

Active and Interactive Learning Online

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Abstract:

Education involves facilitating learning and the acquisition of knowledge, skills, values, morals, beliefs, habits, and personal development. Its origins can be traced back to the transmission of cultural heritage from one generation to the next. In contemporary times, educational objectives have expanded to include concepts like the liberation of learners, critical examination of presented information, the cultivation of skills relevant to modern society, empathy, and the development of complex vocational skills.

A consensus exists on the purposeful nature of education, with a focus on achieving specific aims, particularly the transmission of knowledge. Various movements advocate for educational reforms, aiming to enhance the quality and efficiency of education, ensuring its relevance in students' lives and its efficacy in addressing contemporary and future societal challenges. Additionally, there are calls for evidence-based educational methodologies to guide instructional practices. A few strategies and tools have also been proposed to you to help you design tasks and activities that aim for this type of learning. This chapter will provide five basic rules to follow while teaching -to Investigate, to Contemplate, to Collaborate, to Create, and to Communicate

Keywords: Learning, Education, Technology, Skill Development, Adaptive

Introduction:

Lifelong learning refers to the pursuit of knowledge throughout ones life, driven by motivation rather, than obligation. It encompasses a mindset and educational approach that goes beyond schooling and underscores the significance of learning and skill development in multiple domains. The concept of learning acknowledges that our world is ever changing necessitating individuals to adapt and acquire knowledge and abilities to remain relevant and competitive. This can involve education like attending courses or obtaining degrees as well as informal learning through experiences self-directed study, online resources and other avenues. In our evolving society where technology and information continue to advance at a pace engaging in lifelong learning is increasingly crucial, for personal growth, career progression and overall adaptability.

Active and Interactive Learning Online is proposed to explore an easy checklist for designers to make sure we keep our focus on what students are doing rather than what teachers are doing. We all prefer to learn by doing, being active and even interacting with others. Active and Interactive Learning is based on the fundamental principle that all of us learn best by doing. This is the framework for designing learning that we propose you follow as you reflect on the design of your online teaching and learning. It has five practical checklist that are:

Investigate: Be always mindful not to start spoon-feeding your students with content but rather give them opportunities to find and locate information and resources--and also able to evaluate them.

Contemplate: Learning is not just about finding content from the internet or other sources but also make the learners think about what the content that they have found means

Create and Communicate: Learning today is no longer limited to collecting the content, but requires the active use of learning. Hence Create and Communicate will guide our students to use what they have learned and they learn more. Application of what they learn is very important.

Collaborate: Finally, online learning need not be a solitary activity. Providing learners with opportunities to work with a team, and producing something together can be a powerful learning experience.

Technology, with its diverse tools, provides an opportunity to create learning environments that facilitate active and interactive engagement, often surpassing the limitations of traditional face-to-face classrooms. A well-crafted course design can empower students to learn through hands-on experiences and benefit from collaborative learning with their

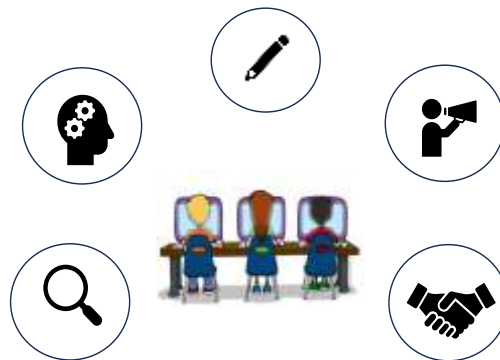


Figure 1: Five checklists of Active Learning Online

peers. In contrast to the common passive role of students in traditional in-person settings, characterized by one-way teaching methods, effective online learning experiences can be designed to match the rigor, relevance, and personalized attention found in physical classrooms.

Successful online learning experiences can rival in-person learning in terms of effectiveness. Achieving this involves meticulous planning and the incorporation of strategies that foster engagement and collaboration among students.

