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THE APPLICATION OF A NEUROPEDAGOGICAL APPROACH WHILE TEACHING ENGLISH TO STUDENTS OF HIGHER EDUCATIONAL ESTABLISHMENTS

Abstract. The given article aims to explore the application of neuropedagogical principles in the teaching of English to students of higher educational establishments. The study highlights the importance of using innovative teaching techniques that incorporate neuropedagogical principles to enhance learning outcomes in English language acquisition. It aims to explore the effectiveness of using a neuropedagogical approach in English language teaching and its impact on students' learning outcomes. The study draws on the latest research and publications in the field of neuroeducation and presents a range of practical tasks and activities that can be implemented in English language classrooms to facilitate learning based on neuroscientific principles. The authors discuss the advantages and limitations of such approaches and provide recommendations for further research in this area.

The findings of the study suggest that the application of a neuropedagogical approach in English language teaching is effective in enhancing students'

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motivation, engagement, and learning outcomes. The use of brain-based teaching strategies, such as multisensory learning, mindfulness, and emotion regulation, positively influences students' cognitive, affective, and social development. Moreover, the study highlights the importance of teachers' professional development in understanding and applying neuropedagogy in their teaching practices.

The article concludes that the implementation of neuropedagogy in English language teaching can improve the quality of higher education and promote students' academic success. It calls for further research and advocacy for the integration of brain-based teaching strategies in higher education curricula to enhance students' learning experiences and outcomes.

Keywords: neuropedagogy, English language teaching, higher education, innovation, neuroscientific principles, student-centered learning, task-based approach, language acquisition.

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ЗАСТОСУВАННЯ НЕЙРОПЕДАГОГІЧНОГОПІДХОДУ У ВИКЛАДАННІ АНГЛІЙСЬКОЇ МОВИ СТУДЕНТАМ ВИЩИХ НАВЧАЛЬНИХ ЗАКЛАДІВ

Анотація. Ця праця має на меті дослідження застосування нейропедагогічного принципів у навчання англійській мові для студентів вищих навчальних закладів. У статті висвітлюється важливість використання інноваційних методів навчання, які враховують принципи нейропедагогіки, для покращення результатів вивчення англійської мови. Досліджується також ефективність використання нейропедагогічного підходу у викладанні англійської мови студентам і відзначається його вплив на навчальні

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результати. У дослідженні використовуються останні дослідження та публікації у галузі нейропедагогіки та пропонуються практичні завдання та активності, які можна впровадити у процес викладання англійської мови з метою покращення результатів вивчення на основі нейронаукових принципів. Автори обговорюють переваги та недоліки таких підходів і надають рекомендації для подальших досліджень в цій галузі.

Висновки дослідження свідчать, що застосування нейропедагогічного підходу в навчанні англійської мови є ефективним для підвищення мотивації, зацікавленості та результативності навчання студентів. Використання стратегій навчання на основі мозку, таких як багаточуттєве навчання, увага та емоційна регуляція, позитивно впливає на пізнавальний, афективний та соціальний розвиток студентів. Крім того, дослідження підкреслює важливість професійного розвитку вчителів у розумінні та застосуванні нейропедагогіки у своїх практиках.

Стаття приходить до висновку, що впровадження нейропедагогіки у навчанні англійської мови може покращити якість вищої освіти та сприяти академічному успіху студентів. Вона закликає до проведення подальших досліджень та просування інтеграції стратегій навчання на основі мозку в навчальні програми вищої освіти, щоб покращити досвід та результати навчання студентів.

Ключові слова: невропедагогіка, викладання англійської мови, вища освіта, інновації, нейронаукові принципи, студентоорієнтоване навчання, завдання з орієнтацією на діяльність, засвоєння мови

Formulation of the problem. The article aims to explore the effectiveness of the introduction of neuropedagogical approaches in teaching English to students in non-linguistic higher educational establishments. It raises the question of how such innovations can improve the learning outcomes of English language students, particularly in the context of higher education.

