

NUBS Sampler Questionnaire Summary of Responses February 2011

The Braille Authority of North America (BANA) research committee had been charged to evaluate the experimental code Nemeth Uniform Braille System (NUBS). The committee, working with the developers of the code, developed a "sampler" of passages written in NUBS. The sampler included an introduction with a brief summary of how NUBS was devised, a list of the NUBS symbols used, then seven samples of general-interest material such as a recipe, bus schedule, menu, and short essays. The availability of the sampler was advertised through BANA membership organizations, through the listserv BANA-Announce, and was sent to people who requested it. The sampler was also sent to people who were on BANA's volunteer database. A questionnaire was included at the end of the sampler as a way of gaining feedback about specific aspects of the code from readers. The sampler was available for mailing in print and braille in early 2010, and the questionnaires were due at the end of August 2010.

Samplers were disseminated in braille and in print with simulated braille. There were 960 samplers distributed. These results are based on 236 valid surveys that were filled out online, or sent in hard copy braille or print and then added to the online database. In the pages that follow, the survey question is shown with the percentage and number of responses for each selection. The most frequent answer is shown in bold preceded by an asterisk.

The first section of the questionnaire captured some basic demographic information about the respondents, such as their ages, how long they have read braille, and whether they are employed as a teacher or transcriber of braille or in some other field. In this particular group of respondents, the largest percentage read braille on paper (32%) although the responses were fairly dispersed among other media. About half were between the ages of 46-64 years and two-thirds had read braille since early childhood. About half of the respondents were not employed currently as a teacher or transcriber of braille, but had a variety of other jobs. As an example of the types of jobs most often reported, 12 individuals were involved in education in some way; 12 were students; 7 were musicians; 16 were retired; 11 were involved with computers or technology in some manner; 5 were unemployed; 8 were involved in producing accessible media; 28 were employed in other careers. About two-thirds of the respondents had heard at least something about NUBS; for example 31% stated they had read an article about it. A third of the respondents stated they knew very little or nothing about NUBS prior to reading the sampler.

The second section of the questionnaire asked 22 specific questions about the introductory material and each of the seven sample passages. The questions asked whether certain symbols were easy or difficult to read/interpret and whether readers noticed a change in their speed as they read the passage. For the most part, the most frequent responses indicated that the participants found most symbols relatively easy to interpret and caused no change in their reading speed. The menu appeared to be the most difficult for these readers; the mode response was "somewhat easy to read" and the responses to the specific question about the two types of periods in NUBS (notational and narrative) indicated that while the most frequent response was "somewhat clear"

(31.4%) the second most frequent response was "somewhat unclear" (22.9%). (See question 18 for details.) The bus schedule sample also appeared to cause some diverse opinion, as the most frequent response to question 19 indicated that it was "somewhat difficult to read" (26.3%) but the next most frequent response was "somewhat easy to read" (25.8%).

The third section of the questionnaire asked four questions about the respondents' perception of how difficult it would be to learn to read and write NUBS, and their overall impression of NUBS from reading the samples. Interestingly, while most of the responses in section 2 indicated that NUBS would not be difficult to interpret nor would it slow them down, the responses in answer to the question asking if they liked NUBS were quite dispersed. Responses to the prompt, "Given what you've just read of NUBS, would you be more inclined to say you:" were as follows:

Like NUBS very much 15.3% n=36

* **b. Like NUBS somewhat 22% n=52**

c. Feel neutral about NUBS 15.3% n=36

d. Dislike NUBS somewhat 14.8% n=35

* **e. Dislike NUBS very much 21.6% n=51**

So while the responses were generally favorable for 37.3% of respondents and generally unfavorable for 36.4%, the intensity of the negative response was stronger ("dislike very much") than the intensity of the positive response ("like somewhat").