For instance, online discussions often see higher levels of participation compared to traditional recitations, where extroverts typically dominate. Additionally, it has been noted that students in online settings are more inclined to share deeply and personally, surprising some instructional designers, who observe a contrast to in-person classroom dynamics. Therefore, leveraging technology in thoughtful ways can not only replicate but enhance the quality of learning experiences, promoting active participation, and fostering meaningful interactions in the virtual realm.

Remote teaching is predominantly centered around delivering real-time online lectures, often supplemented by the options of posting content online and facilitating Q&A sessions or live discussions among students. The utilization of pre-recorded lectures for student access is also considered a form of "remote teaching."

Nevertheless, challenges arise, particularly in synchronous sessions, regarding issues of access and learner engagement. It is essential to acknowledge that remote teaching may not always be the optimal solution for the given situation. Education online, should be done based on an assessment of the nature of the course and the needs of the learners rather than based on the teacher's limitations. In short, do not teach remotely or simply send assignments to your students because you do not know what else to do!

Asynchronous sessions are generally proposed as the default in online learning, with strategically designed and scheduled synchronous sessions offered for special reasons—e.g., real-time case discussions. In general, asynchronous sessions seem to have better chances at engaging the learners and promoting deeper reflection and learning (Hrastinski, 2008).

To understand active and interactive learning, we need to shift our focus from what the teacher does to what the learners are doing. Here is a quick checklist of the things we can design for learners to do so that they will experience active and interactive learning.

The 5 checklists can guide us in making our decisions on the kind of online learning experiences that we can offer our students. What online tasks and activities can we design so that our students will connect and engage deeply with content and with one another?

Investigate:

When tasked with the directive to investigate, learners go beyond passive reception and assimilation of content. Instead, they proactively seek out and assess information on their own. It is conceivable that students stand to gain a deeper understanding when presented with a question to answer or a problem to solve, as opposed to being passively fed information. Whether through a live or recorded online lecture, the emphasis shifts from mere content reception to active research, evaluation, and, with the guidance of the teacher, the discovery of correct information.

Granting students, the opportunity to engage in investigation fosters a more active role in constructing their comprehension of the content. This stands in stark contrast to scenarios where students are merely waiting for information to be handed to them, be it on a silver platter or in the form of PowerPoint slides.

For example: In a math class, the teacher restrains himself from right away introducing a concept like formulae, students are instead first given a case that they analyze and try to solve, in the process, wrestling with the variables before the proper concept is introduced.

To design investigate tasks and activities, consider the following questions:

- Prior to displaying a slide or a series of bullet points, what inquiries can I pose to initiate a discussion on the corresponding content?
- Under what circumstances can students leverage their existing knowledge and experiences to uncover the information I intend for them to grasp?
- What tasks can I assign to students to actively practice and apply the skill I aim to impart?

Exploring methods for students to investigate beyond content learning involves encouraging a range of active and engaging approaches. Here are some strategies:

Investigate Strategies:

- **Project-Based Learning (PBL):** Assign projects that require students to delve into real-world problems, conduct research, and present their findings. PBL promotes critical thinking, problem-solving, and collaboration.
- **Case Studies:** Present real or hypothetical scenarios for students to analyse. Case studies allow them to apply theoretical knowledge to practical situations, fostering a deeper understanding of the subject matter.
- **Simulations and Role-Playing:** Use simulations or role-playing exercises that mimic authentic situations. This approach allows students to immerse themselves in the learning experience, applying concepts in a dynamic and interactive way.
- **Debates and Discussions:** Organize debates or discussions on controversial or complex topics. This encourages students to explore different perspectives, defend their opinions, and engage in constructive dialogue.
- **Interviews and Surveys:** Encourage students to conduct interviews or surveys to gather firsthand information. This not only builds research skills but also allows them to connect with real people and experiences.
- **Problem-Solving Scenarios:** Present students with challenging problems or scenarios that require creative thinking and problem-solving. This helps them develop analytical skills and resilience in addressing complex issues.
- **Collaborative Research Projects:** Foster collaboration by assigning group research projects. Working together allows students to benefit from diverse perspectives and share the workload.

