1. The document provides an in-depth analysis of the effectiveness of online learning for students in engineering and IT degree programs, focusing on the transition to distance teaching and learning due to the Covid-19 pandemic. The study, conducted at the St. Petersburg Electrotechnical University "LETI," explores the satisfaction of students with distance learning, the optimal ratio of distance and full-time instruction, and the most successful teaching and learning modalities. The findings indicate a disparity in satisfaction levels between junior and senior students, with the former expressing less satisfaction with remote learning. Additionally, the study identifies the most effective formats for teaching theoretical and practical content over the internet, highlighting the varying preferences between engineering and IT degree students. The research also sheds light on the challenges and limitations of online learning, such as technical issues, equipment availability, and the lack of direct contact between teachers and students. The document concludes by emphasizing the importance of considering students' perceptions and preferences when determining the future learning format, particularly in light of the different attitudes based on students' age and field of study.

The document presents a comprehensive overview of the challenges and successes of online learning, particularly in the context of the Covid-19 pandemic. It underscores the importance of understanding students' satisfaction with distance learning and the implications of the transition to online education. The study delves into the specific issues faced by students in engineering and IT degree programs, offering valuable insights into the most effective teaching and learning formats for theoretical and practical content. Moreover, the document highlights the disparities in attitudes towards remote learning, with senior students exhibiting a greater acceptance of distance education compared to junior students. The study also addresses the limitations and obstacles of online learning, such as technical requirements, equipment availability, and the absence of direct teacher-student interaction. Overall, the research emphasizes the need to consider students' preferences and perceptions when shaping the future of education, taking into account factors such as students' age and field of study.

In conclusion, the document provides a nuanced examination of the challenges and opportunities associated with online learning in the context of higher education, particularly for engineering and IT degree programs. It offers valuable insights into students' satisfaction with distance learning, the optimal balance between distance and full-time instruction, and the most effective teaching and learning modalities for remote education. The study's findings underscore the importance of understanding and addressing the varying attitudes and preferences of students, highlighting the need for tailored approaches to online education based on students' age and field of study. Additionally, the research sheds light on the obstacles and limitations of online learning, emphasizing the significance of addressing technical and logistical challenges to enhance the effectiveness of distance education.

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1. **"Students’ online learning adaptability and their continuous usage intention across different disciplines"**

The article titled "Students’ online learning adaptability and their continuous usage intention across different disciplines" delves into the impact of students’ adaptability to online learning and their willingness to engage with it across various academic disciplines. The study focuses on constructing an Adaptive Structural Learning and Technology Acceptance Model (ASL-TAM) to investigate the impact and mechanism of online learning adaptivity on continuous usage intention for students from different disciplines. A total of 11,832 undergraduate students from 334 universities in 12 disciplinary categories in mainland China were selected for the analysis. The results indicated that the ASL-TAM model could be fitted for all 12 disciplines, with significant differences observed in the results of the single-factor analysis of the observed variables for the 12 disciplines.

The study confirms the positive impact of online learning adaptability on users' intention to continue using the platform, as well as the positive impact of satisfaction towards online teaching on users' intention to continue using the platform. Furthermore, it confirms that satisfaction towards online teaching partially mediates the relationship between online learning adaptability and users' intention to continue using the platform. The study also identifies significant differences in satisfaction towards online teaching and continuous usage intention between STEM and humanities disciplines, suggesting the need for tailored approaches in online learning platforms and courses across various academic disciplines.

The implications of the study suggest the need for tailored approaches in online learning platforms and courses across various academic disciplines. It highlights the importance of continuous development of multidimensional and multilevel teaching systems to adapt to the knowledge structures, teaching principles, and curriculum characteristics of different disciplines. Additionally, the study emphasizes the need to create adaptive learning environments based on the different characteristics of learners and accelerate the construction of adaptive learning systems for college students with different learning methods in different subjects. Overall, the study provides valuable insights for crafting precise and effective online learning strategies and pedagogical models aimed at enhancing student learning outcomes and bolstering students’ satisfaction with online education.

In conclusion, the study contributes to the understanding of the complex relationship between online learning adaptability, satisfaction towards online teaching, and continuous usage intention across different academic disciplines. It highlights the need for personalized design and distinctive implementation of online learning platforms and courses, offering practical implications for educators and policymakers in the field of online education.