The comments at the end of the survey reflect that ambivalence. There were many more negative comments than positive. A number of comments indicated readers who were neutral or that while there were some aspects that they liked, they had reservations about it. Others asked specific questions about the code as presented in the sampler. Among the positive aspects of NUBS mentioned: the concept of a single code rather than three separate ones; easy to learn; preference for dropped numbers, familiarity with Nemeth which made NUBS easier to learn; and the potential for NUBS to increase the accuracy of transcription into braille. Negative comments included: the increased bulk of NUBS compared to current code; lack of need for this code as current codes work well; dislike for certain symbols or aspects of the experimental code such as the modes; cumbersome to write; and concern about needing to show all the print indicators. Other questions and concerns raised included the potential impact on children learning braille and on current braille readers, particularly adults; the cost of implementation; the cost of producing books; the fact that no other country is considering the use of NUBS; and the lack of transcribers and teachers who know NUBS.

The survey was also analyzed using SPSS to investigate the possibility of any correlations between any of the items, such as a relationship between the respondents' ages or length of time reading braille and how much they liked NUBS. Although several statistical procedures were conducted, there were no significant correlations between any of the factors tested.

Section 1. So that we have a better idea of who is responding to this survey, please tell us the following:

1. In a typical week, I *primarily* read:

a. Braille on paper 32.2% (n=76)

b. Electronically with refreshable braille 22% (n=52)

c. Auditorily (whether on computer, CD, tapes, etc.) 20.3% (n=48)

d. Print 14.4% (n=34)

e. Other 10.2% (n=24) Generally speaking, these responses described a combination of methods, with respondents stating that they could not choose one primary medium.

2. I learned to read braille:

a. From early childhood (I have always read braille) 68.2% (n=161)

b. As a teen or young adult (started with print but switched to braille in school) 6.8% (n=16)

c. As an adult within the past 5 years .8% (n=2)

d. As an adult more than 5 years ago 3.4% (n=8)

e. As a sighted adult for the purposes of teaching or transcribing 18.6% n=44

f. Other (please explain) _____ .4% (n=1)

3. I fall into the following age range:

a. Under the age of 18 2.1% (n=5)

b. 18-29 years old 6.4% n=15

c. 30-45 years old 18.2% n=43

d. 46-64 years old 50.4% n=119

e. 65 or older 20.3% n=48

4. My occupation is:

a. Teacher of students who are blind or visually impaired 9.3% n=22

b. Teacher of adults who are blind or visually impaired 4.2% n=10

c. Transcriber or proofreader of braille 17.4% n=41

d. Retired as a teacher or transcriber 10.6% n=25

e. None of the above, my occupation is (please describe) _____ 54.2% n=128

5. How much prior knowledge, if any, did you have about NUBS? Please check all that apply:

a. Attended a workshop about it 13.1% n=31

b. Studied the Braille2000 website 2.1% n=5

c. Participated in a research project or focus group about it 7.2% n=17

d. Read an article about it 31.4% n=74

e. Heard about it from a colleague or friend 8.5% n=20

f. Heard a little about it somewhere but really didn't know much 18.2% n=43

g. No prior knowledge at all 16.5% n=39

h. Other 1.7% n=4

Section 2. The following questions are related to the sampler you just read.

6. I found the **introduction to NUBS** in this sampler to be:

- * **a. Completely understandable 61% n=144**
- b. Somewhat understandable 17.8% n=42
- c. Understandable in some places, not in others 14.4% n=34
- d. Somewhat hard to understand 4.2% n=10
- e. Not understandable at all 1.3% n=4

7. I found the presentation of the **individual symbols** selected from NUBS:

- * **a. Completely understandable 46.6% n=110**
- b. Somewhat understandable 23.3% n=55
- c. Understandable in some places, not in others 18.2% n=43
- d. Somewhat hard to understand 7.6% n=18
- e. Not understandable at all 3% n=7

8. In general, I found **Sample 1, the Gettysburg Address**:

- * **a. Very easy to read 70.3% n=166**
- b. Somewhat easy to read 20.8% n=49
- c. Not easy, not difficult 4.7% n=11
- d. Somewhat difficult to read 2.1% n=5
- e. Very difficult to read .8% n=2

