**Methodical recommendation of laboratory/practical works**

Includes primary source documents. Lessons are built around the way students learn today – video first, reinforced by content and assessment. Designing lessons around the way students learn today, with a focus on video as the primary mode of content delivery, reinforced by supplementary content and assessments, is a modern and effective approach to education. This methodology aligns with the preferences and learning styles of many contemporary students. Here's a breakdown of this approach: Videos can engage students by providing a dynamic and visual way to present information. They cater to the visual and auditory learners, making it easier for them to grasp complex concepts. Educational videos can vary in format, from lecture-style presentations to animations, simulations, and documentaries, offering versatility in how information is presented.

Designing lessons around the way students learn today, with a focus on video as the primary mode of content delivery, reinforced by supplementary content and assessments, is a modern and effective approach to education. This methodology aligns with the preferences and learning styles of many contemporary students. Here's a breakdown of this approach:

Engaging Visual and Auditory Learning: Videos are an excellent tool for engaging students because they provide a dynamic and visual way to present information. Visual and auditory learners, in particular, benefit from this approach as it caters to their preferred learning styles. They can see and hear the information, which can make it easier for them to grasp complex concepts.

Versatility in Content Delivery: Educational videos can vary in format. They can range from lecture-style presentations to animations, simulations, and documentaries. This versatility allows educators to choose the most appropriate format for the subject matter and learning objectives. For example, complex scientific concepts might be best explained through animations or simulations, while historical events can come to life through documentaries.

Accessibility and Convenience: Videos can be accessed anytime and anywhere, making learning more convenient for students. They can watch lectures or tutorials on their own schedules, which is especially important for learners who have busy lives or work commitments.

Enhanced Engagement and Retention: Well-designed educational videos can capture students' attention and maintain their interest throughout a lesson. This engagement can lead to better retention of information, as students are more likely to remember content that they find interesting and engaging.

Supplementary Content: While videos are a powerful primary mode of content delivery, they can be complemented with additional resources. These might include written materials, quizzes, interactive exercises, or discussion forums. These supplementary materials can help reinforce the key concepts presented in the videos and provide opportunities for active learning and assessment.

Assessments: Assessments are a crucial component of the learning process. Videos can be followed by quizzes, assignments, or discussions to gauge students' understanding and measure their progress. Online assessment tools can provide instant feedback, allowing both students and instructors to track performance and address any misconceptions or areas of weakness.

In summary, designing lessons around the video-first approach, supplemented with additional content and assessments, aligns with the modern learning preferences and styles of many students. It offers engagement, flexibility, and the ability to cater to diverse learning needs, ultimately enhancing the effectiveness of education in today's digital age.

15 lessons with curated and sequenced activities

Lesson 1: Introduction to the Subject Overview of the subject's importance and relevance Discussion on the course objectives and expectations Icebreaker activity to engage students

Lesson 2: Historical Context Exploration of the subject's historical roots and development Primary source analysis or historical timeline activity

Lesson 3: Key Theoretical Frameworks Introduction to the major theories and concepts in the subject Discussion or debate on contrasting theories

Lesson 4: Research Methods and Skills Introduction to research methods and tools specific to the subject Hands-on research activity or library resource exploration

Lesson 5: Contemporary Issues and Debates Analysis of current issues or debates within the subject Group discussion or presentation on a contemporary topic

Lesson 6: Case Studies In-depth examination of relevant case studies or examples Small group analysis and presentation of case studies

Lesson 7: Guest Speaker or Field Trip Inviting an expert or organizing a field trip related to the subject Q&A session or reflection on the experience

Lesson 8: Student Presentations Students present on a topic of their choice within the subject Peer evaluation and feedback

Lesson 9: Ethical Considerations Discussion on ethical dilemmas within the subject Ethical debate or case study analysis

Lesson 10: Interdisciplinary Connections Exploring how the subject intersects with other disciplines Group project involving multiple disciplines

Lesson 11: Research Proposal Development Guiding students in developing a research proposal related to the subject Peer review and revision of proposals

