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Effect of Total Communication-Based Learning Video on Deaf Receptive Skills Improvement

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Abstract
One of the obstacles for deaf students in the learning process in high school is understanding the material. This study was to determine the effect of total communication-based comic-based learning videos for deaf students in high school. The use of total communication in learning videos to draw comics can make it easier to understand each vocabulary in the delivery of the material and provide benefits for students with special needs for hearing impairment. Video learning with scenario scripts with the theme Let's Draw Comics was implemented in three high school cities, namely Surabaya, Sidoarjo, and Gresik. Post-tests and pre-tests were conducted to determine the effectiveness of learning videos in improving receptive skills. The effectiveness of this learning video is calculated by normality gain (N-gain). In this study, the effectiveness of the video is 0,4543, it shows the average value with the description that the communication-based comic learning video is total, effective.

Keywords: Total Communication-Based Learning Video, Deaf, Receptive Skills.

1. Introduction
Deaf people have limitations in terms of hearing, this will certainly hinder the learning process. The learning material delivered by the teacher is not easily digested for people with hearing impairment, or students with special needs, for the teacher or instructor requires a special method, using sign language, a total language of communication. Learning video is an alternative answer to learning media that is the easiest to facilitate and use.

Tutorial Video Based on Total Communication
Total communication video is a learning video to learn to make comics for the deaf through total communication delivered by the presenter and is equipped with video visualization, audio, motion graphics, animation, and superimpose (text writing). Total communication in this study is communication that uses finger sign language, lip movements, and expressions. Total communication is the entire spectrum of the language used by deaf people, namely sign language, official sign language, speaking, reading, mimicking, writing, and residual hearing (Burleson & Denton, 1997). Total communication is not a method but a philosophy in communication (Gallaudet, 2021).

Characteristics of the Deaf
Deaf people are individuals who experience a lack or loss of hearing ability either partially or completely due to the non-functioning of part or all of the hearing device so that the child cannot use his hearing device in everyday life. This has an impact on their lives in a complex manner, especially on language skills as a very important communication tool for people with hearing impairments.
Hearing impairment experienced by deaf children causes delays in children's language development, this results in hampered communication with other people. Communicating with other people requires language with clear articulation or speech so that the message to be conveyed can be conveyed properly and has one meaning so that there is no misinterpretation of the meaning being communicated. What is conveyed by the communicant will be well received by the communicator by having the same understanding, namely the similarity of perception?

Effective of Tutorial Videos Based on Total Communication

Effectiveness is a criterion for determining whether a subject or product influences the object being targeted, in this case, the user, namely students with special needs for hearing impairment. Referring to the opinion of Plomp & Nieveen (Reference and Source on Educational Design Research, 2013) assessment is what determines the effectiveness of an activity. Products are considered to have effectiveness based on assessments made by users and experts, in this case, people who are competent in their fields. While opinion of Makarim (2019) states that effectiveness can be known if learning media are produced to achieve learning objectives. A study states that the effectiveness of instructional media can be seen from the results of effective products that focus on user involvement are flexible, instructional, easy to access, and have meaning (Israel, 2014). The effectiveness of the total (total) communication-based comic learning video has an effectiveness value seen from several criteria or indicators, including (1) flexible, easy to use in various formats; (2) effective, involving users in its utilization; (3) production by the objectives to be achieved; (4) obtain assessments from users and experts in their fields; (5) have sufficient duration (sufficient) in the delivery of material; (6) right on target, in the sense of accurately achieving the user's target with the materials and techniques used; (7) has easy access in its use.

2. Methods

The research sites are 1) Karya Mulya Senior High School, Surabaya (KM); 2), SMALB Sidorajo; 3) Kemala Bhayangkari 1 Gresik. The results of the use of this video are calculated using Normalized Gain. The Indexing with Normality Gain (n-gain) on the results of measuring effectiveness through observation of student learning activities as an effort to determine the improvement of communication skills, behaviours, and social interaction; and through tests to determine cognitive abilities (McKagan, Sayre, & Madsen, 2017).

Hake's opinion (1989) states that the n-gain test is a statistical test that can provide an overview of improving learning outcomes of a model or method development before and after the test (Hake, 2019).

Table 1: Normalized gain index interpretation.

