

# Teaching Towards Discovery Symposium

## Table of Contents

<b>Teaching Towards Discovery Symposium</b>	<b>1</b>
<b>Table of Contents</b>	<b>1</b>
<b>Introduction</b>	<b>1</b>
<b>Symposium Overview</b>	<b>2</b>
Student Panel	3
Presentation on Symposium Theme	4
Discovery Panel	5
Breakout Discussion	7
<b>Large Themes</b>	<b>9</b>
<b>Conclusion</b>	<b>11</b>

## Credit

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- ❖ Symposium co-sponsored by [Berkeley Discovery Initiative](#) and the [Center for Teaching & Learning](#)

## Introduction

Alessandra Lanzara, Faculty Director of the Berkeley Discovery Initiative, defines Discovery as the process and experience of “bring[ing] innovation into the teaching practice,” creating new means of applying knowledge through active engagement and inquiry, and “brainstorm[ing] new ways to better embrace students’ learning processes.” Discovery emphasizes a shift from traditional, passive receipt of information into active, exploratory, and creative approaches to learning. Discovery is relevant in the context of higher education as it addresses the gap between the knowledge provided by educational institutions and the skills required for students to become world-ready citizens and learners. By encouraging creativity and equipping students with a sense of agency and ownership over their learning process, Discovery education can effectively align institutional knowledge with the evolving needs of a diverse and rapidly changing world.

Discovery-based learning strategies are alternatively referred to as high-impact practices (HIPs). According to the American Association of Colleges and Universities, HIPs are evidenced to significantly benefit students’ experiences in higher education, particularly historically underserved demographic groups (AAC&U, n.d.). Regardless of the forms that HIPs manifest in

– including capstone projects, collaborative assignments, experiential projects, global learning, first-year seminars, and internships – students frequently obtain higher levels of learning success when adopting HIPs practices. The goals of this one day symposium included: making visible the ongoing Discovery/High-Impact Practices taking place on the campus already, building a community to support these practices, and discussing how to find more support for these impactful learning practices within the fabric of UC Berkeley’s educational model.

## Symposium Overview

Schedule of the *Teaching Towards Discovery: Student as Creator* Symposium

- ❖ 9:00-9:30 am: Breakfast and Introductory Remarks by Discovery Faculty Director Alessandra Lanzara
- ❖ 9:30-10:00 am: Student Panel
- ❖ 10:00-10:10 am: Break
- ❖ 10:10-10:30 am: Announcements and Framing of Symposium Theme
- ❖ 10:30-11:30 am: Panel of Discovery Case Studies
- ❖ 11:30-12:00 pm: Break for lunch
- ❖ 12:00-12:30 pm: Breakout Group Discussions
- ❖ 12:30-1:00 pm: Reflection & Takeaways

The symposium was scheduled for a total of 5 hours, taking place from 9:00 AM to 1:00 PM on February 23rd, 2024. The morning section of the symposium was dedicated to both student and faculty panelists, which was followed by breakout sessions for attendees to discuss larger themes brought up during the morning session.

The symposium was designed to spotlight creative curricular examples and provide inspirations and practical, actionable resources for educators to integrate Discovery-based learning into their classrooms and departments. The event began with a welcoming introduction from Discovery Faculty Director Alessandra Lanzara, followed by student stories and case study panelists, and breakout sessions centering around discussions on creativity, agency, and the implementation of Discovery in educational settings. The symposium featured panelists of diverse backgrounds and professions. The student panel featured three students: Maya Rosenthal majoring in Media Studies and Public Policy, Cooper Hood Jacobus majoring in Astrophysics, and Raksha Rajeshmohan majoring in Public Health. They detailed their experiences in Discovery at and through UC Berkeley – ranging from research to publicly facing media projects. The second panel featured faculty and staff as exemplars of Discovery on campus: Pat Steenland, Kosa Goucher Lambert, Susan Moffat, and Eugene Chiang from college writing to mechanical engineering, digital humanities, and astrophysics.