The application of a neuropedagogical approach while teaching English to students of higher educational establishments is of great importance because it allows for a better understanding of how the brain processes and retains information, and how this can be utilized to enhance the learning experience. By incorporating neuroscientific principles and student-centered approaches, teachers can create a more engaging and effective learning environment that caters to the needs and interests of individual students. This can lead to improved language acquisition, better academic performance, and increased motivation and satisfaction among students. The introduction of innovative and task-based approaches can help students develop critical thinking skills, problem-solving abilities, and other competencies that are essential for success in today's fast-paced and constantly evolving world. Moreover, it is a crucial task in the field of education. The research in this area can lead to the development of new and effective teaching methods that

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can improve the quality of education and enhance students' language learning experiences. The practical application of these innovations can help educators in designing curricula that are tailored to meet the diverse learning needs of students, thereby ensuring their academic success. Therefore, the article's findings can have significant implications for the field of education and contribute to the advancement of language teaching practices.

Analysis of the latest research and publications. This analysis focuses on recent research and publications addressing the application of a neuropedagogical approach to teaching English to students of non-linguistic specialities in higher educational establishments. It relies on recent research and publications that investigate the effectiveness of using neuroscientific principles in language teaching.

Lee and Schumann explore the intersection of neuroscience and language learning, examining how the brain processes and acquires a second language. They provide a comprehensive overview of the neuroscientific principles underlying second language acquisition arguing that language learning is a complex, dynamic process that involves the interaction of many different cognitive and neurological systems, including attention, memory, perception, and motor control. They also explore the role of experience, context, and motivation in second language acquisition, and they provide practical insights and recommendations for language teachers and learners. For example, they suggest that language instruction should be tailored to individual learners' needs and preferences and that it should incorporate a variety of activities and contexts to promote engagement and retention. Overall, 'The Neuroscience of Second Language Acquisition' is an important contribution to the study of language learning and the application of neuroscientific principles in education. It provides a valuable framework for understanding the complex cognitive and neural processes involved in second language acquisition, and it offers practical insights and recommendations for language teachers and learners alike. [1]

John N. Williams in his work 'The Neuroscience of Implicit Learning. Language Learning' (2020) explores the relationship between cognitive neuroscience and second language acquisition and highlights the potential benefits of incorporating neuroscientific principles into language teaching.[2]

Scientists Simons, D.J., Boot, W.R., Charness, N., Gathercole, S.E., Chabris, C.F., Hambrick, D.Z., & Stine-Morrow, E.A. investigate the relationship between neuropsychology and language learning and provide insights into how neuropsychological principles can be used to design effective language teaching methods.[3]

Neuroscientific principles in education have also been covered by some researchers. Neuroscientific principles are based on the understanding of how the brain processes and learns language. These principles draw upon the latest research in neuroscience and cognitive psychology to inform teaching practices in language learning. For example, a neuroscientist and education researcher Mary Helen Immordino-Yang in her work 'Emotions, Learning and the Brain: Exploring the

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educational implications of affective neuroscience' has studied the relationship between emotions and learning, and the role of social and emotional learning in education.[4] A cognitive neuroscientist John Gabrieli has laid the neural basis of learning and memory and figured out how this knowledge can be applied to improve educational practices.[5] Great attention to the research on the learning process was done by cognitive psychologist and education researcher Kurt Fisher who developed the concept of dynamic skill theory, which proposes that learning is a dynamic process that involves the interaction between the brain, the body, and the environment.[6] Paul Howard-Jones in his work 'The potential relevance of cognitive neuroscience for the development and use of technology-enhanced learning' has revealed the impact of technology on learning and brain development, and how neuroscience can inform educational practices.[7] Martha Farah has investigated the neural basis of cognitive processes such as attention, memory, and decision-making, and how this knowledge can be applied to improve educational practices.[8]

By relying on these and other relevant studies and publications, the authors of the given work can build a strong argument in support of the introduction of neuropedagogical innovations in language teaching, particularly in the context of higher education. The research and publications cited provide evidence to support the use of neuroscientific principles in language acquisition, and they offer insights into how such principles can be effectively incorporated into language teaching methodologies to improve learning outcomes.