9. Overall, I felt that I read the Gettysburg Address:

- a. Significantly faster than usual .8% n=2
- b. Somewhat faster than usual 4.7% n=11
- * **c. No real change in speed 69.1% n=163**
- d. Somewhat slower than usual 22% n=52
- e. Significantly slower than usual 2.1% n=5

10. In general, I found the punctuation marks in the Gettysburg Address:

- * **a. Very easy to interpret 42.8% n=101**
- b. Somewhat easy to interpret 30.5% n=72
- c. Not easy, not difficult 14.8% n=35
- d. Somewhat difficult to interpret 7.6% n=18
- e. Very difficult to interpret 4.2% n=10

11. In general, I found Sample 2, the recipe:

- * **a. Very easy to read 35.2% n=83**
- b. Somewhat easy to read 31.4% n=74
- c. Not easy, not difficult 13.6% n=32
- d. Somewhat difficult to read 15.3% n=36
- e. Very difficult to read 3% n=7

12. Overall, I felt that I read the recipe:

- a. Significantly faster than usual 2.1% n=2
- b. Somewhat faster than usual 8.1% n=19
- * **c. No real change in speed 45.3% n=107**
- d. Somewhat slower than usual 37.7% n=89

e. Significantly slower than usual 5.9% n=14

13. I found the lower-cell numbers in the recipe to be:

* **a. Very easy to understand 68.6% n=162**

b. Somewhat easy to understand 9.7% n=23

c. Not easy, not difficult 9.7% n=23

d. Somewhat difficult to understand 6.8% n=16

e. Very difficult to understand 1.7% n=4

14. I found the fractions in the recipe to be:

* **a. Very easy to interpret 49.2% n=116**

b. Somewhat easy to interpret 16.9% n=40

c. Not easy, not difficult 12.7% n=30

d. Somewhat difficult to interpret 14.4% n=34

e. Very difficult to interpret 5.1% n=12

15. I found the abbreviations for measurements in the recipe to be:

* **a. Very easy to interpret 41.1% n=97**

b. Somewhat easy to interpret 28.4% n=67

c. Not easy, not difficult 9.7% n=23

d. Somewhat difficult to interpret 14.4% 34

e. Very difficult to interpret 4.7% n=11

16. In general, I found **Sample 3, the menu** to be:

a. Very easy to read 24.2% n=57

* **b. Somewhat easy to read 36.9% n=87**

c. Not easy, not difficult 15.3% n=36

d. Somewhat difficult to read 17.8% n=42

e. Very difficult to read 5.5% n=13

17. Overall, I felt that I read the menu:

a. Significantly faster than usual 2.1% n=5

b. Somewhat faster than usual 6.4% n=15

c. No real change in speed 39.4% n=93

* **d. Somewhat slower than usual 40.7% n=96**

e. Significantly slower than usual 9.3% n=22

18. In the menu, there are two different braille symbols for period: the notational mode period and the narrative mode period. I found the use of these two different symbols for the same print punctuation mark to be:

a. Very clear 21.6% n=51

* **b. Somewhat clear 31.4% n=74**

c. Neither clear nor unclear 10.2% n=24

d. Somewhat unclear 22.9% n=54

e. Very unclear 13.6% n=32

19. In general, I found **Sample 4, the bus schedule** to be:

a. Very easy to read 14.8% n=35

b. Somewhat easy to read 25.8% n=61

- c. Not easy, not difficult 15.3% n=36
- * **d. Somewhat difficult to read 26.3% n=62**
- e. Very difficult to read 16.1% n= 38

20. Overall, I felt that I read the bus schedule:

- a. Significantly faster than usual 1.7% n=4
- b. Somewhat faster than usual .8% n=2
- * **c. No real change in speed 39.4% n=93**
- d. Somewhat slower than usual 33.5% n=79
- e. Significantly slower than usual 23.7% n=56

21. I found the symbol used to represent the colon in reading time on the bus schedule to be:

- * **a. Very easy to read 47.9% n=113**
- b. Somewhat easy to read 14.4% n=34
- c. Not easy, not difficult 14% n=33
- d. Somewhat difficult to read 11% n=26
- e. Very difficult to read 10.6% n=25