- **Guest Speakers:** Invite industry experts or professionals to speak to the class. This exposes students to real-world applications of the subject matter and provides valuable insights from practitioners.
- **Self-Directed Learning:** Encourage students to pursue independent research based on their interests. This allows them to take ownership of their learning and explore topics beyond the curriculum.

By incorporating these methods, educators can inspire students to go beyond rote content learning and actively engage in investigations that develop critical thinking, problem-solving, and practical application of knowledge.

Investigate Tools and Platforms

Here are a few tools/platforms that you may want to use in designing investigate tasks and activities. Explore one or a few of them, or do a quick search about how these have been used in online classrooms:

Table 1 : Investigate Tools & Platforms

Links / Platforms	Tools & Purpose
https://www.scoop.it	Scoop.it (Content Curation Tool)
https://www.zotero.org	Zotero (Research Management Software)
https://explorabl.es	Simulations (for other disciplines)
http://phet.colorado.edu https://www.desmos.com	Math and Science (Simulations)
https://www.gapminder.org	Interactive graphs (for world data)
Wiki pages on Canvas docs.google.com sites.google.com	Wiki pages (pages where students can contribute)

Contemplate:

To contemplate means to engage in deep thought, reflection, or meditation with the intention of gaining a deeper understanding or insight into a particular subject or concept. It involves thoughtful consideration, examination, and introspection to make connections, derive meaning, and foster a more profound comprehension of the matter at hand. Contemplation often implies a deliberate and focused mental activity aimed at exploring the significance or implications of ideas, experiences, or information.

Participating in a contemplative task or activity empowers learners to forge connections and derive significance, thereby enriching their comprehension. Thoughtfully crafted questions and prompts play a pivotal role in eliciting reflection and fostering meaningful discussions. To design contemplate tasks and activities, consider the following questions

Contemplate Strategies: Designing contemplative tasks and activities for online learning involves leveraging digital tools and platforms to promote reflection and deep understanding. Here are some ideas:

- **Virtual Mindfulness Sessions:** Introduce brief mindfulness or meditation sessions using online platforms. Recommend apps or websites that guide students through short contemplative exercises to help them center their thoughts.

- **Challenge current understanding:** Ask relevant questions to understand the current knowledge of the students on the specific topic.
- **Discussion Forums for Reflection:** Create dedicated discussion forums where students can share reflections on course material. Pose open-ended questions related to the content and encourage thoughtful responses and peer interactions.
- **Digital Journaling Platforms:** Utilize online journaling platforms or blogs where students can regularly post reflections on assigned topics. Provide prompts that encourage them to connect course concepts with personal experiences.
- **Interactive Concept Maps:** Assign students to create digital concept maps using tools like Mind Meister or Coggle. Ask them to visually represent connections between various concepts and reflect on the relationships.
- **Online Book Club Discussions:** Implement an online book club format where students read relevant literature and engage in virtual discussions. This can be facilitated through video conferencing or asynchronous discussion boards.
- **Podcast Reflections:** Assign podcasts related to the course content and ask students to reflect on key ideas. They can create their own brief podcast reflections or participate in online discussions about the episodes.
- **Digital Artistic Expression:** Encourage students to use digital tools for artistic expression. They can create digital art, infographics, or multimedia presentations that represent their contemplation of specific course topics.
- **Digital Storytelling:** Have students create digital stories or narratives using tools like Adobe Spark or Story Jumper. This allows them to weave personal experiences and reflections into the course content.
- **Online Peer Review Reflections:** Incorporate reflective elements into online peer review activities. After reviewing a peer's work, students can provide reflective feedback on the learning gained from the review process.
- **Virtual Nature Walk Reflections:** Suggest virtual nature walks through online videos or 360-degree experiences. Ask students to reflect on the calming aspects of nature and relate these reflections to the course material.
- **Digital Reflective Essays:** Assign reflective essays using word processing tools. Students can delve into their thoughts, experiences, and connections to course concepts, providing a written reflection shared electronically.
- **Online Ethical Dilemma Discussions:** Utilize online discussion platforms for exploring ethical dilemmas. Present scenarios and ask students to engage in virtual discussions, reflecting on the ethical implications of various decisions. When designing contemplative tasks, consider the nature of the subject matter and the learning objectives

