

**Title: Preliminary proposal for encoding the Mandombe script in the SMP of the UCS
(Revised)**

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Preliminary proposal N3970 containing introductory information about the Mandombe script and details of character composition was submitted in 2010:

L2/11-053 “Proposal to add the Mandombe Script”

by David Wabeladio, Robert Wazi et Adrien Fwakasumbu

0. Revision summary. This document replaces L2/15-118. In the present proposal, the information on the user community is added, the copyright issues are briefly discussed, and principles describing the formation of symbols for syllables are added.

1. Introduction. *Mandombe* (𐛀𐛁𐛂𐛃), which means “for the Blacks”, is a modern African script which was invented in 1978 by David Wabeladio Payi (*15.07.1957 – †04.04.2013). It is one of very few scripts which were invented south of the equator. It was first designed to write Kikongo and Lingala, the most important languages of Congo, and then developed further so that basically any language can be written with this script.

Unlike other modern African scripts, Mandombe does not copy the type of letters which are known the Roman or Arabic alphabets, but the symbols are designed according to strong geometrical rules, on the basis of the stylized cyphers 𐛄 (2) and 𐛅 (5), which give the script an outstanding appearance. These shapes are based on the observation of the uncoated portion of the brick wall of his room.

David Wabeladio Payi was a member of the Kimbanguist church. The inventor was given a professorship at the Kimbanguist University in Kinshasa, where he taught the script to numerous students. On December 22, 2011 he was granted the title Doctor honoris causa at the University of Kinshasa.

The Mandombe script primary function was to write religious texts (see Figs. 1–3); presently also secular texts appear in this script, cf. Figs. 4–7.

The script is also taught in the Kimbanguist centers overseas, e.g. Brussels, Paris. There is hope among those who master the script that it will get a communicative function at least within the Kimbanguist church. The number of active Mandombe users can reach a few thousand.

The Mandombe script has also an important function as a medium of writing is the graphical use of the letters whose shapes can be combined to create fascinating pictures.

There are published texts in and about Mandombe, one of which carries the title, *Mandombe: écriture négro-africaine* [Wabeladio Payi 1996]. It has been suggested that the copyright on at least some of these texts be voluntarily withdrawn, in order to allow for the encoding proposal to go forward in the UTC and with ISO, on the grounds that for implementation to proceed a script cannot be copyrighted. Putting aside the issue of whether the copyright should be withdrawn, it is an open question as to whether a copyright once asserted for a textual work can in fact be withdrawn. The closest that any publisher might be able to achieve in practice is to assign the work a CC0 license.

With respect to statements given on p. 29 of the previous proposal [L2/11-053](#), no requests for funding are currently being made to facilitate future utilization of the Mandombe script.

2. Structure. Mandombe is written left to right. Structurally, the script is an *abugida* or an alphasyllabary. A sign orientation is used as a distinguishing feature. For syllables having a more complex structure than CV a special set of diacritical signs and other marks are used.

3. Collating order. Collation order is that in the code chart. It is based on the traditional arrangement according to letter shapes: DA-BA-GA-FA, MA-KA-PA-LA, VA-NA-TA-SA, RA-WA-YA-ZA.

4. Character names. The usual UCS conventions are used, with SH representing /ʃ/, TSH representing /tʃ/, DJ representing /dʒ/, and UE representing /y/ (French *u* or German *ü*).

As the consonant shapes are used mainly for two different consonants (depending on where the vowel is attached), it is suggested that the consonants are named as follows:

MANDOMBE JOINED CONSONANT B OR D

The “joined” addition is due to the fact that Mandombe provides also shapes for consonants in syllable coda (as opposed to syllable-initial consonants), which are useful for writing languages other than Kikongo or Lingala, e.g., for Wolof. For those syllable-final shapes the following name is suggested:

MANDOMBE ISOLATED CONSONANT B

Note that some “isolated” shapes can be used for syllable-initial foreign sounds (like GB, KP).