22. I found **Sample 5, the elementary math page example** (i.e., "Easy Mental Math") to be:

- * **a. Very easy to read 37.7% n=89**
- b. Somewhat easy to read 30.9% n=73
- c. Not easy, not difficult 10.2% n=24
- d. Somewhat difficult to read 14.4% n=34
- e. Very difficult to read 6.8% n=16

23. Overall, I felt that I read the "**Mental Math**" piece:

- a. Significantly faster than usual 3% n= 7
- b. Somewhat faster than usual 9.3% n=22
- * **c. No real change in speed 46.6% n=110**
- d. Somewhat slower than usual 30.5% n=72
- e. Significantly slower than usual 9.7% n=23

24. I found the indicators for bold face type in the **math example**:

- a. Very easy to interpret 18.2% n=43
- * **b. Somewhat easy to interpret 27.1% n=64**
- c. Not easy, not difficult 19.5% n=46
- d. Somewhat difficult to interpret 19.9% n=47
- e. Very difficult to interpret 14.4% n=34

25. Overall, I felt that I read **Sample 6, the book review of "The War Within"**:

- a. Significantly faster than usual 3% n=7
- b. Somewhat faster than usual 6.8% n=16
- * **c. No real change in speed 60.6% n=143**
- d. Somewhat slower than usual 24.2% n=57
- e. Significantly slower than usual 5.1% n=12

26. In "**The War Within**," there are two different braille symbols for comma: the notational mode comma and the narrative mode comma. I found the use of these two different symbols for the same print punctuation mark to be:

- * **a. Very clear 30.1% n= 71**
- b. Somewhat clear 28% n=66
- c. Neither clear nor unclear 10% n=24
- d. Somewhat unclear 18.2% n=43
- e. Very unclear 12.3% n=29

27. I found the copyright symbol in "**The War Within**":

- * **a. Very easy to interpret 35.4% n=86**
- b. Somewhat easy to interpret 23.7% n=56
- c. Not easy, not difficult 12.7% n=30
- d. Somewhat difficult to interpret 19.1% n=45
- e. Very difficult to interpret 7.2% n=17

28. I found the indicators for superscript in **Sample 7, A Few More Examples** to be:

- * **a. Very easy to interpret 33.9% n=80**
- b. Somewhat easy to interpret 25% n=59
- c. Not easy, not difficult 11.4% n=27
- d. Somewhat difficult to interpret 16.9% n=40
- e. Very difficult to interpret 11% n=26

Section 3. This last section asks more general questions about the sampler and your thoughts about the Nemeth Uniform Braille System.

29. In general, do you find new braille symbols:

- a. Very easy to learn 25% n=59
- * **b. Somewhat easy to learn 34.7% n=82**
- c. Not easy, not difficult 15.7% n=37
- d. Somewhat difficult to learn 15.7% n=37
- e. Very difficult to learn 7.6% n=18

30. Given what you've read in this sampler, how long do you believe it would take you to feel comfortable reading NUBS?

- a. I already feel comfortable reading it 16.5% n=39
- * **b. It would take several days to feel comfortable with it 33.5% n=79**
- c. It would take a few weeks to feel comfortable with it 22.9% n=54
- d. It would take several months to feel comfortable with it 12.3% n=29
- e. I don't believe I would ever feel comfortable reading it. 12.7% n=30

31. From what you have seen in this sampler, how do you think this code might affect your braille writing speed?

- a. I would write significantly faster 1.7% n=4
- b. I would write somewhat faster 7.2% n=17
- c. There would be no change in my writing speed 28.4% n=67
- * **d. I would write somewhat slower 35.6% n=84**
- e. I would write significantly slower 25% n=59

32. Given what you've just read of NUBS, would you be more inclined to say you:

- a. Like NUBS very much 15.3% n=36
- * **b. Like NUBS somewhat 22% n=52**
- c. Feel neutral about NUBS 15.3% n=36
- d. Dislike NUBS somewhat 14.8% n=35
- e. Dislike NUBS very much 21.6% n=51**
- f. Other (please explain) _____ 5.9% n=14