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1. The document discusses a study on "Estimation of Learners' Levels of Adaptability in Online Education Using Imbalanced Dataset." The study aims to assess students' adaptability to online learning environments, considering the impact of the COVID-19 pandemic on the education sector. The research focuses on evaluating the factors influencing students' capacity to adapt to online learning, utilizing a dataset from the Kaggle Machine Learning repository. The study employs the Synthetic Minority Oversampling Technique (SMOTE) to address the imbalanced dataset and employs various machine learning algorithms, including Random Forest, Support Vector Machine (SVM), K-Nearest Neighbours (KNN), and XGBClassifier, to predict students' adaptability levels.

The document provides a comprehensive overview of the methodology used in the study, including data preprocessing, balancing the dataset using SMOTE, and descriptions of various machine learning models. It also discusses the results and findings, showcasing the performance of different machine learning models in predicting students' adaptability levels. The study's future scope is highlighted, suggesting the potential for hybridized models and the extension of deep learning models for better performance.

The study's significance is underscored by the impact of the COVID-19 pandemic on education, emphasizing the need to understand students' adaptability to online learning and how it affects their academic performance. The document sheds light on the challenges and opportunities presented by online education, emphasizing the need for personalized and adaptable learning experiences to enhance learning outcomes. The study's findings and insights are expected to aid decision-makers in the education sector in better understanding the current online education system and addressing the challenges associated with it.

In conclusion, the document provides a detailed account of the study's objectives, methodology, findings, and future scope, emphasizing the importance of understanding students' adaptability to online education, particularly in the context of the COVID-19 pandemic. The use of machine learning algorithms and the application of SMOTE to address dataset imbalances demonstrate the study's rigorous approach to assessing students' adaptability levels in online learning environments.

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1. **"Intelligent Methods and Models for Assessing the Level of Student Adaptation to Online Learning,"**

The paper "Intelligent Methods and Models for Assessing Level of Student Adaptation to Online Learning" addresses the increasing popularity of online learning due to factors such as COVID-19 and the need for educational institutions to transition to online platforms. The primary objective is to investigate the effectiveness of machine learning tools, including classification techniques and neural networks, in assessing student adaptation to online learning. Data from an online survey of students at different educational levels was used, focusing on various factors such as gender, age, educational level, location, internet quality, financial conditions, and device used for studying. The paper explores the process of data preparation, processing, model creation, and classification, utilizing machine learning algorithms such as Random Forest, Extra Trees, Gradient Boosting, and others. Additionally, the study compares the effectiveness of different classification models and concludes that the Sequential Neural Network and Random Forest achieved the highest accuracy at 91% and 88% respectively.

The document systematically delves into the process of data preparation, beginning with an exploration of the initial dataset obtained from a student survey, which included various characteristics such as gender, age, educational level, location, and more. Following this, the paper discusses data processing, including the creation of histograms to visualize the distribution of characteristics, and the analysis of the target class, which revealed the distribution of students' adaptability to online learning. The study then delves into model creation and classification, employing machine learning algorithms such as Decision Trees, Random Forest, Gradient Boosting, and more. The effectiveness of these models is compared, with the Sequential Neural Network and Random Forest being identified as the top performers with accuracies of 91% and 88% respectively. Furthermore, the paper explores feature importance through permutation feature importance for classifiers and neural networks, shedding light on the impact of various characteristics on the classification models.

In conclusion, the study emphasizes the significance of machine learning tools in assessing student adaptation to online learning, providing valuable insights for stakeholders involved in implementing and applying online education. The effectiveness of various classification models, as well as the superiority of the Sequential Neural Network and Random Forest, is highlighted. Additionally, the paper identifies potential future directions, such as the need for a more extensive dataset and the flexibility of the system to accommodate additional classification models if required. Overall, the document offers a comprehensive exploration of the application of machine learning in assessing student adaptation to online learning, presenting valuable implications for educational institutions and policymakers.

