastery of the command terms is an ATL skill that can be applied in new situations across the MYP subject groups as well as in further courses, such as those of the DP.

---

## Command terms across the continuum of IB programmes

In addition to supporting MYP teachers and coordinators, this document is helpful to DP teachers in understanding the skill development suggested by the command terms in the MYP. Likewise, the list of command terms illustrates students' skill development from the Primary Years Programme (PYP) to the MYP and then the DP.

Through their learning, over the course of the PYP, students acquire and apply a set of transdisciplinary skills: social skills, communication skills, thinking skills, research skills and self-management skills. These skills are valuable not only in the units of inquiry but also for any teaching and learning within the classroom and in life outside the school.

The thinking skills developed during the PYP can be demonstrated in many aspects of the MYP and DP, not least in the use of command terms. Command terms make thinking skills explicit by using them for questions in tests or essays; in formative and summative assessment; to help transfer interdisciplinary understandings; as part of an array of inclusive strategies; or as support for learners with differing language profiles.

## The command terms in schools

Teaching and learning are predominantly linguistics phenomena; that is we accomplish most of our learning through the vehicle of language ... Therefore, language is a tool that teachers can use to enhance cognitive development. If we develop a successful programme for teaching thinking, we must also develop a language of cognition.

(Costa, Marzano 2001: 379)

Below is a series of practical suggestions for schools in using command terms in teaching and learning.

### Use precise terminology

Teaching and learning rely on the use of language. Therefore, it is important that teachers use precise terminology when explaining to students what is expected of them as part of an oral or written instruction. This point was stressed by Costa and Marzano (2001) who suggested that instead of asking students to "*Think what will happen if*" teachers should say "**Predict** what will happen if", or instead of saying "Look at these data" teachers should say "**Compare** these data". Other examples could include "Classify" instead of "Put into groups" or "Analyse" instead of "Let's work out this problem". Consistent and regular use of command terms across subject areas will help students to develop habits of mind, which will encourage the development of metacognitive awareness.

### Make teaching and learning of command terms explicit

Schools should provide opportunities for the explicit explanation of command terms within the context of the subject groups. The teaching and learning of command terms should be embedded in the curriculum through ATL student learning expectations developed by schools.

By sharing command terms with students, teachers are able to give opportunities to practise relevant skills; to check understanding of the terms used to direct tasks; and to discuss what is expected or required, and the steps involved in completing tasks successfully. Each command term refers to specific thinking skills, practices and processes that constitute a subject or discipline, along with its content. In order to understand a discipline, which is a particular way of knowing, it is necessary to be fluent in the relevant command terms. The use of command terms overlaps between subject areas and should not be divided as being more or less applicable from one to another.

### Ensure consistent use of command terms

The MYP command terms list presented in this document has been aligned with the command terms list used in the DP. Common or generic definitions have been provided for each command term. In some cases subject-specific clarifications have been included when a definition allows for subject-specific interpretation

---

(for example, “integrate”). It is important that both students and teachers share a common understanding of the command terms so that they can use them confidently and competently in teaching and learning. Teachers should use the command terms and their definitions in a consistent manner across the MYP and the DP.

Having a consistent definition of a command term enables those students with diverse learning needs to understand the meanings and their application across disciplines. This clarity of terminology allows these students to develop depth to their responses over time, which may reflect their true potential. Consistent application of command terms reduces stress and confusion about their meaning. Teachers can then focus on the specific skills of their discipline, which need to be taught in relation to the command terms of their subject area in order for students to successfully complete assessment tasks.

Schools are encouraged to make the command terms list available to both students and teachers to ensure that a common language and understanding of the command terms is developed within and across subject groups and programmes.

### **Support curriculum development and unit planning**

The list of command term definitions aims to support teachers with the development of curriculum documents, including the formulation of student learning expectations for the areas of interaction, as well as the planning of individual units of work through the unit planning process. The use of command terms is instrumental during the process of developing interim objectives and interim assessment criteria.

