



Polish Symboloud grid family evidence and design rationale

From Easy Access 4 to Core Communication 90

What this family provides

The Polish Symboloud family offers eight related vocabulary sets, from Easy Access 4 to Core Communication 90. It gives people different balances of target size, available language and navigation. This document explains the vocabulary, placement and colour decisions in the accompanying Maker spreadsheets, and how the evidence informed them.

The pack is a working Polish starting set for personalisation and native-language review. Research supports several underlying principles, but no study has validated these exact Polish words, cell positions or eight transitions. The sets are choices, not compulsory developmental stages. A person can begin with any size that suits their access and communication needs.

The Polish version keeps the established Symboloud family structure and rebuilds the linguistic content for Polish. Non-English AAC research identifies language and cultural considerations that direct translation can miss (Amery et al., 2022; Soto and Tönsing, 2024) [2,3].

Set	Layout	Word tiles	Labels	Pages
Easy Access 4	2 × 2	19	17	6
Easy Access 6	3 × 2	41	39	8
Easy Access 12	4 × 3	155	105	14
Easy Access 18	6 × 3	332	217	20
Easy Access 24	6 × 4	439	314	21
Core Communication 30	6 × 5	532	403	21
Core Communication 50	10 × 5	743	528	21
Core Communication 90	10 × 9	805	565	21

How to read the family figures

Word tiles count every vocabulary placement, including deliberate repetition across topics. Labels count distinct visible words or phrases. Pages include Start and navigation pages. A 90-cell grid describes the maximum number of positions on one screen, not the total vocabulary in the file. Each page in this pack stays within its stated grid capacity.

The authored family grows from 17 distinct labels to 565. Each larger workbook retains every visible vocabulary label from the preceding set. Counts describe these supplied workbooks and will change if vocabulary is edited in Maker.

Why the family has several sizes

Bertuccio and Sanger developed a mathematical model that combined button number, size, spacing and selection errors for children with dyskinetic cerebral palsy. Individualised layouts improved performance in that study (Bertuccio and Sanger, 2018) [5]. This supports considering access individually. It does not prescribe a universal number of cells, validate Symboloud, or establish a language-learning sequence.

Symboloud changes the number of columns from two to ten. It cannot independently reproduce every size and spacing parameter in the study. The eight layouts therefore provide practical access options within the app. Larger sets make more vocabulary visible and can reduce navigation, while smaller sets give larger targets on the same display.



The smallest sets have deliberately limited vocabulary. They can offer an accessible starting configuration, but they also restrict what can be said. A larger, richer set should remain an option whenever the person can use it. Grid size should not be treated as a measure of intelligence, age or literacy (ASHA, n.d.) [1].

Placement and familiar routes

Common words appear first on Start, followed by routes to linked vocabulary. The first Home choices remain *chcę*, *nie* and *pomóż mi* throughout the family. Topic pages add context-specific words around a smaller number of repeated, reusable words. The repetition gives convenient access to language such as wanting, refusal and help in more than one context.

Display research supports deliberate spatial grouping and attention to visual search, crowding and symbol properties (Light et al., 2019) [4]. The exact Symboloud order is a product design choice informed by those findings. When column counts change, some row and column coordinates necessarily change. Vocabulary and broad organisation carry over, but identical motor movements across all sizes are not promised.

What each size adds

Easy Access 4 2×2

Start contains *chcę*, *nie* and *pomóż mi*, with *Więcej słów* opening people, actions, support and personal information. It gives immediate ways to express a wish, refuse or ask for help.

Easy Access 6 3×2

Start retains *chcę*, *nie* and *pomóż mi*, then adds *tak* and *ja*. Linked pages add feelings and body vocabulary, alongside the people, actions, support and personal information already established.

The visible vocabulary grows from 17 to 39 distinct labels.

Easy Access 12 4×3

Start adds *ty*, *lubię*, *idę*, *stop*, *więcej* and *koniec*. Linked vocabulary broadens everyday choices while retaining the words available in the smaller sets.

The visible vocabulary grows from 39 to 105 distinct labels.

Easy Access 18 6×3

Start adds *co*, *gdzie*, *potrzebuję*, *czuję*, *robię* and *mogę*. Wider topic vocabulary supports questions, activities, feelings and everyday participation.

The visible vocabulary grows from 105 to 217 distinct labels.

Easy Access 24 6×4

Start adds *mam*, *biore*, *daję*, *tutaj*, *tam* and *jak*. The set also expands topic vocabulary and adds the technology topic while keeping earlier vocabulary available.

The visible vocabulary grows from 217 to 314 distinct labels.

Core Communication 30 6×5

Start adds *jeszcze raz* and direct routes to *Ludzie*, *Czynności*, *Opisy*, *Czuję*, *Więcej słów* and *Szybkie zwroty*. The larger vocabulary gives more options for comments, questions and personal messages.

The visible vocabulary grows from 314 to 403 distinct labels.

Core Communication 50 10×5

Start adds pronouns, questions and useful forms such as *przychodzę*, *zostaję*, *wiem* and *mówię*. Direct routes include health, food, home life and places, reducing the navigation needed to reach common topics.

The visible vocabulary grows from 403 to 528 distinct labels.