Machine learning tools have been found to be highly effective in assessing the level of student adaptation to online learning. The paper investigates the use of intelligent methods and models, including classification techniques and neural networks, to address this issue. The best performers were the Random Forest and the Sequential Neural Network, with results of 88% and 91% accuracy, respectively. These tools have been used to analyze data from an online survey of students at different levels, including school, college, and university. The survey consisted of questions related to various factors such as gender, age, level of education, location, class duration, quality of Internet connection, financial conditions, and type of device used for studying. The results indicate that machine learning algorithms and models, such as Random Forest, Extra Trees, Gradient Boosting, Decision Trees, Logistic Regression, Support Vector Machine, and Neural Networks, have been effective in assessing student adaptation to online learning. The developed system allows for the use of a few simple questions with high quality and accuracy to assess the level of adaptation of students to online learning. This has practical value in helping stakeholders in the process of implementing and applying online education to understand its effectiveness. The main perspective for developing this work includes the potential for even better results with a more extensive set of data, which requires a survey of more students. This will help in the creation of models and their training, and the system is flexible, allowing for the implementation of more classification models if necessary.

The key factors that influence the level of student adaptation to online learning include the student's location in the city, the presence of high load-shedding, financial conditions, the type of Internet connection and network, the length of daily classes, the availability of a virtual learning environment (LMS), and the type of device the student uses for studying. Additionally, the level of education, familiarity with IT, and the type of educational institution also play a role in student adaptation to online learning. These factors were identified through the analysis of a dataset that included characteristics such as gender, age, level of education, location, financial conditions, and technological familiarity.

The most important features in the dataset that influence the level of student adaptation to online learning include gender, age, level of education, location, load shedding, financial conditions, type of Internet connection, device type, network connection type, class duration, and availability of a learning management system (LMS). These features were found to have a significant impact on the quality of online education and the level of student adaptation. Additionally, the presence of urbanization around the student and the length of online classes were identified as influential factors. The research also highlighted that the type of Internet connection and network have a minor impact on student adaptation, while studying IT did not significantly increase the effectiveness of online learning.

The machine learning models that performed best in predicting the level of student adaptation to online learning were the Random Forest and the Sequential Neural Network. The Random Forest model achieved an accuracy of 88%, while the Sequential Neural Network achieved an accuracy of 91%. These models were found to be the most effective in assessing the level of adaptation of students to online education, providing high quality and accuracy with just a few simple questions. The results of this study can help stakeholders in the process of implementing and applying online education to understand its effectiveness.

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1. **“Online Students’ Learning Behaviors and Academic Success: An Analysis of LMS Log Data From Flipped Classrooms via Regularization”**

Regularization, a machine learning technique, has been compared to random forest to predict online student success in flipped classrooms The study showed that regularization not only showed predictive performance comparable to random forest but also provided predictive models that could be linearized way. and be able to select important indicators of success.

Regularity provides interpretable predictive models, but nonlinear machine learning methods such as random forests may outperform regular functions in terms of predictive accuracy but regular functions will still be valuable in that they are easier to teach in and understand, especially in educational settings That the trade-off between model can be found interpretation and prediction accuracy in predicting online student success.

**Key findings regarding students' instructional video watching behaviors in the context of online flipped classrooms include:**

* Students most of the time doesn’t watch videos before in class meetings but most of the time after the class full video or not completely, that shifts our focus to the need to understand how students respond to different stimuli presented during classes.
* We need further research to enhance students' engagement and success in the course.
* To help maintain students motivation we should make stronger links between pre-class assignments and in-class activities.
* More academic success is observed for the students that watch post-class videos and a higher grade is achieved.
* There is a need to make online classes more engaging, because there is a pattern for incomplete video watching.

**Machine learning techniques like Enet (elastic net) and Mnet can be utilized in analyzing LMS log data for educational purposes in the following ways:**

1. **Feature selection.**
2. **Prediction models:** Can predict low performing students early in the course.
3. Enet and Mnet make it easier to understand relationships between variables and student outcomes.
4. Regularization research can help in handling big data.

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1. The document **"Predicting Student Performance from LMS Data: A Comparison of 17 Blended Courses Using Moodle LMS"** published in the IEEE Transactions on Learning Technologies discusses the use of Learning Management Systems (LMS) data to predict student performance. The study analyzes 17 blended courses with 4,989 students at Eindhoven University of Technology using Moodle LMS. It assesses the predictive modeling of student performance using LMS predictor variables and in-between assessment grades. The results indicate that the portability of prediction models across courses is low, suggesting that the same prediction models may not be applicable to different courses. Additionally, the study shows that LMS data may have little to no additional value for early intervention or when in-between assessment grades are considered, highlighting the need for more specific theoretical argumentation and additional data sources beyond LMS data. The study emphasizes the diversity in courses and predictor variables extracted from the LMS, making it challenging to draw general conclusions about the mechanisms underlying student performance. It also suggests the need to incorporate more specific theoretical argumentation and additional data sources beyond LMS data.

