

Developing the Speech of Children with Hearing Impairments Based on Digital Technologies

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Abstract

This article discusses the pedagogical and methodological foundations of using digital technologies in the process of speech development of children with hearing impairments. During the research, the impact of interactive learning tools, multimedia technologies, electronic learning platforms, and information and communication technologies on speech development was analyzed. The results of the study showed that lessons organized on the basis of digital technologies play an important role in improving children's pronunciation skills, expanding their vocabulary, and activating their communicative activity.

Keywords: special pedagogy, surdopedagogy, speech development, hearing impairment, digital technologies, innovative education.

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Annotatsiya

Mazkur maqolada eshitishida nuqsoni bo'lgan bolalar nutqini rivojlantirish jarayonida raqamli texnologiyalardan foydalanishning pedagogik va metodik asoslari yoritilgan. Tadqiqot jarayonida interaktiv ta'lim vositalari, multimediya texnologiyalari, elektron ta'lim platformalari hamda axborot-kommunikatsiya texnologiyalarining nutq

rivojlanishiga ta'siri tahlil qilindi. Tadqiqot natijalari shuni ko'rsatdiki, raqamli texnologiyalar asosida tashkil etilgan mashg'ulotlar bolalarning talaffuz ko'nikmalarini rivojlantirish, lug'at boyligini kengaytirish hamda kommunikativ faoliyatini faollashtirishda muhim ahamiyatga ega.

Kalit so'zlar: maxsus pedagogika, surdopedagogika, nutq rivojlanishi, eshitishida nuqson, raqamli texnologiyalar, innovatsion ta'lim.

Kirish

Hozirgi davrda ta'lim tizimida raqamli texnologiyalarni qo'llash pedagogik jarayonning samaradorligini oshirishga xizmat qilmoqda. Zamonaviy axborot-kommunikatsiya texnologiyalari o'quv jarayonini interaktiv va vizual tarzda tashkil etish imkonini beradi. Natijada o'quvchilarning bilim olishga bo'lgan qiziqishi ortadi hamda ta'lim jarayoni samarali tashkil etiladi.

Maxsus ta'lim tizimida raqamli texnologiyalardan foydalanish ayniqsa muhimdir. Chunki alohida ta'lim ehtiyojlariga ega bo'lgan bolalar uchun o'quv materiallarini tushunarli, vizual va qiziqarli shaklda taqdim etish zarur. Eshitishida nuqsoni bo'lgan bolalar bilan ishlash jarayonida raqamli texnologiyalar ayniqsa samarali vosita hisoblanadi.

Eshitish qobiliyatining buzilishi bolaning nutq rivojlanishiga sezilarli ta'sir ko'rsatadi. Bunday bolalarda nutqni eshitish orqali qabul qilish jarayoni cheklangan bo'ladi. Natijada fonetik, leksik va grammatik nutq rivojlanishida qiyinchiliklar yuzaga keladi. Shu sababli bunday bolalar nutqini rivojlantirishda maxsus pedagogik metodlar hamda zamonaviy texnologiyalardan foydalanish zarur.

Surdopedagogika sohasida olib borilgan ilmiy tadqiqotlar shuni ko'rsatadiki, eshitishida nuqsoni bo'lgan bolalarda nutq rivojlanishi ko'proq vizual idrok orqali shakllanadi. Shu sababli ta'lim jarayonida vizual materiallar, video va animatsion

vositalar hamda multimediya texnologiyalaridan foydalanish katta pedagogik ahamiyatga ega.

Introduction

In the modern educational system, the use of digital technologies plays an important role in increasing the effectiveness of the pedagogical process. Modern information and communication technologies make it possible to organize the learning process in an interactive and visual way. As a result, students' interest in learning increases and the educational process becomes more effective.

The use of digital technologies is especially important in the system of special education. Children with special educational needs require educational materials to be presented in a clear, visual and engaging form. In this regard, digital technologies serve as an effective tool in working with children with hearing impairments.