Vowels. Each Mandombe vowel occurs in four different shapes being rotations or flips of the basic shape. These might be provisionally named as follows:

MANDOMBE VOWEL A BASIC

MANDOMBE VOWEL A MIRRORED (meaning, horizontally)

MANDOMBE VOWEL A FLIPPED (meaning, vertically)

MANDOMBE VOWEL A ROTATED (meaning, 180 degrees)

5. Syllable composition. Syllables consisting of a single vowel are formed by adding the basic vowel shape to MANDOMBE INDIVIDUAL VOWEL CARRIER <5>:

a	5 + 𐍎	𐍆
16EAC 16EC8		
o	5 + 𐍏	𐍐
16EAC 16ED4		

e	5 + 𐍑	𐍒
16EAC 16ECC		
u	5 + 𐍓	𐍔
16EAC 16ED8		

i	5 + 𐍕	𐍖
16EAC 16ED0		
ü	5 + 𐍗	𐍘
16EAC 16EDC		

Glyphs for syllables are obtained by joining vowel symbols to respective consonants at a certain point only, for instance,

ba		
16EA0 16EC8		
bi		
16EA0 16ED0		
bu		
16EA0 16ED8		
le		
16ECD 16EA3		
lo		
16ED5 16EA3		

da		
16ECB 16EA0		
di		
16ED3 16EA0		
du		
16EDB 16EA0		
pe		
16EA3 16ECE		
po		
16EA3 16ED6		

More complex syllables (containing diphthongs, pre- and post-nasalization as well as intervening R or L) are formed in the following fashion:

lua		
16ED9 16EF5 16EA3		
gue		
16EA1 16EDA 16EF6		
sio		
16ED1 16EFB 16EA6		
muo		
16EDB 16EFA 16EA2		
bon		
16EA0 16ED4 16EFF		

pro		
16EA3 16EAC 16ED4		
plo		
16EA3 16EAE 16ED4		
dri		
16ED1 16EAD 16EA0		
nso		
16ED5 16EA6 16EAC		
mbi		
16EAD 16EA0 16ED0		

Note that MANDOMBE INDIVIDUAL VOWEL CARRIER <𐛀> is used as the mirrored/flipped version of MANDOMBE INTERVENING CONSONANT R <𐛁>.

6. Linebreaking. Linebreak can occur after a punctuation sign, including syllable separator and word separator. Characters forming a syllable cannot be broken.

7. Punctuation and digits. In Mandombe, script-specific punctuation is used, including a syllable separator, which is a blank space, and a word separator, which is a dot resting on the baseline.

Of ten Mandombe digits, five have the shape similar to vowels (I = 1, U = 2, E = 3, O ≈ 4, A = 5). {NB: this order can be an alternative for ordering vowels, instead of the A-E-I-O-U one}.

However, it seems that the vowels and digits require separate codepoints as – at least in some texts – the digits are taller than the respective vowels when resting on the baseline (see Fig. 1).

8. Additions and extensions. Possible additions include calendar characters for a recently devised Kimbanguist calendar (7 symbols for days of week and 12 symbols for combining days of week and months, cf. Figure 8); such calendar characters can be named starting with KIMBANGUMUNA, not MANDOMBE, as suggested in the list below.

There is a potential possibility that other symbols to reflect phonology of some other African languages will be introduced in future (tone marks, letters for click consonants, etc.), and they can be placed in the reserved codepoints.

9. Acknowledgement. This project was partly supported by a grant from the United States National Endowment for the Humanities (PR-50205-15), which funds the Universal Scripts Project (part of the Script Encoding Initiative at the University of California, Berkeley). Any views, findings, conclusions or recommendations expressed in this publication do not necessarily reflect those of the National Endowment for the Humanities.

10. Bibliography

- Pasch, Helma. 2010. Mandombe. *Afrikanistik online*, 7: Available from: <<http://www.afrikanistik-online.de/archiv/2010/2724>>.
- Rovenchak, Andrij. 2012. Numerical Notation in Africa. *Afrikanistik online*, 9: Available from: <<http://www.afrikanistik-online.de/archiv/2012/3553>>.
- Rovenchak, Andrij & Jason Glavy. 2011. “Mandombe script”, in *African Writing Systems of the Modern Age: The Sub-Saharan Region*. New Haven, Buena Park, New Rochelle, London, Lviv, Abidjan: Athinkra, 84–86. ISBN 978-0-9818294-1-8
- Wabeladio Payi, David. 1996. *Mandombe 𐛀𐛁𐛂𐛃𐛄𐛅 Ecriture negro-africaine: Manuel d'apprentissage à l'usage des apprenants*. Editions du C.E.N.A., Kinshasa.