Furthermore, the document delves into the grounding of learning analytics in theory, noting that most studies in the field are largely data-driven and not explicitly based on theory. It highlights the importance of theoretical argumentation for methodological choices and interpretation of analytical results. The paper emphasizes the need to connect theoretical arguments to the selection of prediction variables to better inform methodological choices and interpretation of results. The study also provides an overview of the theoretical arguments used in learning analytics and the predictors used in recent studies, emphasizing the implications of grounding learning analytics in theoretical argumentation.

The document also explores previous research on predicting student performance, noting the wide variety in studies analyzing LMS data, different types of LMS used, courses examined, and predictive analytical techniques utilized. It discusses the inconsistency of findings in different studies and the challenges in comparing different studies to draw general conclusions about the best and most stable predictors of student performance. The study suggests the need for further research to enlarge the empirical base of the issue of portability of prediction models.

In summary, the document presents a comprehensive analysis of the portability of prediction models across blended courses, the grounding of learning analytics in theory, and the challenges in previous research on predicting student performance using LMS data. It highlights the need for more specific theoretical argumentation and additional data sources beyond LMS data and emphasizes the complexity of drawing general conclusions about the mechanisms underlying student performance.

Some questions you may ask:

What are the predictors used in the correlation analysis for all courses combined?

How did the correlation analyses for all courses separately demonstrate the relationship between the predictor variables and the final exam grade?

What type of regression analyses were conducted to determine the predictability of the models for each course?

What was the effect size of the in-between assessment grade in the correlation analysis for all courses combined?

What type of regression analyses were conducted to determine the predictability of the models for each course?

The document describes that multiple linear regressions were conducted for each course separately to determine the predictability of the models. These regressions used stepwise backward elimination, with the criterion for exclusion in each step being p > 0.2 for the courses separately and p > 0.05 for all courses combined. Additionally, robust standard errors were used as the assumption of homoscedasticity was often not met. This approach allowed for the determination of the effects of the predictors and the variance in final exam grade that could be explained at both the student and course levels.  
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1. The document discusses **“the rise and challenges of postpandemic online education”**, this paper talks mainly about the covid – 19 pandemic, it shows the need to enroll online education systems in traditional education, highlighting the shift from face-to-face to online learning due to the pandemic, the paper talks about problems faced during this change such as changes in instructional practices, the need for effective e-learning content, and understanding students' perceptions of e-learning. Furthermore, it presents the results of a questionnaire survey conducted among university students in Taiwan, focusing on important factors of online education, learning preferences, in-class interactions, and study subjects. The findings suggest that students' perceptions of online education's usefulness and their intention to continue using it are influenced by factors such as interaction during online courses, technical competency, and user interface friendliness. The document concludes by recommending continuous training for teachers and students, creating a comprehensive technical environment, and designing high-quality online education to address the challenges posed by the pandemic and future crises. It also calls for further research to explore critical factors for adapting and optimizing online education environments.

There were a couple of challenges faced by educational institutions during the transition to online learning. First, it is important to understand how teachers assess their readiness for e-learning. Second, take measures to improve the quality of e-learning so that students can have better learning experiences during and after the COVID-19 pandemic. Third, investigate the student needs.

From a questionnaire survey, we had a couple of insights:

1. Students will find the system to be more useful and further increase their intention to continue using it if students have a higher level of confirmation of their expectations of the online education system before using it.
2. Their intention to continue learning from online education will decrease if they are sitting still during the learning.
3. Student intention to continue learning online is increased when teachers encourage interaction during online courses and motivate them, a friendly user interface and system availability, familiarity with the software and devices, and the infrastructure and network speed of using online education systems are reliable and adequate.

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1. The document discusses the **forecasting of students' adaptability in online entrepreneurship education using a modified ensemble machine learning model**. It emphasizes the importance of entrepreneurship education in addressing global employment challenges and the need for students to develop entrepreneurial skills. The study examines the use of machine learning techniques such as Random Forest, C5.0, CART, and Artificial Neural Network to predict students' adaptability to online entrepreneurship training. The proposed model aims to assist educators in identifying students who may require additional support and designing targeted interventions to enhance their adaptability and overall learning experience in online entrepreneurship education.