Lesson 12: Group Projects Formation of small groups to work on subject-related projects Milestone check-ins and project presentations

Lesson 13: Exam Preparation Review session and exam practice Sample exam questions and peer review

Lesson 14: Assessment and Feedback Discussion on the importance of assessment and feedback Peer assessment or self-assessment activity

Lesson 15: Future Trends and Career Opportunities Exploration of emerging trends in the subject Discussion of potential career paths and opportunities

Each lesson should include a variety of activities such as lectures, group discussions, hands-on exercises, presentations, and assessments (quizzes, essays, projects) to engage students and reinforce their understanding of the subject matter. It's important to adapt these lessons to the specific subject you're teaching, ensuring that the content and activities align with the subject's goals and requirements.

Each lesson contains introductory video, textbook readings from OpenStax, one discussion-board, one in-class presentation and one quiz

Introductory Video: This is a video that provides an overview of the lesson's topic. It can be used to introduce key concepts, set the stage for learning, and grab students' attention.

Textbook Readings from OpenStax: OpenStax is an open educational resource that provides free online textbooks. The readings from OpenStax are likely the primary source of the course material. Students are expected to read these sections to gain a deeper understanding of the topic.

Discussion Board: A discussion board is a platform for online discussions among students. It's a place for them to share their thoughts, ask questions, and engage in conversations related to the lesson's content. This fosters interaction and peer learning.

In-Class Presentation: This could be a presentation given by the instructor or a student. It's a way to delve deeper into specific topics within the lesson, provide additional context, and possibly offer real-world examples or applications.

Quiz: A quiz is an assessment tool used to evaluate students' understanding of the material covered in the lesson. It typically includes ques

Students can take notes and message classmates right in the application Web-based and accessible through our iPad app

To implement the feature of students taking notes and messaging classmates directly within a web-based application accessible through an iPad app, you will need to consider a combination of web and mobile app development. Here's a step-by-step guide on how to go about it:

Design and User Experience: Start with designing the user interface for both the web-based version and the iPad app to ensure a consistent and user-friendly experience.

Web-Based Application: Develop the web-based application using web technologies like HTML, CSS, and JavaScript. Implement the note-taking feature with a text editor, rich media support, and organizational tools. Create a messaging feature that allows direct messaging and group chats. Ensure that the web application is responsive, making it accessible on both desktop and mobile browsers.

iPad App Development: Develop the iPad app using iOS app development tools, such as Swift and X code. Ensure that the app is optimized for iPad screens, taking advantage of the larger display.

Synchronization: Implement a synchronization mechanism to keep notes and messages updated across both the web and iPad versions of the application.

User Accounts and Authentication: Implement a user account system that allows students to log in and access their notes and messages. Ensure secure authentication and user data protection.

Data Storage: Set up a secure and scalable database to store user notes, messages, and related data.

Real-Time Messaging: Use technologies like Web Sockets or a real-time database to enable instant messaging between classmates in both the web and iPad app.

File Handling: Allow file uploads and sharing within messages, ensuring compatibility with various file types.

Push Notifications: Enable push notifications for the iPad app to alert users to new messages and updates.

Accessibility: Ensure that both the web-based application and the iPad app are accessible to all users, including those with disabilities.

Testing: Thoroughly test the application on various devices, browsers, and iPad versions to ensure compatibility and functionality.

App Store Submission: Prepare and submit the iPad app to the Apple App Store, following their guidelines and requirements.

User Support and Training: Provide users with resources and support to help them make the most of the note-taking and messaging features.

Privacy and Security: Regularly update and maintain the application to address security concerns and protect user data.

Feedback and Updates: Incorporate user feedback to improve the application continuously. Release updates with new features and bug fixes.

Professor grade book and student engagement reports Student notifications about upcoming quizzes. All-in-one design means no pop-ups, plug-ins, installing components or extra windows

1. Web-Based Application: Build a web-based application accessible through a standard web browser. This eliminates the need for users to install anything extra.

2. User Authentication: Implement a secure user authentication system for both professors and students. Use HTTPS to ensure data security.

