

Language First

✧ BULLETIN ✧



Language in the Brain:

All languages are equal to the human brain.

The Language First Bulletin is a biannual newsletter highlighting articles written by Deaf and hearing professionals in the field of deaf education and related fields.

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ASL Phonology

Leah Geer

The title of this article is ‘ASL Phonology,’ which may seem like a contradiction in terms. After all, a casual Google search for phonology will likely yield a definition like “the study of contrastive sounds in the world’s languages.” So how could a sign language have phonology if it doesn’t have sound? The problem isn’t with sign languages having phonology; the problem is in the assumptions underlying the standard definition of the word.

The word *phonology* is from the root *phone*, from the Greek meaning “voice” or “sound.” This definition assumes that phonology (and thus languages) must be sound-based, but we know that isn’t the case (assuming, of

course, that we believe that sign languages like ASL are bonafide languages). Consider, instead of “sound patterns in the world’s languages” that *phonology* really means “patterns of contrastive building blocks in the world’s languages.” This definition makes no assumption about language modality, which is exactly what we want.

So let’s look more at what phonology looks like in sign languages. In 1965, hearing researcher William Stokoe, along with two deaf graduate student researchers, Dorothy Casterline and Carl Croneberg, published the *Dictionary of American Sign Language on Linguistic Principles* [1-2]. The book is organized by

what this research team found to be contrastive units called *parameters* in ASL: the location, handshape, and movement. These parameters are just like the contrastive units speech-language clinicians study, only they aren’t realized orally. For example, we know that /b/ and /k/ are *contrastive* because they can occur in the same context yet change the meaning of the word. See Figure 1.

In sign languages, location (Figure 2), handshape (Figure 3), and movement (Figure 4) can be contrastive. Location is akin to place of articulation and movement is most similar to

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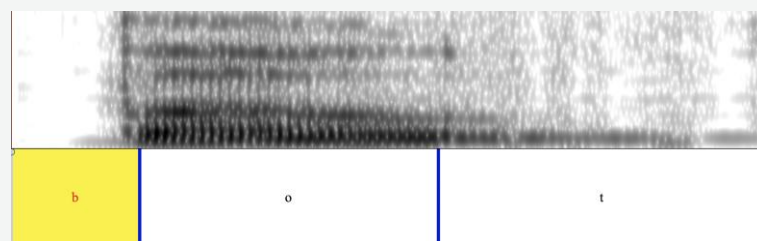


Figure 1: Spectrograph showing the English words “boat” and “coat.” /b/ and /k/ are contrastive units in English.

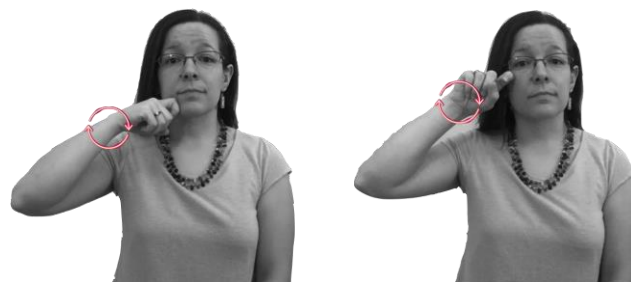
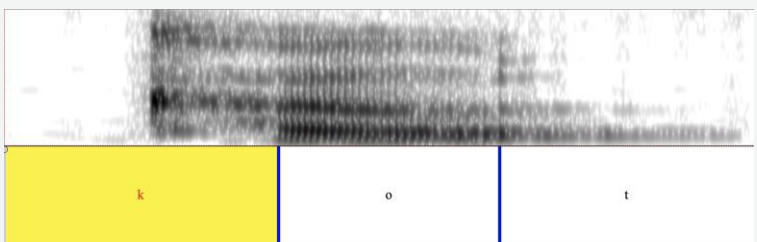


Figure 2: Location minimal pairs: APPLE (left) and ONION (right)

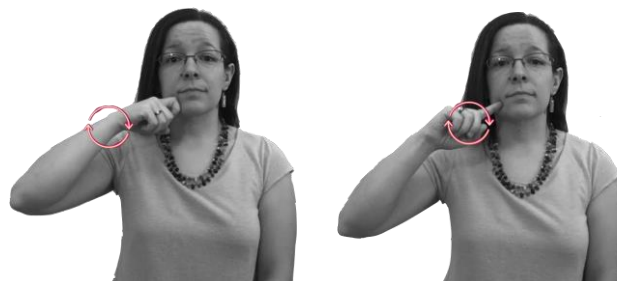


Figure 3: Handshape minimal pairs: APPLE (left) and CANDY (right)

“The problem isn’t with sign languages having phonology; the problem is in the assumptions underlying the standard definition of the word.”