The document highlights the necessity of entrepreneurship education in response to global employment challenges and the need for individuals to develop entrepreneurial skills. The study explores the use of machine learning techniques to predict students' adaptability to online entrepreneurship training, focusing on algorithms such as Random Forest, C5.0, CART, and Artificial Neural Network. The proposed modified ensemble machine learning model aims to provide reliable and efficient predictions of students' adaptability, offering educators insights to identify students requiring additional support and design tailored interventions.

The document provides valuable insights into the significance of entrepreneurship education in addressing global employment challenges and the need for individuals to develop entrepreneurial skills. It discusses the application of machine learning techniques, including Random Forest, C5.0, CART, and Artificial Neural Network, to forecast students' adaptability in online entrepreneurship training. The proposed modified ensemble machine learning model aims to assist educators and administrators in identifying students in need of additional support, tailoring instructional strategies, and designing targeted interventions to enhance their adaptability and overall learning experience in online entrepreneurship education.

Entrepreneurship education plays a crucial role in developing students' skills and mindset by providing them with the necessary tools to create marketable and profitable solutions to emerging problems. This type of education is essential in the global push for value creation, employability skills, and job creation. By engaging in entrepreneurial training, students can enhance their ability to think critically, identify opportunities, create business plans, and implement those plans. Additionally, entrepreneurship education encourages students to adopt an entrepreneurial mindset, fostering skills such as adaptability, innovation, and problem-solving. Through the use of technology, students have greater access to entrepreneurship mentors, colleagues, and training, which further enhances their skills and mindset. Ultimately, entrepreneurship education equips students with the knowledge and capabilities needed to pursue entrepreneurial endeavors and contribute to economic growth and innovation.

The study's findings have several implications for online entrepreneurship education. First, the use of a modified ensemble machine learning model allows for scalability and efficiency in predicting students' adaptability. This means that once the model is trained and fine-tuned, it can be applied to new student data in real-time, providing quick and automated adaptability assessments for a large number of students. Additionally, the model can serve as an early warning system, identifying students at risk of low adaptability before they experience significant difficulties. This allows for timely interventions and support systems to be put in place to prevent academic struggles, disengagement, or dropout.

Furthermore, the insights from the model can inform the design and refinement of online entrepreneurship education curricula. The predictions can highlight areas where the curriculum may need adjustments to better align with students' adaptability needs and improve their overall learning outcomes. By understanding students' adaptability levels, educators and institutions can provide tailored support and guidance to enhance student success in online entrepreneurship education. This can contribute to higher retention rates, improved academic performance, and better overall student satisfaction.

It's important to note that while the modified ensemble machine learning model offers valuable insights and predictions, it should be used as a tool to support decision-making rather than the sole determinant of students' outcomes. Human expertise, contextual understanding, and a holistic approach to education remain crucial in providing comprehensive support to students in online entrepreneurship education.

The modified ensemble machine learning model contributes to forecasting students' adaptability in online entrepreneurship education in several ways. First, it allows educators and institutions to provide tailored support and guidance to enhance student success, leading to higher retention rates, improved academic performance, and better overall student satisfaction. Additionally, the model enables scalability and efficiency in predicting students' adaptability, providing quick and automated adaptability assessments for a large number of students. Furthermore, the model serves as an early warning system, identifying students at risk of low adaptability before they experience significant difficulties, allowing for timely interventions and support systems to be put in place to prevent academic struggles, disengagement, or dropout. The insights from the model can also inform the design and refinement of online entrepreneurship education curricula, highlighting areas where the curriculum may need adjustments to better align with students' adaptability needs and improve their overall learning outcomes. Finally, the model's predictions can be used to evaluate the effectiveness of online entrepreneurship education programs, enabling institutions to make data-driven decisions for program improvement and resource allocation.