9. Character repertoire

16EA0		MANDOMBE JOINED CONSONANT B OR D
16EA1		MANDOMBE JOINED CONSONANT F OR G
16EA2		MANDOMBE JOINED CONSONANT K OR M
16EA3		MANDOMBE JOINED CONSONANT L OR P
16EA4		MANDOMBE JOINED CONSONANT N OR V
16EA5		MANDOMBE JOINED CONSONANT R OR W
16EA6		MANDOMBE JOINED CONSONANT S OR T
16EA7		MANDOMBE JOINED CONSONANT Y OR Z
16EA8		MANDOMBE JOINED CONSONANT DJ
16EA9		MANDOMBE JOINED CONSONANT J
16EAA		MANDOMBE JOINED CONSONANT SH
16EAB		MANDOMBE JOINED CONSONANT TSH
16EAC		MANDOMBE INDIVIDUAL VOWEL CARRIER
16EAD		MANDOMBE INTERVENING CONSONANT R
16EAE		MANDOMBE INTERVENING CONSONANT L
16EAF		MANDOMBE INTERVENING CONSONANT L FLIPPED
16EB0		MANDOMBE ISOLATED CONSONANT B
16EB1		MANDOMBE ISOLATED CONSONANT F
16EB2		MANDOMBE ISOLATED CONSONANT K
16EB3		MANDOMBE ISOLATED CONSONANT L
16EB4		MANDOMBE YIKAMU • vertical stroke used in illustrations of Mandombe characters composition • similar to MANDOMBE COMMA but different in meaning • can be positioned on different levels above the baseline unlike the comma

16EB5		MANDOMBE ISOLATED CONSONANT S (= KT) • also used as joined consonant KT
16EB6		MANDOMBE ISOLATED CONSONANT R
16EB7		MANDOMBE ISOLATED CONSONANT Y
16EB8		MANDOMBE ISOLATED CONSONANT DJ
16EB9		MANDOMBE ISOLATED CONSONANT J
16EBA		MANDOMBE ISOLATED CONSONANT SH
16EBB		MANDOMBE ISOLATED CONSONANT TSH
16EBC		MANDOMBE MVUALA ZA PILUKA-1 • used in illustrations of Mandombe characters compositions • similar to MANDOMBE DIGIT SIX
16EBD		MANDOMBE MVUALA ZA PILUKA-2 • used in illustrations of Mandombe characters compositions • similar to MANDOMBE DIGIT NINE
16EBE		MANDOMBE MVUALA ZA PILUKA-3 • used in illustrations of Mandombe characters compositions • similar to MANDOMBE DIGIT SEVEN
16EBF		MANDOMBE MVUALA ZA PILUKA-4 • used in illustrations of Mandombe characters compositions • similar to MANDOMBE DIGIT EIGHT
16EC0		MANDOMBE ISOLATED CONSONANT D • also used as joined consonant GB
16EC1		MANDOMBE ISOLATED CONSONANT G
16EC2		MANDOMBE ISOLATED CONSONANT M • also used as joined consonant KP
16EC3		MANDOMBE ISOLATED CONSONANT P

16EC4	𐌵	MANDOMBE ISOLATED CONSONANT V
16EC5	𐌴	MANDOMBE ISOLATED CONSONANT T
16EC6	𐌶	MANDOMBE ISOLATED CONSONANT W
16EC7	𐌺	MANDOMBE ISOLATED CONSONANT Z
16EC8	𐌸	MANDOMBE VOWEL A BASIC • similar to MANDOMBE DIGIT FIVE
16EC9	𐌹	MANDOMBE VOWEL A MIRRORED
16ECA	𐌷	MANDOMBE VOWEL A FLIPPED
16ECB	𐌻	MANDOMBE VOWEL A ROTATED
16ECC	𐌾	MANDOMBE VOWEL E BASIC • similar to MANDOMBE DIGIT THREE
16ECD	𐌽	MANDOMBE VOWEL E MIRRORED
16ECE	𐌿	MANDOMBE VOWEL E FLIPPED
16ECF	𐍀	MANDOMBE VOWEL E ROTATED
16ED0	𐌺	MANDOMBE VOWEL I BASIC • similar to MANDOMBE DIGIT ONE
16ED1	𐌻	MANDOMBE VOWEL I MIRRORED
16ED2	𐌼	MANDOMBE VOWEL I FLIPPED
16ED3	𐌽	MANDOMBE VOWEL I ROTATED
16ED4	𐍂	MANDOMBE VOWEL O BASIC • similar to MANDOMBE DIGIT FOUR
16ED5	𐍃	MANDOMBE VOWEL O MIRRORED
16ED6	𐍄	MANDOMBE VOWEL O FLIPPED
16ED7	𐍅	MANDOMBE VOWEL O ROTATED