### **Enable continuity in the development of thinking skills**

While the definitions for the command terms remain the same, the expectation for the level of sophistication of students’ understanding, responses and performances is expected to progress with students’ maturity and development, and should correspond to the different stages of the MYP–DP educational continuum.

Opportunities to develop the thinking skills represented by the command terms should be sought out within and across the subject groups of the MYP. Collaborative planning should aim to support the transfer of thinking skills across different contexts and into new situations. Moreover, through vertical planning a developmental continuum of thinking skills could be planned to support students in their transition across programmes and to prepare them for success with their understanding of command terms in the DP. Figure 8 in *Making the PYP happen: A curriculum framework for international primary education* (December 2009) outlines the set of transdisciplinary skills that PYP students may acquire and apply. The thinking skills suggested include analysis, evaluation, metacognition and comprehension. These areas can be built upon and developed through the MYP.

## Glossary of command terms in the MYP

The command terms listed are used to define the thinking skills that MYP students are expected to demonstrate. The definitions may vary when used in other contexts.

<b>Command terms</b>	<b>MYP definitions</b>
<b>Analyse</b>	Break down in order to bring out the essential elements or structure. To identify parts and relationships, and to interpret information to reach conclusions.
<b>Annotate</b>	Add brief notes to a diagram or graph.
<b>Apply</b>	Use knowledge and understanding in response to a given situation or real circumstances.
<b>Appraise</b>	Evaluate, judge or consider text or a piece of work.

<b>Command terms</b>	<b>MYP definitions</b>
<b>Argue</b>	Challenge or debate an issue or idea with the purpose of persuading or committing someone else to a particular stance or action.
<b>Calculate</b>	Obtain a numerical answer showing the relevant stages in the working.
<b>Classify</b>	Arrange or order by class or category.
<b>Comment</b>	Give a judgment based on a given statement or result of a calculation.
<b>Compare</b>	Give an account of the similarities between two (or more) items or situations, referring to both (all) of them throughout.
<b>Compare and contrast</b>	Give an account of the similarities and differences between two (or more) items or situations, referring to both (all) of them throughout.
<b>Construct</b>	Develop information in a diagrammatic or logical form.
<b>Contrast</b>	Give an account of the differences between two (or more) items or situations, referring to both (all) of them throughout.
<b>Deduce</b>	Reach a conclusion from the information given.
<b>Define</b>	Give the precise meaning of a word, phrase, concept or physical quantity.
<b>Demonstrate</b>	Prove or make clear by reasoning or evidence, illustrating with examples or practical application.
<b>Derive</b>	Manipulate a mathematical relationship to give a new equation or relationship.
<b>Describe</b>	Give a detailed account or picture of a situation, event, pattern or process.
<b>Design</b>	Produce a plan, simulation or model.
<b>Determine</b>	Obtain the only possible answer.
<b>Discuss</b>	Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.
<b>Distinguish</b>	Make clear the differences between two or more concepts or items.
<b>Document</b>	Credit sources of information used by referencing (or citing) following one recognized referencing system. References should be included in the text and also at the end of the piece of work in a reference list or bibliography.
<b>Estimate</b>	Find an approximate value for an unknown quantity.
<b>Evaluate</b>	Assess the implications and limitations; make judgments about the ideas, works, solutions or methods in relation to selected criteria.
<b>Examine</b>	Consider an argument or concept in a way that uncovers the assumptions and interrelationships of the issue.
<b>Exemplify</b>	Represent with an example.
<b>Explain</b>	Give a detailed account including reasons or causes.
<b>Explore</b>	Undertake a systematic process of discovery.