The proposed modified ensemble machine learning model has several potential future applications. It can be used for personalized support by identifying students who may struggle with online entrepreneurship education and require additional support. The model's predictions can guide the development of targeted interventions to improve students' adaptability, leading to higher retention rates, improved academic performance, and better overall student satisfaction. Additionally, the model can enhance student success by providing tailored support and guidance, contributing to higher retention rates and improved academic performance. Furthermore, the model's scalability and efficiency allow for quick and automated adaptability assessments for a large number of students, making it suitable for forecasting adaptability in online entrepreneurship education. Lastly, the model's predictions can inform the design and refinement of online entrepreneurship education curricula, highlighting areas where adjustments may be needed to better align with students' adaptability needs and improve their overall learning outcomes.

1. The document **"Adaptability to Online Teaching during Covid-19 Pandemic: A Multiple Mediation Analysis Based on Kolb’s Theory"** explores the challenges faced by teachers worldwide in transitioning to online teaching during the COVID-19 pandemic. The study investigates the direct and indirect effects of emotional intelligence (EI) and general self-efficacy on the adaptability to online teaching (AOT) using a multiple-mediation model. The research, conducted on 330 preschool and primary school teachers, found a positive relationship between AOT and dispositional traits such as EI, general self-efficacy, concrete experience learning mode (CE-LM), and the teacher's facilitator role. The findings highlighted the significant role of emotional intelligence, general self-efficacy, and teaching styles in influencing adaptability to online teaching during the pandemic. The study also proposed a multiple mediation model demonstrating the relationship between AOT, Facilitator Role, CE-LM, EI, and general self-efficacy, providing valuable insights for instructional strategies to improve online teaching quality.

In response to the COVID-19 pandemic, the closure of schools led to a disrupted educational environment for millions of children worldwide. The study focused on the challenges faced by teachers in transitioning to online teaching, particularly in Romania, where three million students shifted to online learning during the pandemic. The research explored the direct and indirect effects of emotional intelligence and general self-efficacy on the adaptability to online teaching. It also investigated the role of the teacher's facilitator role and concrete experience learning mode in influencing adaptability to online teaching.

The study found that emotional intelligence, general self-efficacy, the teacher's facilitator role, and concrete experience learning mode significantly predicted adaptability to online teaching among preschool and primary school teachers. The results highlighted the importance of emotional intelligence and general self-efficacy in promoting adaptability to online teaching, especially during the challenging circumstances imposed by the COVID-19 pandemic. The findings also supported the significance of the teacher's facilitator role and concrete experience learning mode in influencing adaptability to online teaching, providing valuable insights for developing instructional strategies to enhance online teaching quality.

Overall, the research contributes to understanding the factors influencing adaptability to online teaching during the COVID-19 pandemic, offering valuable insights into the role of emotional intelligence, general self-efficacy, and teaching styles in promoting effective online teaching practices. The study's findings provide a foundation for developing instructional strategies to improve the quality of online teaching amidst the challenges brought about by the pandemic and beyond.

The factors that contribute to adaptability to online teaching during the COVID-19 pandemic include teaching roles, learning styles, emotional intelligence (EI), general self-efficacy, and concrete experience learning mode (CE-LM). Teachers' adaptability to online learning is influenced by their capacity to constructively regulate psycho-behavioral functions in response to new, changing, and/or uncertain circumstances, conditions, and situations. Additionally, the teacher's role or style, as defined by experiential learning theory (ELT), plays a significant role in promoting adaptability to online learning. Furthermore, emotional intelligence (EI) and general self-efficacy have been shown to have a positive correlation with adaptability to online teaching. The ability of teachers with increased EI to understand and manage emotions, both in themselves and in others, helps them to constructively regulate their behaviors in response to the new and challenging pandemic online education context. Finally, the concrete experience learning mode (CE-LM) and the teacher's facilitator role have also been identified as significant factors that contribute to adaptability to online teaching during the COVID-19 pandemic. These factors play a crucial role in promoting teachers' capacity to adapt to online teaching and provide innovative design ideas for training activities, even in a remote environment.

Emotional intelligence (EI) and general self-efficacy have a significant impact on teachers' adaptability to online teaching. The study found that teachers with increased emotional intelligence were better able to understand and manage their own emotions, as well as those of others, which helped them regulate their behaviors constructively in response to the new and challenging online education context brought about by the COVID-19 pandemic. Additionally, the study highlighted a positive correlation between general self-efficacy and adaptability to online teaching. Teachers with high general self-efficacy, combined with a preference for the Facilitator role and learning with concrete experience, were found to have a greater ability to adapt to online teaching. These findings suggest that emotional intelligence and general self-efficacy play crucial roles in teachers' adaptability to online teaching, particularly in the context of the COVID-19 pandemic.