Hearing impairment significantly affects the development of a child's speech. In such children, the process of perceiving speech through hearing is limited. As a result, difficulties arise in the phonetic, lexical and grammatical development of speech. Therefore, it is necessary to use special pedagogical methods and modern technologies in the process of developing the speech of such children.

Research conducted in the field of surdopedagogy shows that speech development in children with hearing impairments is largely formed through visual perception. For this reason, the use of visual materials, video and animation tools, as well as multimedia technologies in the educational process has great pedagogical significance.

Eshitishida nuqsoni bo'lgan bolalar nutq rivojlanishining xususiyatlari

Eshitishida nuqsoni bo'lgan bolalarda nutq rivojlanishi odatda normal rivojlanayotgan bolalarga nisbatan sekinroq kechadi yoki ayrim hollarda yetarli darajada shakllanmaydi. Buning asosiy sababi eshitish analizatorining faoliyati buzilishi bilan

bog‘liq. Eshitish qobiliyati nutq tovushlarini qabul qilish, ularni farqlash hamda nutqni idrok etish jarayonida muhim rol o‘ynaydi. Shu sababli eshitish tizimidagi buzilishlar bolaning nutq rivojlanishiga bevosita ta‘sir ko‘rsatadi.

Eshitish qobiliyati yetarli darajada rivojlanmagan bolalarda nutq tovushlarini to‘liq idrok etish qiyinlashadi. Natijada nutqni eshitish orqali o‘rganish jarayoni cheklanadi. Bu esa nutqning fonetik, leksik hamda grammatik tomonlarining rivojlanishiga salbiy ta‘sir ko‘rsatadi. Bunday bolalarda nutq rivojlanishidagi qiyinchiliklar ko‘pincha ularning ijtimoiy muloqot qilish faoliyatiga ham ta‘sir qiladi.

Surdopedagogika sohasidagi tadqiqotlar shuni ko‘rsatadiki, eshitishida nuqsoni bo‘lgan bolalarda nutq rivojlanishi ko‘proq vizual idrok orqali shakllanadi. Shu sababli ta‘lim jarayonida ko‘rgazmali vositalardan, tasviriy materiallardan hamda multimediya texnologiyalaridan foydalanish muhim pedagogik ahamiyatga ega.

Bunday bolalarda quyidagi nutq xususiyatlari kuzatiladi:

Ayrim nutq tovushlarini noto‘g‘ri talaffuz qilish holatlari

Lug‘at boyligining yetarli darajada rivojlanmaganligi

Gap tuzish jarayonida grammatik qiyinchiliklar

Nutqni tushunish darajasining pastligi

Muloqot faoliyatining sustligi

Shu sababli eshitishida nuqsoni bo‘lgan bolalar bilan ishlash jarayonida nutqni rivojlantirish mashg‘ulotlarini maxsus pedagogik metodlar asosida tashkil etish zarur. Zamonaviy pedagogika ushbu jarayonda innovatsion va raqamli texnologiyalardan foydalanish samarali natija berishini ko‘rsatmoqda.

Characteristics of Speech Development in Children with Hearing Impairments

Speech development in children with hearing impairments usually occurs more slowly compared to children with typical development, and in some cases it may not develop sufficiently. The main reason for this is related to the dysfunction of the auditory

analyzer. Hearing ability plays an important role in perceiving speech sounds, distinguishing them, and understanding speech. Therefore, disorders in the auditory system directly affect the development of a child's speech.

In children with insufficient hearing ability, the full perception of speech sounds becomes difficult. As a result, the process of learning speech through hearing is limited. This negatively affects the phonetic, lexical, and grammatical aspects of speech development. Difficulties in speech development often influence their social communication as well.

Research in the field of surdopedagogy shows that speech development in children with hearing impairments is largely formed through visual perception. For this reason, the use of visual aids, illustrative materials, and multimedia technologies in the educational process has significant pedagogical importance.

Children with hearing impairments often demonstrate the following speech characteristics:

- Incorrect pronunciation of certain speech sounds;
- Insufficient vocabulary development;
- Grammatical difficulties in sentence formation;
- Low level of speech comprehension;
- Reduced communicative activity.