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manner of articulation in oral languages.

Just as oral languages use the same linguistic features, which combined in patterned and rule-governed ways, to make an infinite number of words, sign languages combine these parameters in rule-governed ways to form signs. For example, a sign in which both hands move must have the same handshape, but if there are different handshapes, the non-dominant hand must be passive [3].

Maybe you're thinking, "Ok, sign language have word-internal structure, but that's still not phonology because there are various processes which affect sound patterning in different contexts." That's a good point! Just as oral languages have phonological processes (e.g. the "did you" in "Did you eat yet?" becomes [dɪ'dʒu] (sounds like 'dijoo') because /j/ palatalizes in front of high vowels) so too do sign languages. Two examples are presented in Figures 5 and 6. I hope that this brief introduction to ASL phonology has convinced you that the standard definition of phonology is too limiting, as it does not include languages in other modalities. But if we alter the definition so that it is modality-neutral, we can see how it captures the parameters that serve as building blocks and the patterns of phonological processes for sign languages as well.

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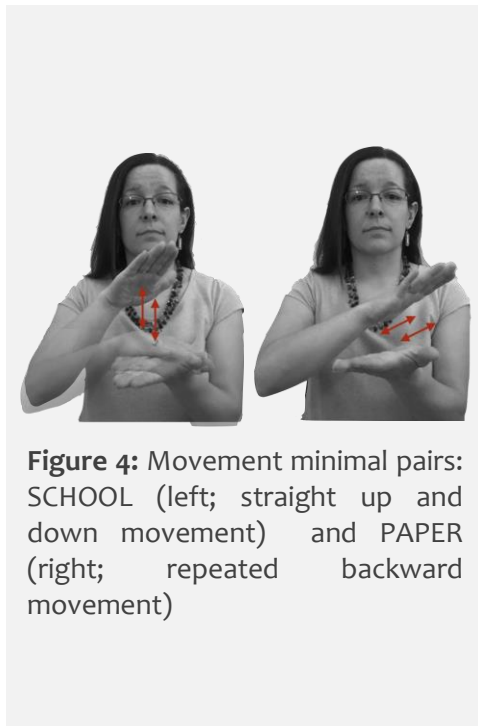


Figure 4: Movement minimal pairs: SCHOOL (left; straight up and down movement) and PAPER (right; repeated backward movement)

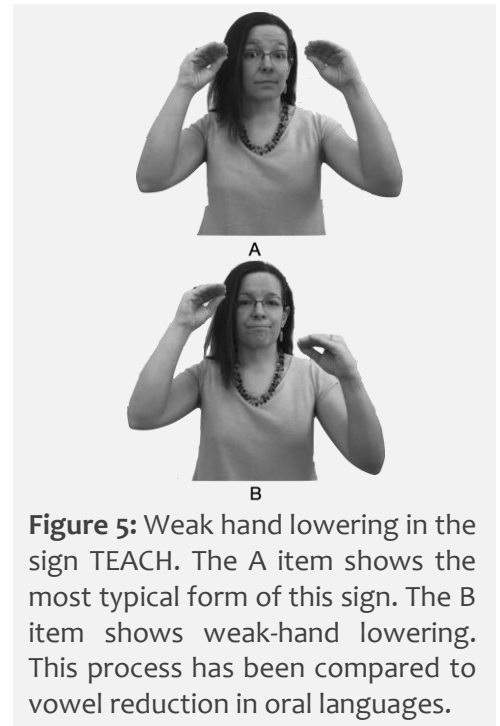


Figure 5: Weak hand lowering in the sign TEACH. The A item shows the most typical form of this sign. The B item shows weak-hand lowering. This process has been compared to vowel reduction in oral languages.