16ED8	𐌸	MANDOMBE VOWEL U BASIC • similar to MANDOMBE DIGIT TWO
16ED9	𐌹	MANDOMBE VOWEL U MIRRORED
16EDA	𐌺	MANDOMBE VOWEL U FLIPPED
16EDB	𐌻	MANDOMBE VOWEL U ROTATED
16EDC	𐌼	MANDOMBE VOWEL UE BASIC
16EDD	𐌽	MANDOMBE VOWEL UE MIRRORED
16EDE	𐌾	MANDOMBE VOWEL UE FLIPPED
16EDF	𐌿	MANDOMBE VOWEL UE ROTATED
16EE0	𐍀	MANDOMBE DIGIT ZERO
16EE1	𐍁	MANDOMBE DIGIT ONE
16EE2	𐍂	MANDOMBE DIGIT TWO
16EE3	𐍃	MANDOMBE DIGIT THREE
16EE4	𐍄	MANDOMBE DIGIT FOUR
16EE5	𐍅	MANDOMBE DIGIT FIVE
16EE6	𐍆	MANDOMBE DIGIT SIX
16EE7	𐍇	MANDOMBE DIGIT SEVEN
16EE8	𐍈	MANDOMBE DIGIT EIGHT
16EE9	𐍉	MANDOMBE DIGIT NINE
16EEA		MANDOMBE SYLLABLE SEPARATOR • it is a blank space
16EEB	•	MANDOMBE WORD SEPARATOR • it is a dot resting on the baseline
16EEC	𐍊	MANDOMBE DOT

16EED		MANDOMBE COMMA
16EEE	^	MANDOMBE COLON
16EEF	↑	MANDOMBE SEMICOLON
16EF0	/	MANDOMBE EXCLAMATION MARK
16EF1	\	MANDOMBE EXCLAMATION MARK MIRRORED
16EF2	⌋	MANDOMBE QUESTION MARK
16EF3	^^^	MANDOMBE ELLIPSIS
16EF4	◌̣	MANDOMBE COMBINING A DIPHTONG MARK
16EF5	◌̣̂	MANDOMBE COMBINING A DIPHTONG MARK FLIPPED
16EF6	◌̣̣	MANDOMBE COMBINING E DIPHTONG MARK
		• these are short vertical strokes, not dots as in 16EFC
16EF7	◌̣̣̂	MANDOMBE COMBINING E DIPHTONG MARK FLIPPED
16EF8	◌̣̣̣	MANDOMBE COMBINING I DIPHTONG MARK
16EF9	◌̣̣̣̂	MANDOMBE COMBINING I DIPHTONG MARK FLIPPED
16EFA	◌̣̣̣̣	MANDOMBE COMBINING O DIPHTONG MARK
16EFB	◌̣̣̣̣̂	MANDOMBE COMBINING O DIPHTONG MARK FLIPPED
16EFC	◌̣̣̣̣̣	MANDOMBE COMBINING U DIPHTONG MARK
		• these are dots, not short vertical strokes as in 16EF6
16EFD	◌̣̣̣̣̣̂	MANDOMBE COMBINING U DIPHTONG MARK FLIPPED
16EFE	◌̣̣̣̣̣̣	MANDOMBE COMBINING NASALIZATION MARK
16EFF	◌̣̣̣̣̣̣̂	MANDOMBE COMBINING NASALIZATION MARK FLIPPED

16EA0

Mandombe

16EFF

	16EA	16EB	16EC	16ED	16EE	16EF
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
A						
B						
C						
D						
E						
F						