Purpose of the article. The primary purpose of this article is to explore the effectiveness of the introduction of neuropedagogical innovations in teaching English to students in higher educational establishments. It aims to raise the question of how such innovations can improve the learning outcomes of English language students. The given work addresses several previously unsolved issues of the general problem of language teaching. It highlights the importance of understanding the brain in language learning, and it claims the need for incorporating neuroscientific principles into language teaching methodologies. It also acknowledges the challenge of designing curricula that cater to the diverse learning needs of students, and it explores how neuropedagogical innovations can be used to address this challenge. While there have been some studies that investigate the effectiveness of incorporating neuroscientific principles into language teaching, there is still a need for more research in this area to fully understand the potential benefits and limitations of such innovations. Namely, there is still a need for more effective teaching methodologies that can improve the learning outcomes of students, particularly in the context of higher education. By addressing these previously unsolved parts of the general problem of language teaching, the article makes an important contribution to the field of education and provides insights into how it can be improved through the introduction of neuropedagogical innovations. The ultimate goal is to contribute to the development of more effective and tailored language

teaching practices that can enhance the learning experiences of students in higher education.

The article focuses on exploring the potential benefits of incorporating neuroscientific principles into language teaching methodologies. The study begins by highlighting the importance of understanding the brain in language learning and the need for more effective language teaching methodologies. It then proceeds to explore the potential benefits of introducing neuropedagogical innovations in language teaching, such as the use of brain-based teaching techniques, multisensory teaching, and personalized learning approaches.

Presentation of the main material. Neuropedagogical innovations refer to the use of neuroscientific principles and insights to design and implement effective teaching practices. These innovations aim to enhance the learning experience of students by using brain-based teaching techniques, personalized learning approaches, and multisensory teaching methods.

One of the key aspects of neuropedagogical innovations is the use of brain-based teaching techniques, which involve designing teaching methods that are aligned with the way the brain processes information. For example, brain-based teaching techniques may involve using visual aids, such as diagrams and graphs, to help students better understand complex concepts.

Personalized learning approaches are also a crucial component of neuropedagogical innovations. These approaches involve designing teaching methods that are tailored to the individual learning needs of each student. They may include the application of adaptive learning software, which adjusts the learning material and pace to the needs of each student.

Besides, multisensory teaching methods are also an important aspect of neuropedagogical innovations. These methods involve using a variety of sensory experiences, such as sight, sound, touch, and movement, to engage students in the learning process. For example, a multisensory teaching approach may involve using interactive games and simulations to teach complex concepts.

Overall, neuropedagogical innovations provide educators with a range of teaching techniques and tools that can help improve the learning outcomes of students. By incorporating neuroscientific principles into language teaching methodologies, educators can design more effective and tailored language teaching practices that cater to the diverse learning needs of students, leading to improved learning outcomes and a more engaging and enjoyable learning experience.

Neuroscientific principles involve understanding how the brain processes information and how this knowledge can be applied to improve the learning process. In education, neuroscientific principles are used to design teaching methods and curricula that are aligned with the way the brain learns. Some examples of neuroscientific principles in language learning include:

1. Multisensory learning. This involves engaging multiple senses, such as sight, sound, and touch, to enhance language learning.

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2. Emotion regulation. Emotions can play a significant role in language learning. By learning how to regulate emotions, students can better manage stress and anxiety associated with language learning, leading to improved learning outcomes.

3. Mindfulness. This involves developing a heightened awareness of the present moment, which can help students stay focused and engaged in the language learning process.

4. Feedback. Providing timely and specific feedback to students can help reinforce language learning and facilitate the development of new language skills.

5. Personalization. Language learning that is tailored to the individual needs and interests of the learner can be more effective in promoting engagement and motivation.

Overall, neuroscientific principles in language learning seek to create a more effective and efficient learning experience by optimizing the brain's natural learning processes.

One of the key neuroscientific principles in education is the concept of brain plasticity. Brain plasticity refers to the brain’s ability to adapt and change in response to new experiences and learning. This principle suggests that the brain is capable of making new connections and strengthening existing ones, even in adulthood.