Contemplate Tools and Platforms

Explore two or three of the following tools and platforms that you can use in designing contemplate tasks and activities:

Table 2: Contemplate Tools & Platforms

Links / Platforms	Tools & Purpose
www.mentimeter.com	Mentimeter (for Polls and Quizzes)
www.voicethread.com	Voice thread (for Voice-based Discussions)
Setting up a discussion forum on Canvas	Discussion Forum (for Text based Discussions)

www.flipgrid.com	Flipgrid (for Video-based Discussions)
www.kahoot.com , https://quizizz.com/ / www.quizlet.com	Platforms for Quizzes
www.moodle.com	Moodle, Canvas, Blackboard, or dedicated discussion board tools.
https://www.kialo.com/	Kialo -Oline Debates
www.popplet.com , www.mindomo.com https://www.lucidchart.com , www.MindMeister.com	Mind mapping tools (can be collaborative)
StoryJumper, Book Creator, or Adobe Spark.	Digital Storytelling Tools
Padlet, Flipgrid, or Google Jamboard.	Ethical Dilemma Discussion Platforms

Create:

When we design a task or activity involving creation for our students, we offer them an opportunity not only to apply their acquired knowledge in real-world situations but also to enjoy the satisfaction of generating tangible outcomes or delivering actual performances. Participating in creative tasks becomes a avenue for enriched learning and a deeper understanding of the subject matter in practical applications. Tasks and activities involving creation differ across subject areas, so it is essential for you to consider what would be meaningful to generate within your specific discipline.

To design create tasks and activities, consider the following questions:

- What are the essential competences that your students are expected to acquire from your course?
- What should my students be able to do because of these competences?
- How do specialists or practitioners in the discipline demonstrate their competences and apply them?
- What situations and challenges do specialists or practitioners in the discipline face when they apply these competences?
- What decisions will my students be better able to make because of what they have learned?

The creation of tasks and activities for students entails devising experiences that promote active engagement, critical thinking, and the application of knowledge. Here are various types of creation-focused tasks and activities that educators can integrate into their teaching strategies:

Create Strategies:

- **Creative Writing Assignments:** Encourage students to express their understanding through creative writing. This could involve writing stories, poems, or essays that explore and apply the concepts learned.
- **Artistic Expression:** Integrate art projects into the curriculum. Students can create visual representations, paintings, sculptures, or digital art related to the course content.

- **Simulation Games:** Use simulation games to immerse students in real-world scenarios. This could involve business simulations, historical reenactments, or virtual labs in science courses.
- **Coding and Programming Tasks:** Introduce coding and programming assignments that allow students to apply computational thinking and problem-solving skills to create software or interactive applications.
- **Digital Media Production:** Have students create podcasts, videos, or multimedia presentations that communicate their understanding of a topic. This enhances communication skills while applying knowledge.
- **Scientific Experiments:** In science courses, design experiments where students can apply the scientific method to explore hypotheses and draw conclusions based on their observations.
- **Interactive Quizzes or Games:** Create interactive quizzes or educational games that challenge students to apply their knowledge in a gamified setting. This can enhance retention and engagement.
- **Real-world Problem Solving:** Present students with real-world problems relevant to the course content. Challenge them to propose solutions, consider implications, and present their findings.
- **Innovative Design Challenges:** Pose design challenges that encourage students to think creatively and apply their knowledge to devise innovative solutions. This is particularly effective in engineering and design courses.
- **Entrepreneurship Projects:** Task students with developing a business plan, including product development, market research, and financial projections. This simulates real-world entrepreneurial experiences.
- **Performance Tasks:** Incorporate performance-based assessments where students showcase their skills through demonstrations, speeches, or role-playing exercises.
- **Portfolio Development:** Have students create portfolios showcasing their best work and reflections on their learning journey throughout the course.
- **Service-Learning Projects:** Integrate service-learning opportunities where students apply their knowledge and skills to address community needs or contribute to a social cause.
- Create tasks and activities empower students to go beyond rote memorization, promoting a deeper understanding of the subject matter through active application and hands-on experiences. To enable our students to create, we can use technology that helps them to produce documents or actual but digital artifacts.