<b>Command terms</b>	<b>MYP definitions</b>
<b>Formulate</b>	Express precisely and systematically the relevant concept(s) or argument(s).
<b>Identify</b>	Provide an answer from a number of possibilities. Recognize and state briefly a distinguishing fact or feature.
<b>Infer</b>	Deduce; reason from premises to a conclusion. Listen or read beyond what has been literally expressed.
<b>Interpret</b>	Use knowledge and understanding to recognize trends and draw conclusions from given information.
<b>Investigate</b>	Observe, study, or make a detailed and systematic examination, in order to establish facts and reach new conclusions.
<b>Justify</b>	Give valid reasons or evidence to support an answer or conclusion.
<b>Label</b>	Add title, labels or brief explanation(s) to a diagram or graph.
<b>List</b>	Give a sequence of brief answers with no explanation.
<b>Measure</b>	Find the value for a quantity.
<b>Outline</b>	Give a brief account.
<b>Predict</b>	Give an expected result of an upcoming action or event.
<b>Present</b>	Offer for display, observation, examination or consideration.
<b>Prove</b>	Use a sequence of logical steps to obtain the required result in a formal way.
<b>Recall</b>	Remember or recognize from prior learning experiences.
<b>Reflect</b>	Think about deeply; consider.
<b>Recognize</b>	Identify through patterns or features.
<b>Show</b>	Give the steps in a calculation or derivation.
<b>Sketch</b>	Represent by means of a diagram or graph (labelled as appropriate). The sketch should give a general idea of the required shape or relationship, and should include relevant features.
<b>Solve</b>	Obtain the answer(s) using appropriate methods.
<b>State</b>	Give a specific name, value or other brief answer without explanation or calculation.
<b>Suggest</b>	Propose a solution, hypothesis or other possible answer.
<b>Summarize</b>	Abstract a general theme or major point(s).
<b>Synthesize</b>	Combine different ideas in order to create new understanding.
<b>Use</b>	Apply knowledge or rules to put theory into practice.

---

## Bibliography

Anderson, LW and Krathwohl, DR, (eds). 2001. *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York, USA. Longman.

Bateson, G. 1972. *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*. Chicago, Illinois, USA. University Of Chicago Press.

Beyer, BK. 2001. "Putting it all together to improve student thinking" in Costa, AL. *Developing Minds: A Resource Book for Teaching Thinking (3rd Edition)*. Pp 417–424. Alexandria, Virginia, USA. ASCD Publications.

Beyer, BK, Costa, AL and Presseisen, BZ. (2001). "Glossary of thinking terms" in Costa, AL. *Developing Minds: A Resource Book for Teaching Thinking (3rd Edition)*. Pp 548–550. Alexandria, Virginia, USA. ASCD Publications.

Biggs, J. 2003. *Aligning Teaching and Assessment to Curriculum Objectives*. Imaginative Curriculum Project, LTSN Generic Centre.

Bloom, Englehart, et al. 1956. *Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook I: Cognitive Domain*. New York, USA. David McKay Company, Inc.

Costa, AL and Marzano, RJ. 2001. "Teaching the language of thinking" in Costa, AL. *Developing Minds: A Resource Book for Teaching Thinking (3rd Edition)*. Pp 379–383. Alexandria, Virginia, USA. ASCD Publications.

Krathwohl, DR. 2002. "A revision of Bloom's taxonomy: An overview". *Theory into Practice*. Vol 41 number 4 (1 October). Pp 212–218.

Marzano, RJ and Kendall, JS. 2007. *The New Taxonomy of Educational Objectives (Second Edition)*. Thousand Oaks, California, USA. Corwin Press.

Peterson, ADC. 2003. *Schools Across Frontiers: The Story of the International Baccalaureate and the United World Colleges (Second Edition)*. Chicago, Illinois, USA. Open Court Publishing Company.

Säljö, R. 1979 "Learning about learning". *Higher Education*. Vol 14, Pp 443–451.

### IB publications

Diploma Programme *Psychology guide*. February 2009.

Diploma Programme *History specimen papers*. May 2008.

Diploma Programme *Physics guide*. March 2007.

Middle Years Programme *Sciences guide*. February 2010 (updated May 2010).

Middle Years Programme *Language A guide*. January 2009.

Middle Years Programme *Arts guide*. August 2008.

Primary Years Programme *Making the PYP happen: A curriculum framework for international primary education*. December 2009.