Normalized Gain Score	Interpretation
-1.00< g <0.00	decrease
g = 0.00	stable
0.00< g < 0.30	low
0.30 < g < 0.70	average
0.70 < g <1.00	high

Description source (McKagan, Sayre, & Madsen 2017)

3. results and discussion

3.1 Results

This total communication learning video was piloted to students in three schools. Pretest data was carried out before students used learning videos and post-test data were obtained after using total communication learning videos. Effectiveness is obtained from the results of the assessment of receptive skills. Here are the results of the assessment.

Table 3: Effectiveness assessment results in receptive skills.

School	Pretest	Posttest
SMALB Karya Mulya	81,79	85,54
SMALB Dharma Wanita	80,17	85,63
SMALB Kemala Bhayangkari	83,39	88,13
Nilai Rata-rata	81,78	86,43

Normalized Gain value for comic drawing is

$$Normalized\ Gain\ (g) = \frac{86{,}43 - 81{,}78}{100\ - 86{,}43} \quad (2)$$

The value is in the range of values 0,4543. The results of the above calculation show that the effectiveness of the video is 0.4543 which is included in the average category.

3.2 Discussion

Based on the results of the study which was compared with Jack Koum's learning video theory which stated that video media was much more effective than other media. Video media displays visuals and audio simultaneously so that it will be easier for viewers to understand the material. Meanwhile, Pauline Gibbons, a researcher in Using Video Content to Amplify Learning by Rebeca Albe, revealed that to simplify information and strengthen the curriculum, media is needed that makes everything easier to understand. Alber revealed "Video clips can be a great tool to assist students in gaining that deeper understanding of content. Teachers often struggle to find ways to strengthen their curriculum. Video media can be a great tool to help students gain a deeper understanding of content. It is important to pay attention to how often and how important we use video, it is important to have a clear purpose in using the film, documentaries, or news clips. According to Nelson Miguel Galindo-Neto in Creation and validation of an educational video for deaf people about cardiopulmonary resuscitation, video is also an effective option for teaching lay people about CPR. So, considering that video is an effective resource for teaching deaf people and for multiplying information about CA, it is necessary to build and validate videos on CPR that are accessible to understanding deaf people, that communication with the deaf occurs through visual means, it is worth highlighting the feasibility of using video as a source for providing health information, according to observations in a study conducted in California whose results demonstrated the effectiveness of videos about cancer aimed at health education for deaf people. Consider that the use of technological resources contributes to educational success. Video is being widely used in teaching and learning practices and developing new ways of learning such as online and distance learning. It offers popular, easy-to-use instructional materials because almost learners have

access to video players at home, and they are also common in schools. According to Thorpe (2006), when videos match specific instructional objectives, video materials help more learners to reach higher levels and tend to engage more learners in a more engaging way than print sources.

In today's school-based education, videos are usually used as a complement to teacher lectures, to enrich regular lessons, and to locate or visualize knowledge for a better understanding of the topic at hand. Empirical findings regarding the effectiveness of such video-supported learning have consistently demonstrated that understanding and knowledge transfer can be facilitated by dynamic audio-visual formats across many domains, and this is especially true for interactive presentations. Video also has the singular speed and ability to focus on its subject. We learned to pay attention to videos because of the prevailing communication norms. Videos animate emotions and are very instructive when isolated for observation. It can be used to illustrate a technique as well as point out things that require a visual appreciation to understand. Videos can make the maximum impact on a problem and show a huge scope of things that cannot be adequately explained in words alone. There are several forms of instructional videos. Historically, instructional videos began with live broadcasts, were produced in studios, and transmitted through public channels. Then when the use of videotapes became common in educational institutions, the tapes, either recorded from public television channels or purchased as instructional devices, made production and viewing more flexible. In general, the display has become more flexible as the inconvenience of fixed-time transmission has been removed; Eventually, the advent of personal computers and CD-ROMs created new opportunities for educators to produce teaching materials. But there is a pervasive belief, increasingly challenged by research, that watching television and video is a passive activity in which viewers react only superficially to what they are watching, and which will, over time, hinder or displace academic achievement. However, recent research supports the theory that watching is not an active process, which can be "an ongoing and highly" interconnected process of monitoring and understanding" and a "complex cognitive activity."