Therefore, it is necessary to organize speech development activities for children with hearing impairments on the basis of special pedagogical methods. Modern pedagogy shows that the use of innovative and digital technologies in this process leads to effective results.

Pedagogical Opportunities of Digital Technologies

Digital technologies are considered one of the important tools for effectively organizing the educational process in the modern education system. The development

of information and communication technologies creates opportunities to apply new methods and approaches in the pedagogical process. With the help of digital technologies, educational materials can be presented in a visual, interactive and engaging form.

Digital technologies have particularly significant pedagogical potential in working with children with hearing impairments. In such children, the process of receiving information is mainly carried out through the visual analyzer. Therefore, the use of visual materials, animations and multimedia tools helps to effectively organize the process of learning speech.

The main types of digital technologies include the following.

Multimedia technologies

Multimedia technologies make it possible to present educational materials by combining text, images, graphics, video and animation elements. Through multimedia tools, it is possible to visually explain speech sounds and demonstrate the articulation process.

Interactive educational programs

Interactive educational programs help children actively participate in the learning process. With the help of such programs, it is possible to differentiate speech sounds, learn new words and perform speech exercises.

Electronic learning platforms

Electronic learning platforms provide opportunities to present educational materials systematically and organize learning activities effectively. Through these platforms, it is possible to plan and monitor the educational process.

Video and animations

Video and animated materials are effective tools for teaching the correct pronunciation of sounds by demonstrating the functioning of the speech apparatus. Such

materials are especially important in teaching articulation exercises and have significant pedagogical value.

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Methodology

In the course of this research, several scientific methods were used.

Theoretical analysis method

Scientific literature related to special pedagogy, surdopedagogy, and speech therapy was studied and analyzed.

Pedagogical observation method

Speech development lessons conducted with children with hearing impairments were observed, and their level of speech development was analyzed.

Experimental method

During the research, speech development lessons based on digital technologies were organized. Multimedia presentations, video materials, and interactive programs were used in the lessons.

Comparative method

The results of lessons conducted using traditional teaching methods were compared with those of lessons organized using digital technologies.

Results

The results of the study showed that lessons organized on the basis of digital technologies had a positive impact on the speech development of children with hearing impairments. The use of multimedia tools and visual materials facilitated the process of speech perception.

During the lessons, positive changes were observed in the children's pronunciation skills. In addition, their vocabulary expanded, and the process of learning new words became more active.

Furthermore, it was found that the level of speech comprehension among the children improved during the lessons. Tasks presented with the help of visual materials made the process of understanding speech easier.

Interactive lessons increased the children's interest in the learning process and enhanced their communicative activity.

Discussion

The obtained results indicate that digital technologies serve as an important pedagogical tool in the development of speech in children with hearing impairments. Multimedia tools make the process of learning speech sounds more effective.

Visual materials facilitate children's understanding of speech. In addition, interactive activities increase children's interest in the learning process and activate their speech activity.

Raqamli texnologiyalarning pedagogik imkoniyatlari

Raqamli texnologiyalar zamonaviy ta'lim tizimida o'quv jarayonini samarali tashkil etishning muhim vositalaridan biri hisoblanadi. Axborot-kommunikatsiya texnologiyalarining rivojlanishi pedagogik jarayonda yangi metod va usullarni qo'llash imkonini yaratmoqda. Raqamli texnologiyalar yordamida o'quv materiallarini vizual, interaktiv va qiziqarli shaklda taqdim etish mumkin.

Ayniqsa eshitishida nuqsoni bo'lgan bolalar bilan ishlash jarayonida raqamli texnologiyalar katta pedagogik imkoniyatlarga ega. Chunki bunday bolalarda axborotni qabul qilish jarayoni ko'proq ko'rish analizatori orqali amalga oshadi. Shu sababli vizual materiallar, animatsiyalar hamda multimedia vositalari nutqni o'rganish jarayonini samarali tashkil etishga yordam beradi.