3. Dashboard: Provide a dashboard as the main interface for both professors and students after login.

4. Professor Features: Grade Book: Professors can input, edit, and view student grades for various assignments and exams. Calculate overall course grades based on different weightage criteria. Student Engagement Reports: Create visual reports that display students' engagement metrics, such as attendance, participation, and online activity. Use charts and graphs to make data more understandable. Quiz Notifications: Professors can schedule quizzes within the system. Provide options for setting notifications, such as email reminders, for students about upcoming quizzes.

5. Student Features: Grade Viewer: Students can view their individual grades for assignments, exams, and overall course performance. Engagement Metrics: Display their engagement metrics in an easy-to-understand format. Quiz Notifications: Students receive notifications about upcoming quizzes through the system.

6. Communication: Implement an in-app messaging system or email integration for professors and students to communicate regarding grades, engagement, and quizzes. This avoids the need for pop-ups.

7. Real-Time Updates: Ensure that all data, including grades, engagement reports, and notifications, are updated in real-time without requiring manual refreshes.

8. Mobile Responsiveness: Make the application responsive so that it can be accessed on various devices, including smartphones and tablets.

9. Accessibility and User-Friendly Design: Ensure that the design is user-friendly and complies with accessibility standards to accommodate all users.

10. Data Security and Privacy: - Implement robust security measures to protect user data and ensure privacy compliance.

11. Scalability: - Design the system to handle a growing number of users and data over time.

12. Testing and Feedback: - Thoroughly test the system with professors and students to gather feedback and make improvements based on their needs.

13. Documentation and Training: - Provide user manuals and training resources to help professors and students make the most of the system.

By following these steps and using modern web development technologies, you can create an all-in-one solution for professors and students that is accessible, user-friendly, and doesn't rely on pop-ups, plug-ins, or additional installations.

Instructor resources are incorporated into the instructors course- no need for CD’s, DVD’s or downloads

To incorporate instructor resources into an online course without the need for physical media like CDs or DVDs and avoiding downloads, you can use a cloud-based learning management system (LMS) or an online platform specifically designed for educational content. Here's how you can achieve this:

Choose a Cloud-Based LMS or Platform: Select a modern LMS or educational platform that operates entirely in the cloud. Examples include Moodle, Canvas, Blackboard, Google Classroom, or a proprietary solution.

Digital Content Storage: Upload all instructor resources, such as documents, presentations, videos, and other materials, to the cloud-based platform. Store them securely on the platform's servers.

Access Control: Implement access control mechanisms within the platform. Instructors should be able to control who has access to their course materials. You can set up different user roles, such as instructors and students.

Incorporate Resources within Courses: Within the platform, create or configure courses for instructors. Inside each course, you can add various types of content: Documents and Files: Upload PDFs, Word documents, PowerPoint presentations, and other relevant files directly into the course. Videos: Embed videos or link to video hosting platforms like YouTube or Vimeo. Interactive Content: Use built-in tools or integrate third-party educational tools for interactive content like quizzes and assignments.

Stream or Embed Videos: Instead of requiring downloads, you can use video streaming within the platform. Many platforms support video streaming, so students can watch videos directly without needing to download them.

Web-Based Viewing for Documents: Utilize web-based document viewers or built-in document viewing tools to allow students to view documents directly within the platform without the need for downloads.

Notification System: Implement a notification system within the platform to alert instructors and students about updates, announcements, and changes to course materials.

Mobile Accessibility: Ensure that the platform is accessible via mobile devices, so students and instructors can access resources on smartphones and tablets without the need for downloads.

Backup and Data Security: Ensure robust backup and data security measures to protect the stored content. This includes regular backups and encryption.

User Training and Support: Provide training and support for instructors and students to effectively use the platform and access resources.

Regular Updates and Maintenance: Keep the platform updated with the latest features and security patches to provide a smooth experience.

Compliance and Accessibility: Ensure that the platform complies with relevant accessibility standards and regulations to accommodate all users, including those with disabilities.