Create Tools and Platforms:

Take time to explore few of the following tools and platforms to learn how you might be able to use them in getting your students to create for online learning.

Table 3: Create Tools & Platforms

Links / Platforms	Tools & Purpose
https://classroom.google.com/	Setting up an assignment on Canvas or Google Classrooms or on your LMS
https://www.screencastify.com/	Screencastify (Screen Recording Tool)
https://jamboard.google.com/	Jamboard (for Brainstorming and Documenting Ideas)
slides.google.com	Google Slides (for creating presentations that can be embedded in your course)

www.canva.com	Canva (for creating posters and infographics)
https://www.figma.com/	Figma (a Collaborative Graphic Design Tool)
https://scratch.mit.edu/	Scratch (for creating games and interactive)

Communicate:

The best way to learn is to teach. As teachers ourselves, we will probably agree! No one has mastered our lectures the way we have, if only because we have been delivering them! We could call this learning by teaching. When we are asked to explain something, it helps us better understand whatever it is we are explaining. Not only do we need to retrieve what we have learned, but we also must find a way of articulating it in a way that is understandable not just to ourselves, but also to others. It, therefore, makes a lot of sense for us to consider incorporating communicate tasks and activities into our online courses because they are such an effective means to learning.

Let us also not forget that communication is valuable in any discipline! When we ask students to communicate what they have learned, they need not only "know their stuff," but just as importantly, to be mindful of their purpose and audience so that they can customize their medium to fit not only their message, but their audience as well.

The very act of communicating what they have learned—in whatever form—provides the opportunity for immediate actionable feedback. If their audience expresses difficulty in understanding them, they will need to adjust and revise what they are saying to address this problem. Here are some design questions to keep in mind in crafting a Communicate task/activity:

- Who would be a possible intended audience for this task/activity?
- What would be the purpose of the communication for the said audience?
- What might be the best medium or genre for this communication?

Communicate Strategies:

- **Define Your Objectives:** Clearly outline the goals of your online communication. Whether it's to inform, persuade, or engage, knowing your objectives will guide your strategy.
- **Know Your Audience:** Understand your target audience's preferences, behaviors, and communicate channels. Tailor your message to resonate with their interests and needs.
- **Choose the Right Platforms:** Identify the most effective online platforms for reaching your audience. Different platforms serve different purposes, so choose those that align with your goals and where your audience is most active.
- **Engagement and Interaction:** Foster engagement through interactive content, polls, discussions, and responding promptly to comments and messages. Encourage two-way communication to build a community around your brand or message.
- **Content Relevance:** Create valuable and relevant content. Tailor your message to address your audience's needs, concerns, or interests. This will help establish your credibility and authority.
- **Visual Appeal:** Use visually appealing elements such as images, infographics, and videos. Visual content tends to grab attention more effectively than text alone.

- **Mobile-Friendly Design:** Ensure that your content is accessible and looks good on various devices, especially mobile phones. Many people access online content through mobile devices, and a responsive design is crucial.
- **Data Analytics:** Use analytics tools to track the performance of your online communication efforts. Monitor metrics such as engagement, reach, and conversion rates to understand what works and adjust your strategy accordingly.
- **Crisis Communication Plan:** Develop a plan for handling potential crises. Be prepared to respond quickly and transparently to address any negative feedback or situations.

Legal and Ethical Considerations: Ensure that your online communication adheres to legal and ethical standards. Respect user privacy, comply with regulations, and maintain transparency in your communication.

Remember that flexibility is key in the online environment. Regularly evaluate and refine your communication strategy based on feedback and evolving trends to stay effective in reaching your audience.