Raqamli texnologiyalarning asosiy turlari quyidagilardan iborat.

Multimedia texnologiyalari

Multimedia texnologiyalari matn, tasvir, grafik, video va animatsiya elementlarini birlashtirish orqali o'quv materiallarini taqdim etish imkonini beradi. Multimedia vositalari yordamida nutq tovushlarini ko'rgazmali tarzda tushuntirish hamda artikulyatsiya jarayonini namoyish etish mumkin.

Interaktiv ta'lim dasturlari

Interaktiv ta'lim dasturlari bolalarning o'quv jarayonida faol ishtirok etishiga yordam beradi. Bunday dasturlar yordamida nutq tovushlarini farqlash, yangi so'zlarni o'rganish hamda nutq mashqlarini bajarish mumkin.

Elektron ta'lim platformalari

Elektron ta'lim platformalari o'quv materiallarini tizimli ravishda taqdim etish hamda mashg'ulotlarni samarali tashkil etish imkonini beradi. Ushbu platformalar orqali o'quv jarayonini rejalashtirish va nazorat qilish mumkin.

Video va animatsiyalar. Video va animatsion materiallar nutq apparatining ishlash jarayonini ko'rsatish orqali tovushlarni to'g'ri talaffuz qilishni o'rgatishda samarali vosita hisoblanadi. Ayniqsa artikulyatsiya mashqlarini o'rgatishda bunday materiallar katta pedagogik ahamiyatga ega.

Metodologiya

Mazkur tadqiqot jarayonida bir qator ilmiy metodlardan foydalanildi.

Nazariy tahlil metodi.

Maxsus pedagogika, surdopedagogika hamda logopediya sohasiga oid ilmiy adabiyotlar o'rganildi va tahlil qilindi.

Pedagogik kuzatish metodi.

Eshitishida nuqsoni bo'lgan bolalar bilan olib borilgan nutq rivojlantirish mashg'ulotlari kuzatildi va ularning nutq rivojlanish darajasi tahlil qilindi.

Tajriba-sinov metodi.

Tadqiqot davomida raqamli texnologiyalar asosida nutq rivojlantirish mashgʻulotlari tashkil etildi. Mashgʻulotlarda multimedia taqdimotlari, video materiallar hamda interaktiv dasturlardan foydalanildi.

Taqqoslash metodi.

Anʼanaviy oʻqitish metodlari asosida tashkil etilgan mashgʻulotlar natijalari raqamli texnologiyalar asosida oʻtkazilgan mashgʻulotlar natijalari bilan solishtirildi.

Natijalar

Tadqiqot jarayonida raqamli texnologiyalar asosida tashkil etilgan mashgʻulotlar eshitishida nuqsoni boʻlgan bolalarning nutq rivojlanishiga ijobiy taʼsir koʻrsatgani kuzatildi. Multimedia vositalari hamda vizual materiallardan foydalanish bolalarning nutqni idrok etish jarayonini osonlashtirdi.

Mashgʻulotlar davomida bolalarning nutq tovushlarini toʻgʻri talaffuz qilish koʻnikmalarida ijobiy oʻzgarishlar kuzatildi. Shuningdek, bolalarning lugʻat boyligi kengayib, yangi soʻzlarni oʻzlashtirish jarayoni ancha faol kecha boshladi.

Bundan tashqari, mashgʻulotlar davomida bolalarning nutqni tushunish darajasi ham yaxshilangani aniqlandi. Vizual materiallar yordamida berilgan topshiriqlar bolalarning nutqni idrok etish jarayonini yengillashtirdi.

Interaktiv mashgʻulotlar bolalarning oʻquv jarayoniga qiziqishini oshirdi hamda ularning muloqot qilish faolligini kuchaytirdi.

Muhokama

Olingan natijalar shuni koʻrsatadiki, raqamli texnologiyalar eshitishida nuqsoni boʻlgan bolalar nutqini rivojlantirish jarayonida muhim pedagogik vosita hisoblanadi. Multimedia vositalari yordamida nutq tovushlarini oʻrganish jarayoni yanada samarali tashkil etiladi.