Core Communication 90 10 × 9

The fullest set places all topics directly on Start and adds more verbs, pronouns and connecting words. Polish demonstratives, question forms, personal information and communication support remain available in linked folders.

The visible vocabulary grows from 528 to 565 distinct labels.

Polish grammar and useful speech

Polish needs its own grammatical choices. Common Home verbs use immediately useful first-person forms, including *chcę*, *mogę*, *mam*, *robię* and *wiem*. The speaker does not have to select *ja* before each such verb. Pronouns remain available for emphasis and reference. The starting set does not automatically change a verb when a different subject pronoun is selected.

Polish has no indefinite or definite articles equivalent to English *a* and *the*. Larger grids use the available grammatical space for demonstratives such as *ten*, *ta*, *to*, *ci* and *te*, and more distant forms such as *tamten* and *tamta*. Gender and number distinctions belong to the referent and grammar. Different symbols should not imply that an object is a male or female person.

Forms such as *że* and *żeby* serve different functions and retain distinct labels. Question vocabulary includes *co*, *kto*, *gdzie*, *kiedy*, *dlaczego*, *jak* and *ile*, with *kogo* and *czyj* added in larger topic vocabulary. These are selected useful forms rather than a complete pronoun or question-word paradigm.

Polish case endings, agreement and verbal aspect cannot be supplied merely by placing dictionary words beside each other. The default noun labels usually use citation forms. For example, *woda* names water, but a grammatical request is *chcę wodę*. Personalised phrase cells or relevant inflected forms are needed when that distinction matters. Łaziński's account of aspect also explains why forms for an ongoing action and a completed action are not interchangeable (Łaziński, 2020) [8].

A usable balance of words and phrases

The grids combine words that can be reused with complete expressions, including *pomóż mi*, *nie rozumiem*, *mów wolniej* and *potrzebuję czasu*. Polish AAC practice already uses short messages for needs, comments, questions and conversation (MÓWik, n.d.) [9]. That practice informed the range of communication functions, rather than determining an exact word list.

Gender-neutral ways to express feelings reduce the need to choose the speaker's gender before a basic message. Examples include *boję się* and *nudzę się*. Some short labels use a fuller spoken expression, such as *wstyd* speaking *wstydzę się*. This is a practical label-and-speech choice, not a complete solution to Polish agreement.

Michalik places vocabulary, grammar, communication purpose and cultural context within AAC linguistic competence (Michalik, 2020) [7]. Accordingly, the family includes questions, refusal, feelings, support and personal information as well as object names. Its vocabulary is a designed starting selection. It is not claimed to be a statistically ranked Polish core list. KWJP frequency resources provide a useful wider-language reference, but their counts do not establish the communication needs of an individual AAC user (KWJP, n.d.) [10].

Colour and symbol choices

The spreadsheets retain the Symboloud Modified Fitzgerald Key categories and colour values. Green marks verbs, yellow pronouns, orange nouns, blue descriptors, purple questions, pink prepositions and social words, and grey adverbs, conjunctions, determiners and navigation. Selected important function words use red. Some complete expressions inherit the colour of their main communication role.

This is the family's organisational convention, consistent with the existing Symboloud files and related UK AAC conventions described by Smartbox (2022) [11]. It is not presented as a Polish national standard. Thistle and Wilkinson's study supports word-class arrangement more clearly than background colour itself, and broader display evidence cautions that background colour can distract some users (Thistle and Wilkinson, 2017; Light et al., 2019) [6,4].

The workbooks provide Polish text and English symbol-search concepts. Final symbol paths are deliberately left for selection in Maker. The pack therefore does not claim completed symbol consistency. Choose symbols by meaning and folder context, then use the reviewed master to synchronise shared concepts. Distinct grammar forms can share a concept symbol where that is clearer than an unrelated image.



Numbers speech and the device keyboard

Where a number cell appears, its visible label remains a numeral and its speech field contains the Polish number word: 0 speaks zero, 1 speaks jeden, 2 speaks dwa, and so on through 20, dwadzieścia. This rule applies across all eight files. It prevents reliance on the speech engine's interpretation of digit-only text. Counting words still need different grammatical forms in some phrases, for example dwa and dwie.

Polish diacritics are preserved in labels and speech. The intended Android voice is a compatible Polish text-to-speech voice. Written spelling has been checked in the files, but pronunciation, text fit and symbol appearance must be checked in the actual app and device. The pack does not include a separate spelling alphabet; the device keyboard provides that route when accessible.

Personalisation and the scope of the evidence

Names, contact details, preferred activities, food, health information and places should reflect the person. A generic vocabulary cannot predict those choices. First-person verbs and simple phrases give useful starting messages, while richer Polish grammar may require added forms, phrase cells or keyboard use. Supporting partners can model useful language during ordinary activities (ASHA, n.d.) [1].

The shared display research explains design principles. Polish linguistic sources explain why the wording and grammar need adaptation. Neither establishes that this precise vocabulary is optimal for every Polish speaker. The exact selection, repetition, grid capacities and route arrangement are Symboloud development choices. Native Polish AAC review and the user's own experience remain central to refining the set.

References

Citations use Harvard author–date wording with bracketed numbers linked to the entries below. Internal workbooks support the product counts but are not listed as published research.

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