Figure 6: Handshape assimilation in fingerspelling the word 'teacher'. Notice how different the productions of -E- are. The first involves the four digits at almost equal height and amount of bend in the fingers. The second -E- exhibits handshape assimilation, bearing feature similarity between the preceding -H- and the following -R-. Only the index and middle fingers are active in the letter -E- because those are the primarily active fingers in -H- and -R-.

References

- [1] Stokoe, W.C., Casterline, D.C., Croneberg, C.G. (1965). *A Dictionary of American Sign Language on Linguistic Principles*. Gallaudet University Press, Washington, DC
- [2] Hochgesang, J.A. (2018). Introduction to Stokoe Notation [Slide presentation]. Retrieved from https://figshare.com/articles/Quick_Guide_to_Stokoe_Notation/7379932
- [3] Battison, R. (1978). *Lexical borrowing in American Sign Language*. Linstok Press, Silver Spring.

Don't Blame Deaf Kids' English Errors on Their ASL

Have you ever blamed a Deaf child's errors in written or spoken English on the fact that they know ASL? Have you ever heard a colleague make statements about ASL "influencing" a Deaf child's English production? Let's take a look at three common statements and why we should avoid saying them:

1. "My Deaf students always mix up their pronouns. It must be because of ASL."

Many other languages use pronouns differently than English does. ASL uses non-gendered pronouns. This means that the sign for "he" is the same as the sign for "she." The Ghanaian language of Twi does the same. There is one non-gendered pronoun to refer to any person.

In French and other romance languages, pronouns take the gender of the object, not the subject. For example, if I am discussing my sister's dog, I would say *son chien* (his dog). This is because the pronoun follows the gender of the word "dog" which is masculine. My sister's gender does not influence

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COVID-19 Considerations

Kalifa Coleman-Best

This year has been unprecedented in many ways, from pandemics to social unrest; it has been hard to spot the things that are going well. However, news and media relating to Deafness and the Deaf community has been as active as ever. We have watched as the United Kingdom responds to ever-changing guidelines and public health concerns; this have been closely followed by outrage at how inaccessible these have been for those who are Deaf. This demonstrates that although things are not yet where we want them to be, there are many who are willing to ensure we are moving in the right direction.

As we return to school after the summer break, it is clear the classrooms will not be the same as before. It is therefore extremely important to consider what this looks like for our Deaf children. Now is a great time to consider how the children we work with will access learning technology

alongside their peers, re-evaluate the deaf awareness skills of our educators relating to the use of personal protective equipment, and assess each child's ability to advocate independently and repair communication breakdowns.

Many of the children I work with are in mainstream schooling and have been lucky enough to continue receiving their education and therapy services largely uninterrupted. However, there has been a large emphasis on the use of counseling skills to support my families. As we now work towards our targets and support our children to close the gap between them and their typically hearing peers, it is important that we take into consideration the child's functional/personal needs as we move back to normalcy.

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"There are many who are willing to ensure we are moving in the right direction."

ASL IMMERSION SUMMIT

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A Model of Sustainability: Deaf Education and Empowerment in Ethiopia

Mary Grace Hamme, Jayme Kaplan-Krutz, & Brittany Hughes

There are an estimated 1-2.5 million Deaf/HoH individuals in Ethiopia. Historically, very few schools, organizations, or services supported this community. Visions Global Empowerment (Visions), works with local partners across Ethiopia's regions to fill gaps and disparities found in education opportunities for Deaf individuals.

Beginning in 2012 and following a model of sustainability, this work is achieved through the hiring and training of Deaf teachers; providing services in early childhood education and language development (Ethiopian Sign Language), Ethiopian Sign Language interpreting, audiology and speech-language services; organizing capacity-building support to existing local Deaf organizations; and coordinating family and community education. At present, the Deaf community in Ethiopia is developing. Communities around the country have just started to hire Deaf teachers thanks to our local partners' tireless work and our work with the local government.