Attendees of the event include undergraduate, graduate, and PhD students; UC Berkeley academic, LBNL, and lab faculty; visiting scholars and researchers; and community and organization partners such as librarians and CEOs. They were drawn from a wide field of disciplines ranging from biology to computer science, art practice, or philosophy. When asked, attendees primarily brought up a personal investment in teaching or leading Discovery opportunities as the impetus for their attendance.

Prior to the symposium, the “Teaching Towards Discovery” symposium documentation team published a [public Padlet](#), an online bulletin board, showcasing the breadth and beauty of Discovery at UC Berkeley. Projects were organized into categories including “written projects,” “visual projects,” “multimedia projects,” and “other projects.” We were proud to showcase over a dozen projects with subjects ranging from the oral history on the subject of Japanese Internment to examples of innovative rocket design. While the projects were diverse in their subjects, common themes included the exploration of the unknown, as well as engaging the community on creative projects. One pertinent example of the latter is the “Bears in History” project featuring UC Berkeley community members affected by Japanese Internment (1942-1946), which is now featured in the Doe Library!

## Student Panel

Student panelists were invited to talk about how they have engaged in Discovery projects within their respective fields: Maya with Media Studies, Cooper with Astrophysics, and Raksha with Public Health. Despite their distinct fields of expertise, all student panelists shared the importance of Discovery in shaping their experience and path to pursuing education, highlighting the importance of connecting with community, the importance of collaboration, and the transformative impact of engaging with Discovery-based learning.

Cooper Hood Jacobus, a student panelist majoring in Astrophysics with a minor in Logic, spoke of the power of support he received from his academic community in advancing his interest and academic pursuit to Discovery. When he first began to discover his interests in astrophysics, Cooper shared that his existing background in math and physics did not perfectly align him with the level expected for researchers in the field. In hope to advance his understanding, Cooper began attending the weekly colloquials on campus during his first year, where speakers and institutions were invited to speak about galaxy formations of black holes, the Big Bang, and much more during lunch. While slightly intimidated by the rigor of the field, Cooper was surprised to connect with the “lovely community of researchers and graduate students and professors” who showed him encouragement and support along the way. He noted that his “stupid questions” were reciprocated with continuous, positive encouragement, which motivated him to continue to attend each colloquial in the week that follows. Eventually, he was able to foster a deep and genuine connection with the people on campus, at the lab, and within

other institutions, and build up a project within the field. In closing, Cooper credited his research career to the academic community he found that positively scaffolded his first steps.

Raksha Rajeshmohan is a graduating senior in the school of Public Health who pointed out how lectures can function as an eye-opener to pave students in their paths to success. Specifically, Raksha mentioned the rotation of guest lectures for one of her classes, where different guest speakers would come in each week to talk about their career, path, and how they kickstarted their research as an undergraduate student. Additionally, Raksha mentioned the importance of building networks with professionals in the field for increased exposure and fostering connections. Specifically, she pointed to the Emeriti Academy of retired faculty, where she took part in an Emeriti mentored research course through URAP and landed a summer opportunity abroad. Additionally, she shared that she would reach out to guest speakers after their presentations to ask for an opportunity to learn more about their experiences through coffee chats in person and on Zoom. Despite taking the initiative to reach out being “scary” and out of her usual character, Raksha also noted that the connections she made during these additional one-on-one meetings are what “inspired [her] to pursue this career path.”

Maya Rosenthal, another student panelist majoring in Media Studies and Public Policy, mentioned that the motivation of “having the public look at [her] work” gave her research area more impact and personal meaning. As someone who is passionate with documentary work, Maya shared that her interest in digital creativity expanded from simply consuming existing documentaries to taking interest in creating something “really novel” and of “[her] own making.” After choosing to step on the path of creative exploration, Maya alluded to the unexpected “explosion of opportunity” she encountered. She was invited to travel to Baltimore to present her work at the Oral History Association Conference. She attended panels on education and took part in oral history projects on women and children of the Black Panther party. Maya said that her achievements would not have taken place if she had not taken the initiative to begin her journey with Discovery.