Communicate Tools and Platforms:

For Communication tasks and activities, technology provides a number of platforms that allow you to connect students with a live audience.

Table 4: Communication Tools and Platforms

Links / Platforms	Tools & Purpose
www.wordpress.com www.medium.com	Wordpress or Medium – for publishing articles/blogs
www.youtube.com www.vimeo.com	Youtube or Vimeo – for publishing videos
https://www.educatemagis.org/	Educate Magis (to connect to other classrooms)

Collaborate:

Emphasizing the paramount importance of equipping students with collaborative skills cannot be overstated. It is essential for them not only to effectively work in groups, ensuring task completion, but also to do so harmoniously, preventing potential conflicts.

Collaboration consistently features in numerous compilations of what are often referred to as "essential 21st-century skills." Engaging in collaborative work fosters vital life skills such as negotiation and cooperative decision-making. Providing students with opportunities to collaborate is our way of instilling these skills.

Beyond preparing them for the 21st century, collaborative learning enables students to glean insights from their peers. Through discussions and interactions, they assist one another in clarifying their understanding of the subject matter, contributing collectively to tasks such as discussions, group papers, or actual projects.

Collaborate Strategies:

Here are a few questions to guide you in designing possible collaborate tasks and activities for your students:

- What constitutes a meaningful objective or inquiry for the collective effort?
- How can we determine the ideal group size to foster optimal interaction and learning?
- What roles will each member undertake within the group, and how can we guarantee meaningful and substantial contributions toward the common goal?
- What shared expectations can group members establish and include in a social contract, forming the foundation for a Group Work Rubric for collective use?

Collaborative activities bring together students from diverse backgrounds, fostering a rich exchange of perspectives and ideas. This diversity enhances the learning environment and exposes students to different viewpoints. Working with peers allows students to engage in discussions, share insights, and clarify concepts. This interactive process often leads to a deeper understanding of the subject matter and improved learning outcomes.

Collaborate Strategies:

- **Clearly Defined Goals:** Clearly outline the goals of the collaboration to provide a shared understanding of the objectives. This clarity helps in aligning efforts toward a common purpose.
- **Choose Appropriate Collaboration Tools:** Select online collaboration tools that suit the needs of the group. Platforms like Microsoft Teams, Slack, or Google Workspace offer features like document sharing, real-time editing, and communication channels.
- **Establish Communication Norms:** Set expectations for communication frequency, channels, and response times. Clear communication norms help prevent misunderstandings and ensure everyone stays informed.
- **Virtual Meetings and Video Conferencing:** Schedule regular virtual meetings using video conferencing tools. Face-to-face interactions, even if virtual, enhance communication and foster a sense of connection among team members.
- **Define Roles and Responsibilities:** Clearly define the roles and responsibilities of each team member. This ensures that everyone knows their tasks, minimizes confusion, and promotes accountability.
- **Encourage Active Participation:** Foster an environment where all team members actively contribute. Encourage participation through discussions, polls, and collaborative decision-making.
- **Provide Clear Instructions:** Offer detailed instructions for tasks and assignments. Clearly articulate expectations to avoid misunderstandings and ensure that everyone is on the same page.
- **Utilize Project Management Tools:** Use project management tools like Asana, Trello, or Jira to track tasks, deadlines, and project progress. These tools help in organizing work and keeping everyone informed.
- **Regular Check-ins and Updates:** Schedule regular check-ins to discuss progress, address challenges, and ensure that the collaboration is on track. Updates help maintain transparency and allow for adjustments if needed.
- **Create a Collaborative Culture:** Foster a culture that values collaboration. Acknowledge and celebrate team achievements, and promote a positive and supportive environment.
- **Training on Collaboration Tools:** Provide training on the tools and platforms being used for collaboration. This ensures that all team members are comfortable navigating and utilizing the technology effectively.