We believe the key to empowering the local Deaf community and making a sustainable impact is through full allyship that is founded in the needs of the local community. This effort has successfully grown through many years of engagement, rapport building, establishing trust, and learning

directly from the community. Important aspects of this sustainable project include identifying and training local leaders, conducting community awareness programs, coordinating tasks between volunteer trips, having return volunteers, staff training on Deaf education practices, leadership, classroom management, and use of donated materials (school supplies, language materials, training manuals/handouts). Last but not least, we have prioritized frequent follow-ups and supported the local community in becoming financially independent.

The approach for sustainability within this ongoing partnership is progressive. The goal is to work towards independent application of previously taught skills. Over the years, we have witnessed local leaders grow and steer change in their community through their own advocacy efforts and teaching. In turn, these community members have developed an enlivened and active Deaf community in their area, and have empowered others in their communities to lead and make impactful movements toward sustainable educational practices and leadership. Our local partners have developed confidence in their leadership, knowledge, and implementation of education approaches and community development.

The effects of this change are



Deaf community development: coaching, sports, performances, friendship.





Modeling language development strategies during a service learning trip.



Deaf teachers in action.



Mary Grace, Jayme, and Brittany in Ethiopia.



Community awareness-raising.



Ethiopian Sign Language Interpreting.

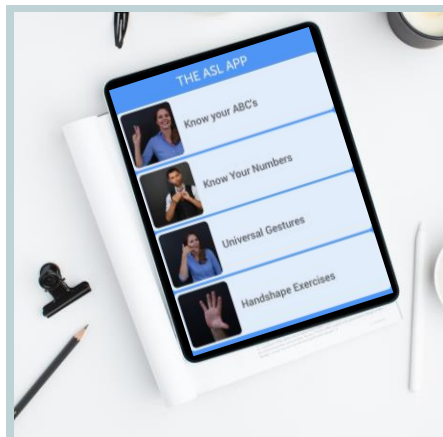
everlasting. Through the empowerment of Deaf educators, change has trickled down as they have no taught many of the next generations of Deaf youth and become prominent members of their local communities. They have made governmental/legal changes that ensure equality in their community, and they have started to shift the larger Ethiopian community’s perspective on deafness and sign language. As their efforts continue, we believe that even more positive change, community engagement, language development, and overall access to information and their larger community will come. If you would like to learn more about our work and how you can be involved, please visit www.visionsglobalempowerment.org/deaf-education-empowerment/

The authors of this article have worked in Ethiopia for several years, serving on the Board for the Visions organization, and hope that sharing this model can encourage others to support the education and livelihoods of the Deaf community worldwide.

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the pronoun choice. Therefore, speakers of French or Twi learning English as second language may make similar pronoun errors to Deaf children.

2. “My Deaf students never use the ‘do’ question properly. It must be because of ASL”

Many other languages don't use the “do” question (e.g. “Where **do** you live?” or “**Do** you know the time?”). In ASL, you might ask YOU LIKE EAT WHAT? instead of “What **do** you like to eat?” In Italian, the “do” question is created by dropping the subject in

the statement form. For example, you can simply drop the “we” in “We have sugar” to ask “Have sugar?” (*Abbiamo zucchero?*)

In French, “do” exists, however it's a cumbersome phrase (*est-ce que*) and it is often avoided by simply inverting the subject and the verb (e.g. “Have-you the time?”).

3. “My Deaf students always forget their articles. It must be because of ASL.”

Other languages have different rules for the use of articles (a, an, the). Russian, for example, doesn't have articles at all. This may result in a

Russian speaker learning English as second language to drop articles in English, too (e.g. “I have dog”). German has many more articles than English does. An English speaker learning German as a second language may struggle to know when to use the correct article.

Thus, it is vital to be mindful of “blaming” any student's English production (written or spoken) on another language. So the next time a Deaf child makes an error in English, instead of saying, “Oh that's their ASL affecting their English again,” try saying, “I wonder what other languages do that, too.”

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Requirements for Acquiring a First Language

Michael Lupo

Is it important to understand the wonderful brain science and research conducted over the past 40+ years that confirms requirements for first language (L1) acquisition. A first language must be acquired naturally, directly, and fully for all children in order to have healthy brain development and a solid language foundation for success socially and academically. For example, if English is going to be a child's L1, the tools, systems, and strategies used in attempt to access that language cannot be used to aid in language acquisition.