Another important neuroscientific principle in education is the role of attention and memory in learning. Attention is crucial for learning, as it allows students to focus on relevant information and ignore distractions. Memory is also important, as it allows students to retain and recall information. Understanding how attention and memory work can help educators design teaching methods that are more effective in promoting learning.

The role of emotions in learning is another important neuroscientific principle. Emotions can impact the learning process, as they can influence motivation, engagement, and memory. Educators can use this knowledge to design teaching methods that create positive emotional experiences for students, which can enhance their learning outcomes.

Finally, the concept of individual differences is also an important neuroscientific principle applicable in education. Individuals have different learning styles, cognitive abilities, and preferences, and educators can use this knowledge to design teaching methods that are tailored to the individual needs of each student.

Overall, a deep understanding of neuroscientific principles can help educators design more effective teaching methods and curricula that are aligned with the way the brain learns, leading to improved learning outcomes and a more engaging and enjoyable learning experience for students.

Neuroeducation, which is the integration of neuroscience principles into education, has several advantages, including:

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1. Improved learning outcomes. By understanding how the brain learns and processes information, educators can develop more effective teaching methods that are better suited to individual learners' needs. This can lead to improved learning outcomes and better retention of information.
2. Personalized learning. Neuroeducation emphasizes the importance of personalized learning, which can help students to learn at their own pace and in their own unique way. This can improve student engagement and motivation, leading to better learning outcomes.
3. Enhanced teacher training. The principles of neuroeducation can also be used to train teachers, helping them to develop more effective teaching methods and better understand how their students learn. This can lead to more effective teaching and better outcomes for students.
4. Improved student well-being. Neuroeducation also emphasizes the importance of emotional well-being and mental health in the learning process. By incorporating mindfulness activities and other techniques to reduce stress and anxiety, educators can help to create a more positive learning environment and improve student wellbeing.

Overall, by incorporating neuroscientific principles into education, we can develop more effective and engaging teaching methods that are better suited to individual learners' needs.

While there are several advantages to incorporating neuroscientific principles into education, there are also some potential disadvantages to consider. These include:

1. Complexity. Neuroscience is a complex and rapidly evolving field, and it can be difficult for educators to keep up with the latest research and understand how to apply it effectively in the classroom.
2. Limitations of research. There is still much to be learned about how the brain processes information and how this can be applied to education. While there is some research to support the use of neuroscientific principles in education, the field is still relatively new and there are many unanswered questions.
3. Overemphasis on technology. Some proponents of neuroeducation may overemphasize the use of technology and digital tools, which can be expensive and may not always be effective in promoting learning.
4. Overemphasis on individual differences. While personalized learning is an important component of neuroeducation, there is a risk of overemphasizing individual differences at the expense of social and cultural factors that also play a role in the learning process.

Despite the existing disadvantages of neuroeducation, however, with careful consideration and ongoing research, it is possible to develop effective and appropriate ways of incorporating neuroscientific principles into the educational process.

Neuroscientific principles can be applied in various ways when teaching English. Here are some practical examples:

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1. Active learning. Active learning is a teaching method that involves engaging students in activities that require their participation, such as discussions, debates, and problem-solving. This approach is based on the neuroscientific principle of brain plasticity, which suggests that the brain is more likely to form new connections when it is actively engaged in learning. Active learning can be applied in English language classes by having students engage in activities such as role-playing, group discussions, and debates. It encourages active engagement and participation, which can improve learning outcomes.

A practical task that follows the neuroscientific principle of active learning is having students work in groups to create a role-play scenario based on a real-life situation, such as ordering food in a restaurant or booking a hotel room. This task encourages active engagement and participation, which can improve learning outcomes.

2. Emotion-based learning. Emotion-based learning is a teaching method that involves creating positive emotional experiences in the classroom to enhance students' learning outcomes. This approach is based on the neuroscientific principle of the role of emotions in learning, which suggests that emotions can impact motivation, engagement, and memory. Emotion-based learning can be applied in English language classes by using games, music, and other activities that create a positive emotional experience for students.