- **Establish Clear Deadlines:** Set realistic deadlines for tasks and projects. Clear timelines help in prioritizing work and avoiding last-minute rushes.
- **Encourage Peer Support:** Foster a culture of peer support where team members assist each other when needed. This promotes a collaborative spirit and strengthens the team's overall capabilities.
- **Feedback Mechanism:** Establish a feedback mechanism where team members can provide input on processes, workflows, and overall collaboration. This helps in continuous improvement.
- **Include Social Interaction:** Incorporate informal social interactions within the team. This can include virtual coffee breaks, team-building activities, or casual discussions to build rapport and camaraderie.

Remember that the success of online collaboration relies on effective communication, clear expectations, and a collaborative mindset. Tailor these strategies to suit the specific needs and dynamics of your online collaboration group.

Collaborate Tools and Platforms:

Table 5: Collaborate Tools & Purpose

Links / Platforms	Tools & Purpose
www.jamboard.google.com	Jamboard (For Brainstorming and Documenting Ideas)
www.canvas.com	Small group discussion on your LMS
meet.google.com	Google Meet (For Online Group Meetings)
www.trello.com	Trello (Timeline for Project Management)

From all the above checklist it is very necessary to understand the strategies are to be designed for synchronous or asynchronous learners

Since Learners profit most from investigate tasks and activities when they are given the space and time to figure things out and make sense of their findings on their own, it would be best to design these as asynchronous learning experiences. Set a deadline for submissions, but make sure sufficient time is provided for the Learners.

In deciding whether to go synchronous or asynchronous for your contemplate tasks and activities, consider the following:

- Will the question require much reflection, research, or reading? If the answer is yes, go asynchronous.
- Is it more effective to conduct a discussion or a debate on the question, where students get to build on each other's ideas? If the answer is yes, it would be better to go synchronous.

Whether you go synchronous or asynchronous, contemplate tasks/activities are beneficial to the extent that students receive feedback from teacher and fellow learners so that misconceptions are corrected and point of confusion clarified.

Often create tasks and activities take time to complete, and in some cases, may involve several stages. For this reason, they are best done asynchronously. Also, when the work involves a group, students will also need time to get organized and to work collaboratively. One helpful tip is to set up milestones (not just one big deadline at the end) so that students will be discouraged from cramming all the work at the last minute, and so that you can provide timely feedback on your their work.

If students will be asked to present to an authentic audience, it is recommended that the presentation be made in a synchronous environment (via video conference) to allow for a spontaneous exchange of ideas between audience and presenters. If this is not logistically possible, pre-recorded presentations can be sent to the intended audience, and/or uploaded in a public platform like YouTube, where comments and feedback can be posted.

For the whole class, collaborate tasks and activities are best designed asynchronously although of course, the groups are free to arrange synchronous meetings among themselves. Students need time to make these arrangements, as well as to do their collaborative work together.

Synchronous sessions may also help, A project orientation session that you conduct for the whole class to make sure everyone is on the same page; or small-group consultation sessions with you so that each group is given timely guidance on their work.

Conclusion:

In conclusion, fostering active and interactive learning online is a dynamic process that engages students in a multifaceted approach. The five essential checklists - Investigate, Contemplate, Create, Communicate, and Collaborate - serve as a comprehensive framework for cultivating a rich and meaningful online learning experience.

By encouraging students to Investigate, we prompt them to explore, question, and seek understanding actively. Contemplation, the second checklist, invites thoughtful reflection, critical thinking, and the synthesis of newfound knowledge. The Create checklist emphasizes the importance of hands-on application, inspiring students to transform theoretical understanding into tangible outcomes.

Communication stands as a pivotal pillar, facilitating the exchange of ideas, insights, and perspectives among students. Through effective communication, a collaborative community emerges, aligning with the final checklist, Collaborate. This collaborative spirit not only enhances individual learning but also cultivates a shared environment where the collective intelligence of the group surpasses the sum of its parts.

In essence, the five checklists form a holistic approach to online learning, empowering students to actively engage with content, reflect on its significance, apply acquired knowledge, communicate effectively, and collaborate seamlessly. Embracing these principles ensures a vibrant and interactive online learning environment that prepares students for the challenges and opportunities of the digital age.

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