Tools and systems, such as simultaneous communication (SimCom), cued speech, visual phonics, lipreading, signed English systems, audio-lingual instructional systems, or any type of formal learning cannot be used in isolation because they are not natural modalities of English and do not meet the criteria for language acquisition of a natural language.

The developing brain is not designed to acquire a language with such formality. It has to happen on its own without any

intentional interference. Keep in mind that deaf and hard of hearing (DHH) children with any degree of hearing loss are at a high risk for lack of full access to a naturally occurring language if their L1 is going to be a spoken language such as English.

Many professionals in the field of speech-language pathology and audiology have a history of developing programs which focus on hearing and speech and makes attempts to use tools, systems, and technology to assist DHH children to access English as an L1.

Although there have been some success with those programs, all children are at very high risk of language delays and are never guaranteed success. The biggest issue with listening and spoken language (LSL)-driven programs is that they require a special effort to learn, hear, and speak English, which, based on research, does not fare well on brain and language development when an L1 is being acquired during the critical period for language acquisition.

However, once a child develops a strong L1, they should have strong metalinguistic knowledge to learn a second language (L2). While

learning an L2, tools, systems, and strategies that require extra effort to access a language would be more feasible because the child has metalinguistic knowledge of their first language.

The definitions for language acquisition and language learning are different and have different requirements. **Acquisition** of a language is learning a language implicitly (incidentally) and instinctively (naturally). **Learning** a language, on the other hand, is more formal. Knowledge of L2 can be gained by using specific tools, systems, and strategies such as visual phonics, lipreading, Signed English, etc. As Noam Chomsky states, our brains have "language software" to create and acquire languages. This "language software" allows for our brains to learn languages naturally during the first few years of life. Chomsky also asserts that languages have evolved with "similar complex grammars with universal features" with the purpose of meeting the needs of the brain for healthy development.

To conclude, it is crucial for deaf and hard of hearing children to have full access to a language in the first five years of life. American Sign Language is a visual language that can serve as a first language because there is no guarantee that spoken English can be acquired effectively as a first language for healthy brain and overall development.

Michael Lupo is a deaf itinerant teacher of the deaf for a North Carolina public school district. Contact him at mike.languagefirst@gmail.com.

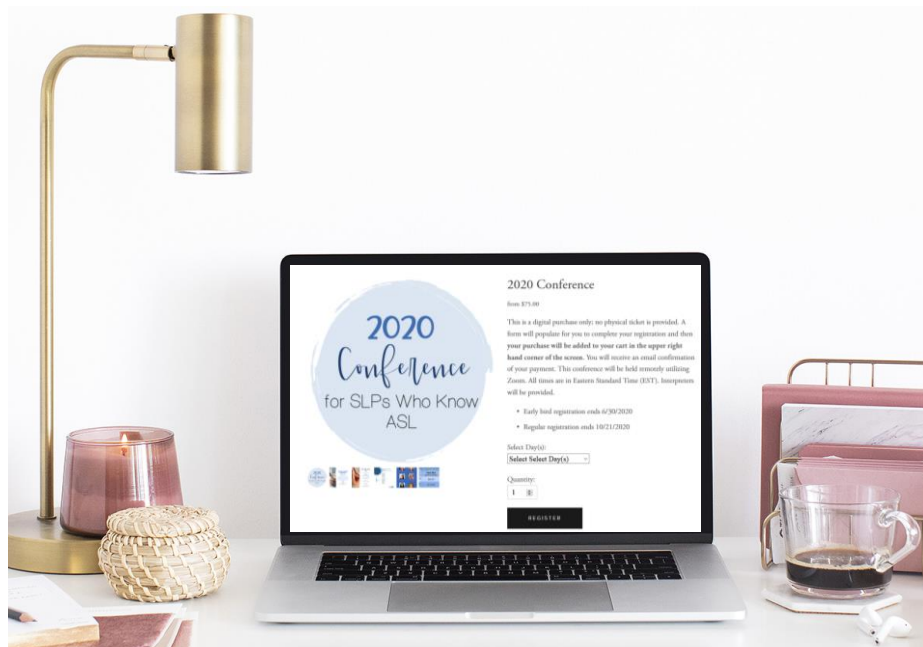
There are over 7,000 languages in the world (137 sign languages) with similar complex grammars and universal features such as nouns, verbs, plurals, and tenses.