	1xxx	1xxy
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E		
F		

1xxx0		MANDOMBE SYMBOL MANDOMBE
1xxx1		KIMBANGUMUNA MPANGALA DAY SYMBOL
1xxx2		KIMBANGUMUNA NSONA DAY SYMBOL
1xxx3		KIMBANGUMUNA MBASA DAY SYMBOL
1xxx4		KIMBANGUMUNA NKENGE DAY SYMBOL
1xxx5		KIMBANGUMUNA KONZO DAY SYMBOL
1xxx6		KIMBANGUMUNA NKANDU DAY SYMBOL
1xxx7		KIMBANGUMUNA NDELE DAY SYMBOL
1xxx8		KIMBANGUMUNA KINTOMBO MONTH PLACEHOLDER
1xxx9		KIMBANGUMUNA NKIELA MONTH PLACEHOLDER
1xxxA		KIMBANGUMUNA LUANZA MONTH PLACEHOLDER
1xxxB		KIMBANGUMUNA SIVU MONTH PLACEHOLDER
1xxxC		KIMBANGUMUNA LUNKIESA MONTH PLACEHOLDER
1xxxD		KIMBANGUMUNA SENZA KIAMASANZA MONTH PLACEHOLDER
1xxxE		KIMBANGUMUNA MBANGALA MONTH PLACEHOLDER
1xxxF		KIMBANGUMUNA KUMPUA MONTH PLACEHOLDER
1xxy0		KIMBANGUMUNA VILA MONTH PLACEHOLDER
1xxy1		KIMBANGUMUNA AKUNDE MONTH PLACEHOLDER
1xxy2		KIMBANGUMUNA KUNDI MONTH PLACEHOLDER
1xxy3		KIMBANGUMUNA KUNDI KIANENE MONTH PLACEHOLDER
1xxy4		KIMBANGUMUNA MVUALA VELELA BASIC

10. Figures

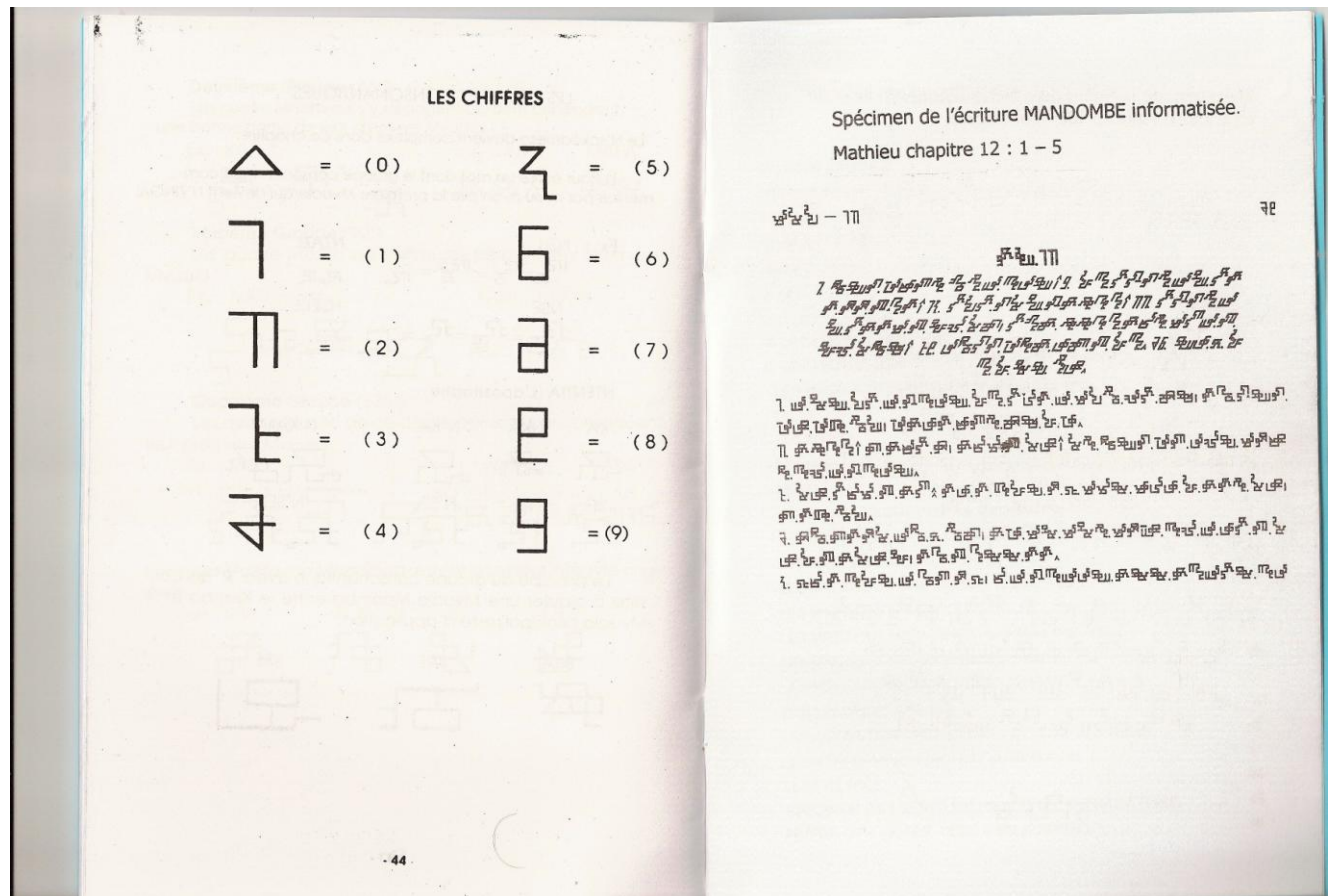
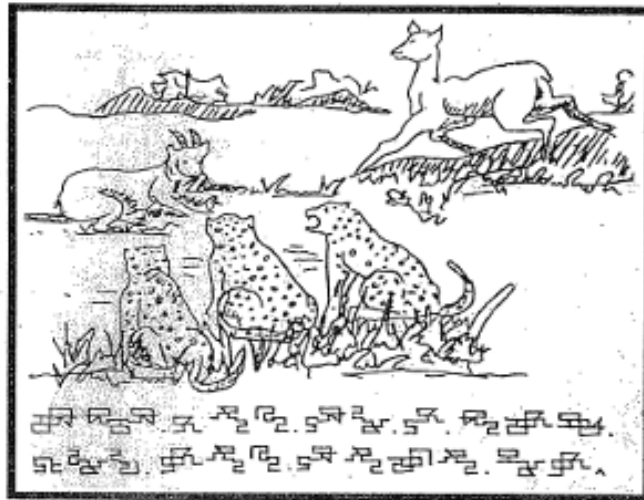