The relationship between the teacher's facilitator role and adaptability to online teaching is significant. The study found that the teacher's facilitator role, characterized by warmth, openness to experience, and emphasis on personal relationships and inside-out learning, plays a crucial role in promoting adaptability to online teaching. Teachers who prefer the facilitator role are more likely to be adaptable in online learning, as this role emphasizes creating vivid learning experiences, stimulating curiosity and cognitive engagement, and focusing on the teacher-student relationship and inside-out learning. Additionally, the study highlighted that entering the learning spiral through the role of facilitator ensures the best adaptability to online learning, with the focus being on the learner and the meaning instead of the matter or the action. Therefore, the teacher's facilitator role is a key factor in predicting adaptability to online teaching.

The study findings have significant implications for pedagogical online practice and teacher training. The research highlights that equipping teachers with technological skills alone is insufficient for effective adaptability to online teaching. Instead, the study emphasizes the importance of psychological traits, such as emotional intelligence (EI) and general self-efficacy, as well as the teacher’s Facilitator role and concrete experience learning style (CE-LM) in promoting successful adaptability to online teaching.

The implications for pedagogical online practice suggest that interactive tutorials, online reading journals, personal stories, and discussions with peers and instructors can provide a sense of connection and belonging, even in distance learning. Furthermore, the study emphasizes the importance of training teachers to use concrete experience-learning strategies that can ensure viable solutions for remote teaching.

In terms of teacher training, the findings underscore the need to focus on developing teachers' emotional skills to establish deep interpersonal connections, both physically and online, with students. Additionally, the study suggests that teacher training should emphasize the promotion of emotional intelligence and general self-efficacy, as well as the facilitator role and CE-LM, to enhance adaptability to online teaching. Therefore, teacher training programs should incorporate these psychological traits and teaching styles to better prepare educators for the challenges of online teaching.

Overall, the study findings emphasize the importance of integrating psychological traits and innovative teaching strategies into pedagogical online practice and teacher training to enhance adaptability to online teaching.

1. The document **"Comparison between on- and off-campus behavior and adaptability in online learning: a case from China"** explores the differences in behavior and adaptability of on-campus and off-campus students in online learning. The study aims to improve effective instruction by understanding the differences between these two student groups. The research collected data through questionnaires, posted documents, online logs, interviews, and observations to compare learning time, path of browsing courseware, intercommunication, and adaptability towards online learning.

The study revealed that on-campus and off-campus students exhibited similarities in the rush time of online learning, paths of browsing courseware, and favorite intercommunication means. However, significant differences were observed, such as the preference for real name or alias in online intercommunications, the approach to seeking help, the feeling of learning stress, and the level of activity in online learning. On-campus students were found to be more active, less stressed, and inclined towards interaction with companions, creating a lively and interactive learning community. Conversely, off-campus students exhibited a more solemn climate in online learning, with a higher tendency to seek help from tutors and a reluctance to interact with peers. These findings suggest the need for tailored teaching strategies for on-campus and off-campus students to enhance their online learning experiences.

In conclusion, the study sheds light on the behavioral differences between on-campus and off-campus students in online learning, highlighting the need for customized instructional approaches to accommodate the distinct learning preferences and adaptability of these student groups. The study's insights can inform the design of online learning environments and the management of instructional processes to better support the diverse needs of on-campus and off-campus students in online education.

The document highlights several similarities and differences in online learning behaviors between on-campus and off-campus students. Some of the similarities include the rush time of online learning, paths of browsing courseware, and favorite intercommunication means. However, there are also notable differences, such as the competence of self-learning, enthusiasm of interpersonal exchange, dependence on tutors, and the feeling of learning stress. On-campus students were found to be more active and felt less stress in online learning compared to off-campus students. Additionally, on-campus students were more interested in interaction with companions, while off-campus students were more dependent on tutors and felt more stress in online learning. These differences suggest that tutors need to adopt different teaching strategies for on-campus and off-campus students, such as supervising asynchronous online forums for on-campus students and encouraging off-campus students to interact with companions and cultivate self-learning competence.