Video has become an important part of higher education. It is integrated as part of traditional courses, serves as the cornerstone of many blended courses, and is often the primary information delivery mechanism in MOOCs. For video to function as a productive part of the learning experience, instructors need to consider three elements of video design and implementation: 1) cognitive load 2) non-cognitive elements that affect engagement 3) features that encourage active learning. Cognitive Theory of Multimedia Learning builds on Cognitive Load Theory, noting that working memory has two channels for information acquisition and processing: the visual/image channel and the auditory/verbal processing channel (Mayer and Moreno, 2003). Although each channel has a limited capacity, the use of both channels can facilitate the integration of new information into existing cognitive structures. By using both channels, working memory capacity is maximized—but either channel can be overwhelmed by the high cognitive load. So, the design of strategies that manage cognitive load for both channels in multimedia learning materials promises to enhance learning. In addition to the two main assumptions of dual-channel processing and limited working memory capacity, the Cognitive Theory of Multimedia Learning also articulates any learning goal as "meaningful learning," which requires cognitive processing that includes the material presented, and mental organization.

4. Conclusion

Based on the research developed, learning videos based on total communication have a good impact or influence on deaf students who watch or see them. Deaf students can learn instructional programs from audio-visual shows, then practice with the skills they have so that it will improve the abilities and learning outcomes or receptive skills of deaf students.

References

1. Aldoobie, N. (2015). ADDIE Model. American International Journal of Contemporary Research, Vol. 5 No. 6, 68-72.
2. Alnahdi, G. (2014). Assistive Technology in Special Education and the Universal Design for Learning. Turkish Online Journal of Education, 18-23.
3. Anderson, L., & Krathwohl, D. (2001). The Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. New York: Addison Wesley Longman.
4. APA. (2013). Learning APA. Retrieved from American Psychiatric Association: https://www.psychiatry.org
5. Branch, R. (2009). International Design. London: Springer.
6. Burgstahler, R. (2011). Universal Design in Education: Principles and Applications. Retrieved from Department of Education of Washington: http//www.wahington.edu/doit/Brochures/Academic/ud edu HTML
7. Cresswwell, J. (2015). Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative. New York: Pearson Education Inc.
8. Degeng, N. (2013). Ilmu Pembelajaran. Bandung: Aras Media.
9. Dick, W., Carey, L., & Carey, J. (2015). The Systematic Design of Instruction. USA: Pearson Education Inc.
10. Edyburn, D. (2005). Universal Design for Learning. Special Education Technology Practice Vol 7 (5), 16-22.
11. Gargiulo, R., & Metcalf, D. (2017). Teaching in Today's Inclusive Classrooms: A Universal Design for Learning Approach. Boston: Cengage Learning.
12. Gutmann, L. (1950). The Basis for Scalogram Analysis. In Measurement and Prediction (pp. 50-75). New Jersey: Princeton University Press.
13. Hake, R. (2019). AAPT Physics Education. American Journal of Physics, 64-66.
14. Israel, M. (2014). Universal Desain for Learning: Recommendations for Teacher Preparation and Professional Development. Florida: CEEDAR.
15. Kelly, A. (2013). When is Design Research Appropriate in T. Plomp & N. Nieveen 1350. Educational Design Research, 134-151.
16. Kumar, K. (2010). A Journey toward Creating an Inclusive Classroom: How UDL has Transformed my Teaching. Teaching and Learning Jurnal Volume 4 Issue 2.
17. McKagan, S., Sayre, E., & Madsen, A. (2017, April 20). Normalized gain: What is it and when and how should I use it? Retrieved from Phys port: https//www.physport.org

18. Meyer, A., & Rose, D. (2005). The Fute is in the margins: The role of technology and disability in educational reform. The universally designed classroom: Accessible curriculum and digital technologies, 13-35.
19. Mustaji. (2017). Model dan Desain Pembelajaran. Surabaya: Unesa University Press.
20. Parker, D., & Bischoff, J. (2016). Collage and Career Ready IEP's and Universal Design for Learning. Conference of Special Education and Pupil Service (pp. 18-19). Wisconsin: Wisconsin Dept of Public Instruction.
21. Plomp, T., & Nieveen, N. (2013). Reference and Source on Educational Design Research: In J. Akker, B. Bannan, A. Kelly, N. Nieveen, & T. Plomp, Educational Design Research (pp. 170-199). Endschede: Netheerlands Institute for Curriculum Development (SLO).
22. Sears, M. (2009). UDL: Technology and Pedagogy. Learning Disability Quarterly Vol. 32 No. 4, 199-201.
23. Somad, P. (2016, Maret 18). Augmentative and alternative Communication (ACC). Retrieved from blogspot: http://permanariansomad.blogspot.com
24. Wiederhan, M., & Odrowski, S. (2012, September 26). UDL Principle II: Multiple Means of Expression. Retrieved from UDL in Teaching and Learning: http://ssbb.mycampus.ca