Vizual materiallar bolalarning nutqni tushunish jarayonini yengillashtiradi. Shuningdek, interaktiv mashg'ulotlar bolalarning o'quv jarayoniga bo'lgan qiziqishini oshiradi hamda ularning nutq faoliyatini faollashtiradi.

Conclusion. In conclusion, the use of digital technologies in the process of developing the speech of children with hearing impairments has significant pedagogical importance. Multimedia tools, interactive educational programs, and electronic learning platforms make it possible to effectively organize speech development activities.

Digital technologies are an effective means of improving speech comprehension, pronunciation skills, and communication abilities.

Xulosa. Xulosa qilib aytganda, eshitishida nuqsoni bo'lgan bolalar nutqini rivojlantirish jarayonida raqamli texnologiyalardan foydalanish muhim pedagogik ahamiyatga ega. Multimedia vositalari, interaktiv ta'lim dasturlari hamda elektron ta'lim platformalari yordamida nutq rivojlantirish mashg'ulotlarini samarali tashkil etish mumkin. Raqamli texnologiyalar nutqni tushunish, talaffuz qilish hamda muloqot qilish ko'nikmalarini rivojlantirishda samarali vosita hisoblanadi.

References

1. Vygotsky, L.S. *Thinking and Speech*. Moscow: Pedagogika, 1982.
2. Luria, A.R. *Foundations of Neuropsychology*. Moscow: Moscow State University Press, 1973.
3. Rubinstein, S.L. *Foundations of General Psychology*. Moscow: Piter, 2002.
4. Leontiev, A.A. *Psychology of Speech*. Moscow: Smysl, 2003.
5. Po'latova, P.M. *Surdopedagogy*. Tashkent: Fan va texnologiya, 2018.
6. Nurkeldiyeva, D.A. *Fundamentals of Special Pedagogy*. Tashkent: O'qituvchi, 2019.
7. Karimova, V.M. *Pedagogy and Psychology*. Tashkent: Tafakkur, 2017.
8. Mayer, R. *Multimedia Learning*. Cambridge: Cambridge University Press, 2009.

9. Anderson, T. *The Theory and Practice of Online Learning*. Edmonton: Athabasca University Press, 2015.
10. Clark, R., Mayer, R. *E-learning and the Science of Instruction*. San Francisco: Pfeiffer, 2016.
11. Hallahan, D., Kauffman, J. *Exceptional Learners: An Introduction to Special Education*. Boston: Pearson, 2014.
12. Florian, L. *The SAGE Handbook of Special Education*. London: Sage Publications, 2017.

FOYDALANILGAN ADABIYOTLAR

1. Vygotskiy L.S. *Myshlenie i rech.* – Moskva: Pedagogika, 1982.
2. Luriya A.R. *Osnovy neyropsixologii.* – Moskva: MGU, 1973.
3. Rubinshteyn S.L. *Osnovy obshchey psixologii.* – Moskva: Piter, 2002.
4. Leontev A.A. *Psixologiya rechi.* – Moskva: Smysl, 2003.
5. Po‘latova P.M. *Surdopedagogika.* – Toshkent: Fan va texnologiya, 2018.
6. Nurkeldiyeva D.A. *Maxsus pedagogika asoslari.* – Toshkent: O‘qituvchi, 2019.
7. Karimova V.M. *Pedagogika va psixologiya.* – Toshkent: Tafakkur, 2017.
8. Mayer R. *Multimedia Learning.* – Cambridge: Cambridge University Press, 2009.
9. Anderson T. *The Theory and Practice of Online Learning.* – Edmonton: Athabasca University Press, 2015.
10. Clark R., Mayer R. *E-learning and the Science of Instruction.* – San Francisco: Pfeiffer, 2016.
11. Hallahan D., Kauffman J. *Exceptional Learners: An Introduction to Special Education.* – Boston: Pearson, 2014.
12. Florian L. *The SAGE Handbook of Special Education.* – London: Sage Publications, 2017.