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ABSTRACT

The principles of Benjamin Bloom's "Taxonomy of Education Objectives" for the cognitive domain are followed in the development of this independent study unit. The sequence uses the Egyptian Rossetta Stone as the common knowledge base and illustrates how the six principles of the taxonomy of the cognitive domain can be applied to the design of a study unit which incorporates all levels of the taxonomy. (Author/SHM)

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A Mini-Independent Study Unit for Social Studies Applying
the Principles of the Taxonomy of the Cognitive Domain

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American Historical Association History Education Project

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"What does a student do who 'really understands' which he does not do when he does not understand?" This is the classic question posed by Benjamin Bloom et al on the very first page of the Taxonomy of Educational Objectives.¹ The authors of the "taxonomy" developed a system of classification of educational objectives in the cognitive area (remembering and recalling knowledge, intellectual abilities and skills for dealing with materials and problems). The classes of the taxonomy are sequential (rather than arbitrary), hierarchical (from simplest behavior to the most complex), and cumulative (each class is unique but makes use of and is built on the behaviors found in the preceding classes). Six major classes were established: (1) knowledge (i.e. remembering and recalling), (2) comprehension, (3) application, (4) analysis, (5) synthesis, (6) evaluation; and each major class and sub-class was defined so as to make clear the specific behavior appropriate to each category.

The taxonomy for the cognitive domain can be a valuable aid to teachers developing independent study units in the social studies. Materials can be prepared that allow students to range through all the levels of cognitive thought as they pursue a particular topic. The following sequence, which uses the "Rosetta Stone" as the common knowledge base, is an attempt to illustrate how the principles of the taxonomy of the cognitive domain can be applied to the design of a "mini-independent study unit" that ranges through all levels of the taxonomy.

¹ Benjamin Bloom et al, Taxonomy of Educational Objectives, The Classification of Educational Objectives, Handbook I: Cognitive Domain (New York: David McKay Company, Inc., 1956).

1. KNOWLEDGE

On a map of Egypt, locate or place an X on the approximate location where the Rosetta Stone was found.

2. COMPREHENSION

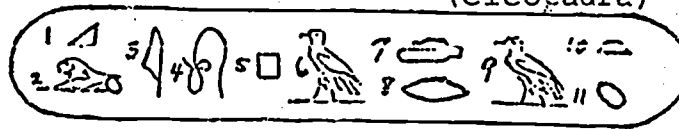
Scholars who have studied the hieroglyphs (sacred writing of the Egyptian priesthood) of the ancient Egyptians discovered that the groups of hieroglyphs written within oval rings (the so-called cartouches) on the Egyptian monuments gave the names of kings.

Champollion, a French scholar who studied the Rosetta Stone, was able to identify a cartouche naming Ptolemy (Ptolemais) and a cartouche naming Cleopatra. The names written in hieroglyphics are as follows:

No. 1. Ptolemy. (Ptolemais)



No. 2. Cleopatra. (Cleopatra)



Study the cartouches (with the knowledge that signs 10 and 11 always accompany the endings of female names) and see what relationships you can discover between and among the various signs.

3. APPLICATION:

Here is a simplified Egyptian alphabet which was developed by scholars following the research done on the Rosetta Stone.

The Alphabet

Sign	Transcription	Sound-value
	(vulture) c	Glottal stop (as in bottle when mispronounced)
	(flowering reed) i	i
	(two flowering reeds) y	y
	(oblique strokes) y	y
	(forearm and hand) e	Ayin of the Semitic languages

Sign	Transcription	Sound-value
	(quail chick) <i>w</i>	W
	(cursive development of) <i>w</i>	W
	(foot) <i>b</i>	B
	(stool) <i>p</i>	P
	(horned viper) <i>f</i>	F
	(owl) <i>m</i>	M
	(water) <i>n</i>	N
	(mouth) <i>r</i>	R
	(reed shelter) <i>h</i>	H
	(wick of twisted flax) <i>h</i>	slightly guttural <i>h</i>
	(placenta?) <i>h</i>	CH (as in loch)
	(animal's belly) <i>h</i>	slightly softer than <i>h</i>
	(door bolt) <i>s</i>	S
	(folded cloth) <i>s</i>	S
	(pool) <i>s</i>	SH
	(hill) <i>k</i>	Q
	(basket with handle) <i>k</i>	K
	(jar-stand) <i>g</i>	G (as in goat)
	(loaf) <i>t</i>	T
	(tethering rope) <i>t</i>	Tj
	(hand) <i>d</i>	D
	(snake) <i>d</i>	Dj

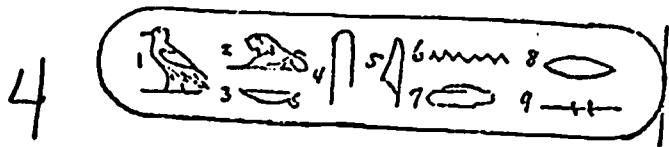
All these letters are consonants, even though the weak , , and at the end of a syllable were probably assimilated to a preceding *a*, *i*, and *u*. Vowels were not written by the ancient Egyptians; it is therefore difficult, and often impossible, to ascertain the pronunciation of words, but it may be sometimes deduced from the Coptic derivatives. As a mere aid to pronunciation Egyptologists insert a short *e* between consonants, e.g. *hetep* 'rest', *per* 'house', using *a* for *i* and *e*, and *u* for *w*.

Try to write your name and the names of several of your friends in hieroglyphics, applying the principles of the simplified Egyptian alphabet. (Remember, the hieroglyphic alphabet contained mainly consonants. Whenever you cannot find an appropriate vowel sound in the alphabet above, you can simply omit it as did the Egyptians or follow the procedure adopted by Egyptologists.)

NAME IN ENGLISH	APPROXIMATE NAME IN HIEROGLYPHICS
_____	_____
_____	_____
_____	_____

4. ANALYSIS:

Using your knowledge of the cartouches for Ptolemy (Ptolemais) and Cleopatra, and the characters (or signs) you were able to discover, [Note: This assumes the student has done item #3.] analyze the following cartouche and attempt to identify the name written in hieroglyphics.



5. SYNTHESIS:

We know that the Rosetta Stone bears a trilingual inscription recording a decree of 196 B.C. under Ptolemy Epiphanes: in hieroglyphs (the sacred characters of the priesthood), in demotic (the popular cursive writing of the day), and in Greek.

In fact, the decree closes with the resolution that it be inscribed on "hard stone," in the "sacred, the native, and the Greek letters." How would you account for the prescription that it be inscribed in these three particular "letters" ?

6. EVALUATION:

The Rosetta Stone was discovered in 1799 by M. Buggard, an officer in the French army, near the town of Rosetta, Egypt. Three years later the stone was brought to England and deposited in the British Museum, where it can be found today.

Some people have suggested that the Rosetta Stone be returned to Egypt. Would you favor this?

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