Figure 1: An excerpt from the book teaching Mandombe

[illegible]

Figure 2: Lord's Prayer in Kikongo written in the Mandombe script

LISAPO: 2542 | 5297.57.20040204

[illegible][illegible]

ॐ नमो भगवते वासुदेवाय । नमो भगवते वासुदेवाय । नमो भगवते वासुदेवाय । नमो भगवते वासुदेवाय । नमो भगवते वासुदेवाय ।

ॐ नमो भगवते वासुदेवाय । ॐ नमो भगवते वासुदेवाय । ॐ नमो भगवते वासुदेवाय ।
 ॐ नमो भगवते वासुदेवाय । ॐ नमो भगवते वासुदेवाय । ॐ नमो भगवते वासुदेवाय ।
 ॐ नमो भगवते वासुदेवाय । ॐ नमो भगवते वासुदेवाय । ॐ नमो भगवते वासुदेवाय ।

[illegible][illegible][illegible]

Figure 4: Book page in Kikongo written in the Mandombe script

[illegible][illegible]

Figure 6: A specimend of the Mandombe handwriting

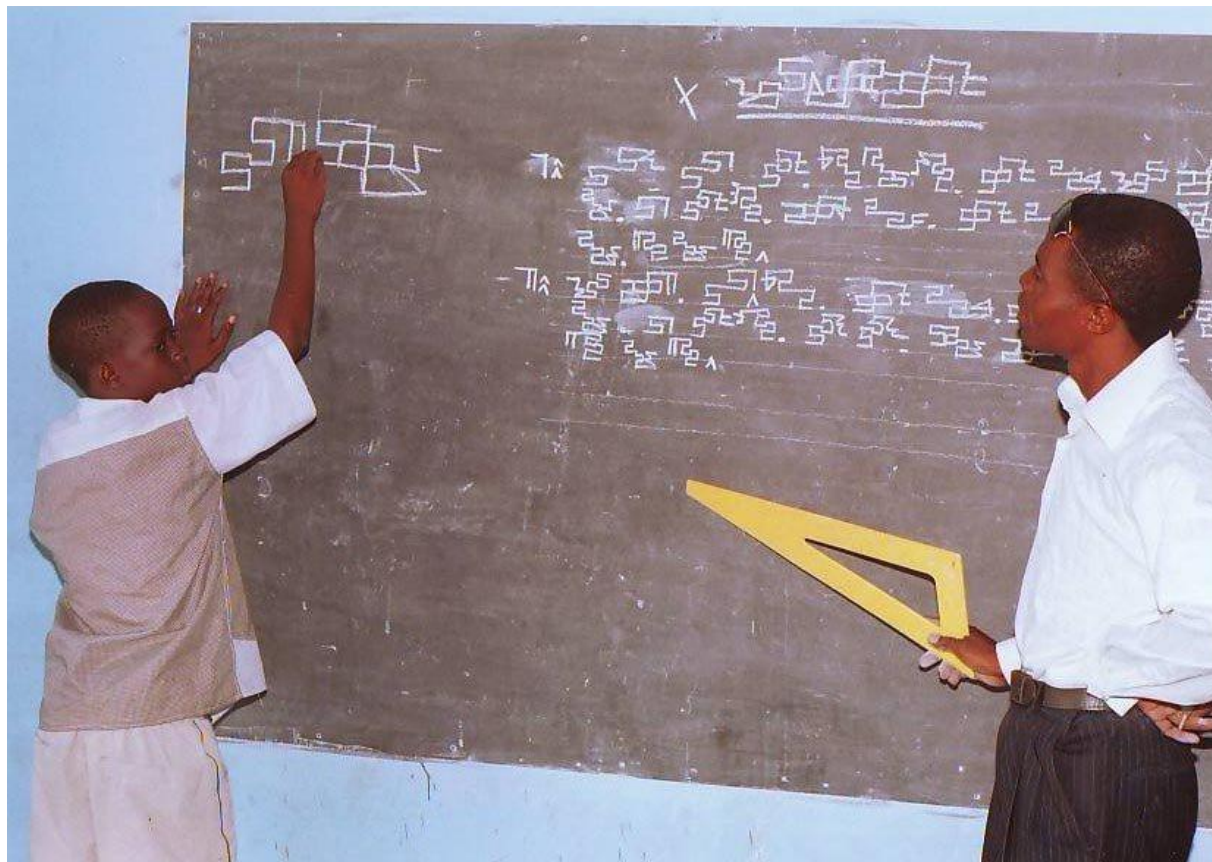


Figure 7: Mandombe class (source: Script Mandombe at Facebook, 30 December 2013)

	LUNDI	MARDI	MERCREDI	JEUDI	VENDREDI	SAMEDI	DIMANCHE
JANVIER							
AKUNDE	MPANGA	NSONA	MBASA	NKENGE	KONZO	NKANDU	NDELE
2009				1 -Nouvel an -Indépendance du Cameroun 1960	2	3 VILA 31	4 Martyrs de l'indépendance de la RDC AKUNDE 01
	5	6	7	8 -Bénédiction de la Traite Négrière par le Pape Nicolas V 1454	9	10	11
	12	13 -Mort de André Matsoua 1942	14	15	16 -Assassinat de Dorville Kanga 2001	17 -Assassinat de Patrice Émery Lumumba RDC 1961	18
	19	20	21	22 -Mort de Léon Gotran Damas 1978	23	24	25
	26	27	28	29	30	31 -Abolition de l'esclavage aux USA 1863 AKUNDE 28	
	- 04 Janvier : Création des Ecoles Kimbanguistes par S.E. Joseph Diangienda Kuntima (1959)						

Le calendrier de composition par construction a été inventé par Gaston Kandu Batshema en 2002 à Cotonou au Bénin. En effet, Gaston Kandu Batshema découvre qu'en Mandombe, les deux cannes (Mvuala) Pakundungu et Pelekete donnent naissance au cadre unique ou Mvuala velela si on rabat la partie supérieur sur la partie inférieure des des deux Mvuala découvert par Wabeladio Payi David sur le mur des briques.

Figure 8: Kimbangumuna calendar symbols.