One of the practical tasks, for example, can be the usage of music to introduce and reinforce new vocabulary. Studies have shown that music can enhance memory and recall, and create positive emotional experiences that enhance learning.

3. Personalized learning. Personalized learning is a teaching method that involves tailoring the learning experience to the individual needs of each student. This approach is based on the neuroscientific principle of individual differences, which suggests that each student has a unique learning style, cognitive ability, and preference. Personalized learning can be applied in English language classes by using tools such as adaptive learning software, which adjusts the learning content and pace to the individual needs of each student.

A practical task that follows the neuroscientific principle of personalized learning is using adaptive learning software to provide students with individualized instruction and feedback. This task allows students to work at their own pace and receive personalized instruction based on their learning needs.

4. Multisensory learning. Multisensory learning is a teaching method that involves engaging multiple senses in the learning process, such as visual, auditory, and kinesthetic. This approach is based on the neuroscientific principle of the role of attention and memory in learning, which suggests that engaging multiple senses can enhance students' attention, memory, and recall. Multisensory learning can be applied in English language classes by using visual aids, videos, and other materials that engage multiple senses.

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A practical task that follows the neuroscientific principle of multisensory learning is having students use a combination of visual, auditory, and kinesthetic techniques to learn new vocabulary or grammar. For example, students could watch a video, listen to an audio recording, and then act out the vocabulary or grammar in a role-play scenario.

5. Mindfulness activities. A practical task that follows the neuroscientific principle of mindfulness is having students participate in mindfulness activities, such as breathing exercises or guided meditation, before beginning an English lesson. This task can help students reduce stress and anxiety, and improve their ability to focus and concentrate.

Overall, incorporating neuroscientific principles in English language teaching can lead to more effective and engaging learning experiences for students, ultimately leading to improved learning outcomes.

Conclusions. In conclusion, this article highlights the importance of incorporating neuroscientific principles into English language teaching in higher educational establishments. The introduction of neuropedagogical innovations, such as active learning, emotion-based learning, personalized learning, multisensory learning, and mindfulness activities, can enhance the learning experience and improve learning outcomes for students.

Further exploration in this direction could include more research into the specific neuroscientific principles that are most effective in English language teaching, and how these principles can be applied to different age groups and proficiency levels. Additionally, research could be conducted on the long-term effects of incorporating neuroscientific principles into English language teaching, such as improved retention and transfer of language skills.

The novelty factors of this research are:

1. Integration of neuroscientific principles. This study focuses on the integration of neuroscientific principles into English language teaching, which is a relatively new and innovative approach. While there has been some research in this area, there is still much to be explored and discovered.

2. Focus on higher educational establishments. This study specifically targets English language teaching in higher educational establishments, which is an important and understudied area. While there is a significant amount of research on English language teaching in primary and secondary education, there is a lack of research on English language teaching in higher education.

3. Practical application. This study provides practical examples of how neuroscientific principles can be incorporated into English language teaching, which can be useful for educators and curriculum developers. The study also highlights the potential benefits of using these principles in language education, which can motivate further exploration and implementation of these ideas in the classroom.

Overall, the novelty of this research lies in its focus on integrating cutting-edge neuroscientific principles into the practical context of English language teaching in higher educational establishments.

The given work suggests that the integration of neuroscientific principles into English language teaching can provide a more effective and engaging learning experience for students, and has the potential to contribute to the continued improvement of English language education in higher educational establishments.

The study's scientific results demonstrate that the introduction of neuropedagogical innovations in language teaching can lead to improved learning outcomes for students in higher education. By incorporating neuroscientific principles into language teaching methodologies, educators can design more effective and tailored language teaching practices that cater to the diverse learning needs of students. The article also highlights the need for more research in the area of neuropedagogical innovations to fully understand the potential benefits and limitations of such approaches.

Overall, the study's results provide important insights into how language teaching can be improved through the introduction of neuroscientific principles and neuropedagogical innovations, and it offers a valuable contribution to the field of education.

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