

Welcome to the classroom terminal! In the spirit of Monty Python, let's dive into the 7 pillars of skilling that contribute to student success and substance.

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|----------------------------------|---------------------|
| 1. hive mind | 5. journaling |
| 2. research | 6. ethical behavior |
| 3. adaptability and preparedness | 7. active listening |

> 7.Pillars.of.Skills

by: Brian Hogan, MS

1. Hive mind

The "hive mind" refers to the collective intelligence of a group of individuals. In a university setting, it emphasizes the importance of collaboration and community-building among students. Students build their people skills and develop the mutual respect critical for academic and professional success by working together and supporting one another.

Interactive learning structures, such as cloud workspaces, facilitate JAMs, i.e., swarming activities, to foster this sense of community. These resources provide systems and support for students who need additional assistance, encourage altruistic behavior, and reinforce learning.

By engaging in collaborative activities and peer help, students exercise and challenge their brain's neuroplasticity to adapt and achieve sustained learning and positive achievement. To promote this collaborative learning environment, I encourage students to seek peer help after 20 minutes so active learning moments don't turn reactive.

A hive mind provides collaboration and community-building skills by equipping them with supportive and inclusive structures leads to academic and professional success.

2. Research skills

Gathering and analyzing information effectively is critical for undergraduate and graduate students across disciplines. By promoting effective research techniques and critical thinking, students can evaluate sources and make informed decisions based on evidence.

Promoting research skills helps students appreciate scientific methods and enables them to design, conduct, and analyze research efforts. While extensive research methods training is essential, it's also crucial to provide students with baseline knowledge of the structure of scientific articles, including the abstract, introduction, methods, results, and discussion. This way, they learn to find knowledge kernels to support arguments and guide inquiry.

In today's data-driven world, gathering and analyzing information is highly valued. High-tech companies, such as DeepMind, issue in-depth white papers. Raising awareness of research skills helps foster a culture of intellectual curiosity and enables one to appreciate first principle thinking.

3. Adaptability and Preparedness

Adaptability and preparedness are essential for success in both academic and professional contexts. I focus on developing resilience, flexibility, adaptability, effective time management, and organizational skills to help students stay on track and meet their goals. I encourage creativity, critical thinking, and problem-solving and want my students to be comfortable taking risks, asking questions, and trying original approaches while preparing for the challenges they'll face.

A rapidly changing world is blasé. Ray Kurzweil's singularity[6] is near, and Google executives nixed his protege's chatbot after AI safety and fairness standards. Let's use specific and precise language; the alien chatbot used grotesque and threatening language. It's speculated that Ray's pupil Daniel De Freitas did it intentionally[7].

Preparedness is computer science literacy, learning to adapt, and looking ahead. I aim to prepare students with the tools, tricks, methods, and legerdemain to oversee any challenge confidently. I provide engaging lectures and facilitate round-table discussions to encourage open discussions, discerning realistic outcomes and practical applications of learned concepts.

Preparedness is crucial to succeeding in any field. Students should come to class ready to learn and participate, having completed any required readings or assignments. In return, I provide clear and

concise explanations of complex concepts, offer opportunities for students to practice what they've learned, and receive feedback on their performance. This approach helps students develop the skills and mindset needed to navigate the ever-changing landscape of academia and work professions.

4. Polysyllabics

In my teaching, I balance using clear, concise language with introducing students to new, challenging polysyllabic words. Building a strong vocabulary is a lifelong process reinforced in the classroom. I encourage my students to engage with wordbook learning, build syllable word trees, and practice polysyllabics in their writing and speaking.

Using big words doesn't necessarily equate to effective communication. I emphasize the importance of clarity and precision in language and encourage students to use language appropriate to the context and audience—avoiding overly complex terminology when it is not necessary or proper and focusing on clear and effective communication.

Developing a diverse and nuanced vocabulary is essential for success in both academic and professional contexts. As a teacher, I strive for students to feel comfortable exploring novel words and concepts. Pleasant surprises and fun instructor poking are welcome, like when Pietro informed me of his metastasizing hippopotomonstrosesquipedaliophobia.

5. Active Listening

Active listening is a critical skill for effective communication and collaboration, and instilling and honing this skill helps prepares my students. As an undergraduate in psychology, I trained in Carl Rogers and Richard Farson's active listening technique[8] and journaling, and interestingly, both were also essential components of my process engineering training.

Active listening is necessary for understanding the ideas and perspectives of others, building rapport, and creating an atmosphere conducive to learning. As a teacher, I strive to create a safe and supportive environment where students feel comfortable sharing their

ideas and perspectives. All voices are heard and valued, and I encourage students to ask questions, clarify information, and respond thoughtfully to others' views and ideas. Awareness of the power of listening improves persuasive communication and pointed feedback.

Skills require practice, and I repeatedly ask specific questions from prior classes to help with recall and reinforce learning. Building rapport is essential to understanding, and responding thoughtfully to another equips students to succeed in their careers and personal lives.

6. Journaling

Reflection through writing is fundamental for personal and intellectual growth, especially for university students. As educators, we must encourage students to develop regular writing practice through journaling, blogging, or other forms of written expression to cultivate critical thinking skills essential for success in academia and beyond.

Journaling, in particular, is a valuable practice for students to adopt, as it strengthens their recall ability and enhances their ability to analyze their experiences critically. As we strive to connect with our students and support their learning, it helps to acknowledge the evolving landscape of education and Gen-Z learners' unique preferences and habits. Incorporating digital technologies, like YouTube, facilitates engagement and new forms of expression.

Incorporating methods from experts such as Cal Newport and Scott Young's Life of Focus course reinforces the importance of the rigor of journaling. Augmenting these focus methods with active listening and journaling fosters a positive self-outlook rooted in critical thinking and self-reflection. As university professors, we must encourage students to embrace writing as a personal and intellectual growth tool.

7. Ethical behavior

Ethical behavior is essential in academic and social settings to establish trust, credibility, and integrity. However, developing a robust ethical framework can be a complex task. As an educator, it's important to emphasize the importance of honesty, fairness, and respect in all aspects of one's academic, professional, and personal life.

To reinforce, I provide reminders about profane language and encourage active consideration of how another perceives their action. I also share the recommendations of experts such as Dr. John M Curtis, who advocates

for avoiding negativity and controversy while emphasizing the importance of fair-minded behavior[10].

In computer science, statistical fairness measures are crucial in measuring information exchange and access for all. AI technology advances, and it's important to emphasize the responsibility that comes with it. While features may seem cool or innovative, it's crucial to consider their impact and avoid misuse like image distortion or clouding one's judgment. A culture of respect and dignity in computer science will help students embrace an ethical framework deepening their substance.

Thank you for your time.

Very respectfully,

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