– Dr. Sanjay Gulati

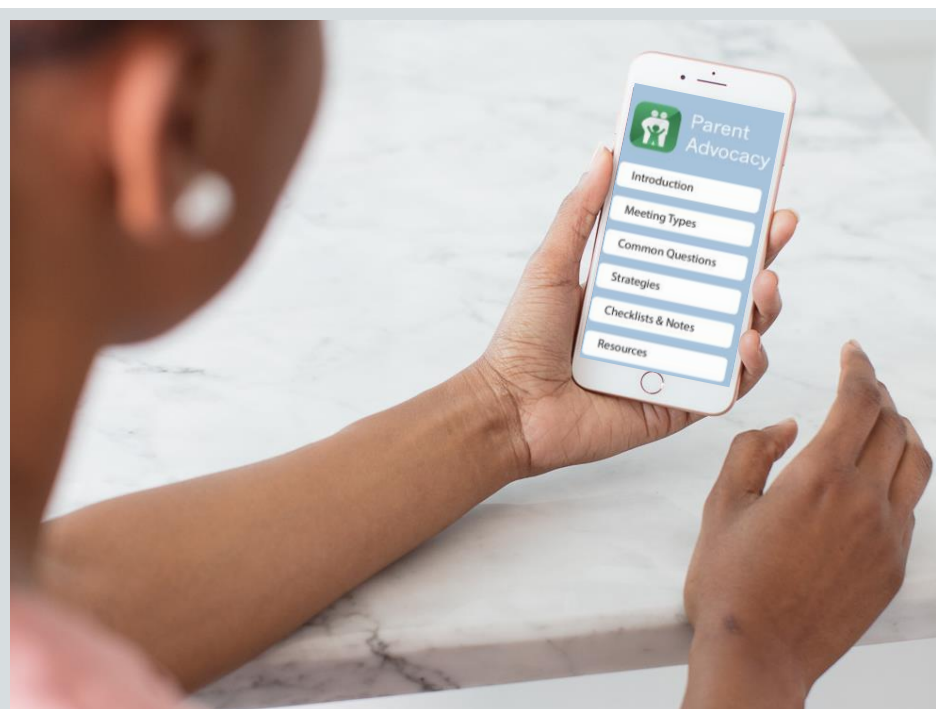
Language First Mission

The Language First mission is to educate and raise awareness about ASL/English bilingualism and the importance of a strong first language foundation for Deaf and hard of hearing (DHH) children. This mission is achieved through:

- ✓ Annual conference for deaf education professionals
- ✓ Staff training and professional development
- ✓ Presentations at conferences and conventions
- ✓ Biannual Language First Bulletin
- ✓ Digital courses and webinars for continuing education units
- ✓ Sending a Language First ambassador to policy meetings
- ✓ Providing parents of DHH children with current and accurate information regarding language development and bilingualism, as well as supports and resources for implementing ASL/English bilingualism with their child
- ✓ Free resources for parents on the Language First website
- ✓ Free ASL classes for parents and families through a partnership with SignOn
- ✓ An up-to-date list of pro-ASL professionals by state/region
- ✓ A digital support group for parents of DHH children



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Hands Land is an educational resource developed by Deaf native signers and educators from Deaf families. Hands Land's primary goal is to expand educational resources through ASL rhymes and rhythms for young children that seamlessly integrate into family and school activities.

Hands Land's ASL rhymes and rhythms cover a wide range of themes including colors, animals, numbers, routines, and much more. Teachers, mentors, and parents will find them beneficial and relevant to their curriculum and daily life.

Founders Leala Holcomb and Jonathan McMillan have unique knowledge and experience to bring this exciting resource to Deaf, Coda, and hearing children and their families. To find out more about this resource, visit www.handsland.com or search Hands Land on Amazon video.