1. The document **"Students' Adaptability Level Prediction in Online Education using Machine Learning Approaches**" presents a study conducted by researchers from Daffodil International University and Bangabandhu Sheikh Mujibur Rahman University, Kishoreganj, focusing on predicting students' adaptability to online education in the context of Bangladesh. The main motivation behind this work is to contribute to the understanding of the effectiveness and challenges of online education, particularly in the wake of the COVID-19 pandemic. The study involved the collection of students' information from different educational levels through both online and physical surveys, covering socio-demographic factors and the effectiveness of online education. The researchers applied several machine learning algorithms, including Decision Tree, Random Forest, Naive Bayes, Support Vector Machine (SVM), K-Nearest Neighbors (KNN), and Artificial Neural Network (ANN), to predict the adaptability level of students to online education. Among these algorithms, the Random Forest classifier achieved the highest accuracy of 89.63% and outperformed the other algorithms.

The document begins with an introduction highlighting the significance of online education, particularly in the context of the COVID-19 pandemic, and the challenges faced by students when transitioning to online education. The researchers aimed to bridge the gap between online and physical classroom-based education in Bangladesh and analyzed the moderating effects of various factors such as gender, age, location, internet connection quality, and institution type on students' adaptability to online education. The study also revealed that 51.87% of students adapted properly to online classes, while 39.83% found it challenging. The document further presents a literature review of existing works related to online education, emphasizing the potential benefits and challenges of online education and the impact of the COVID-19 pandemic on global education systems.

The methodology section outlines the data collection process, data preprocessing, and the different machine learning models used for prediction and analysis. The authors collected data from a nationwide survey and preprocessed the data to convert string attribute values into numeric values. They then applied various machine learning algorithms, including Decision Tree, Random Forest, Naive Bayes, SVM, KNN, and ANN, to predict students' adaptability to online education. The section concludes with a detailed performance evaluation and analysis of the applied models, revealing that the Random Forest classifier achieved the highest prediction accuracy of 89.63% and outperformed the other models.

In conclusion, the study provides valuable insights into the adaptability of students to online education in the context of Bangladesh, and the authors recommend the Random Forest model as the most effective for predicting students' adaptability levels. The study's findings could be beneficial for educational institutions and decision-makers in understanding the challenges and effectiveness of online education, particularly in the context of the COVID-19 pandemic. The document also outlines potential future research directions, such as exploring the impact of socio-demographic factors on students' mental health in the context of online education.

Overall, the document offers a comprehensive analysis of the challenges and effectiveness of online education in Bangladesh and provides valuable insights into predicting students' adaptability levels using machine learning approaches.

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1. The document discusses a study that compares predictive machine learning models to predict the level of adaptability of students in online education. With the sudden shift to online education due to the COVID-19 pandemic, predicting student adaptability has become crucial. The study uses machine learning models such as Random Forest (RF), K-Nearest-Neighbor (KNN), Support Vector Machine (SVM), Logistic Regression (LR), and XGBClassifier (XGB) to predict students' adaptability. The dataset used consists of 1205 high school to college students, and various stages of data analysis, including data understanding and cleaning, exploratory analysis, training, testing, and validation, were performed. The results show that the RF and XGB models outperformed the other models, achieving an accuracy rate of 92%, suggesting their higher prediction efficiency. The study also highlights the importance of variables such as economic condition, age, duration of sessions, and network type in predicting student adaptability.

In recent years, online education has experienced significant growth, particularly due to the COVID-19 pandemic. As a response, various machine learning models were utilized to predict the adaptability of students in online education. The Random Forest (RF) and XGBClassifier (XGB) models emerged as the top performers, achieving an accuracy rate of 92%. Additionally, the study identified important variables such as economic condition, age, and network type that significantly influence student adaptability. The document also emphasizes the relevance of machine learning techniques in predicting adaptability levels and their potential to improve the effectiveness of online education programs. Overall, the study underscores the significance of predictive modeling in understanding and addressing the challenges associated with online education, particularly in the context of student adaptability.

The study's findings suggest that machine learning models such as RF and XGB are effective in predicting students' adaptability in online education. The variables identified in the study provide valuable insights into the factors influencing student adaptability. The document also emphasizes the potential of machine learning techniques to improve the quality and accessibility of online education. Overall, the study's results contribute to the understanding of student adaptability in online education and highlight the relevance of predictive modeling in addressing challenges related to the shift to online learning.