In closing, the student panelists also shared how their paths to Discovery have led them to discover their passion for giving back to their individual communities. Cooper, now a few years into his research career, has become involved in teaching younger students who shared an interest in astronomy. Cooper reported the experience as being “rewarding, fun, and educational,” and claimed that the impacts he had made from helping others have simultaneously strengthened his own understanding. Raksha, similarly, discussed how her path to Discovery has led her to conduct projects in South Africa and attend graduate school to further her studies. Finally, Maya highlighted self discovery within her larger scope of Discovery learning. For instance, she pointed out that her projects are only complete when the public looks at and engages with her work. For her, Discovery arises when her work faces the public eye by subsequently extending the work she does beyond the documentary itself. Seeing the public engage and resonate with her documentaries, allows the individuals to comprehend that there is “still a story to tell and a message to be heard” even after the documentary itself is “completed.”

## Presentation on Symposium Theme

Subsequent to the student panel, Discovery staff Evelyn Thorne and Faculty Advisor Lisa Wymore presented on the importance of creative agency in the Discovery process. Evelyn and Lisa focused their discussion on the transformative shifts in education as well as the conceptualization of creativity in learning. Specifically, they examined the changing role of universities in the contemporary age, emphasizing how digital proliferation has transformed the traditional dynamics of knowledge dissemination and reception. They cited creativity researcher Mihaly Csikszentmihalyi, who argued that “creativity does not happen inside people’s heads but in the interaction between people’s thoughts in a sociocultural context.” This shift advocates for a pedagogical approach where students are seen as co-creators. Lisa and Evelyn’s reflection on the evolving university landscape underscores the increasing adoption of an interactive, collaborative model of learning where students and faculty continuously learn and find purpose within their learning beyond academics and career. Evelyn defined creativity as the generation of new ideas that are valuable and meaningful, categorizing it into “small c creativity” (personal significance) and “big C creativity” (broad societal impact). She then introduced the concept of “creative agency,” which she described as an embodied belief in one’s capacity to respond creatively to life’s challenges. This concept ties closely to the student’s ability to exert control over their educational paths and choices in life. Evelyn emphasized how agency and interoception of creativity informs an educational philosophy where students are empowered to make informed, reflective, and impactful choices.

Lisa Wymore built on these ideas by delving deeper into the definition and application of creativity in education. She highlighted that “we are in a more emergent kind of understanding that humans are interdependent with our world and our environment,” and pointed to a need for universities, teachers, and communities to revolutionize education now more than ever. Agreeing with Evelyn, Lisa stressed that creativity is not an isolated mental act but a relational process influenced by socio-cultural contexts. This denotes that the modern student’s engagement with knowledge is no longer passive but involves an active ongoing process of meaning-making, reflecting a more interconnected view of humans and their environments. Therefore, equipping students with the tools to navigate and shape their own learning journeys is as equally significant as ensuring academic rigor. The presentation advocated for the need for educational systems to foster not only intellectual growth but also personal agency, enabling students to respond creatively and effectively to life’s challenges.

Both speakers underscored a pedagogical shift towards fostering environments that support student autonomy, creativity, and a deeper engagement with the world around them, highlighting the importance of adapting educational practices to nurture these competencies in an increasingly multi-faceted and information-rich world. As a whole, Evelyn and Lisa vividly illustrate the evolving educational paradigms where the roles of universities, teachers, and students are shifting towards more interactive, relational, and co-creative processes. Their

discussions illuminated a shared vision where education is not just about absorbing information, but about engaging actively with that information to create new knowledge and meaning. The overarching themes of the presentation reinforce the necessity for educational environments that support creativity, continuous learning, and an increased sense of agency among students.

## Discovery Case Study Panel

Case study panelists, comprising three faculty and one staff member from various disciplines, demonstrated the importance of active learning and presented examples of how Discovery can be integrated into rigorous curricula to promote creativity, showcasing initiatives that foster agency and interdisciplinary learning.

Glynda Hull, Professor and Associate Dean in the Berkeley School of Education as well as Faculty Director of the [Center for Teaching & Learning](#), moderated this panel. She opened up the discussion by proposing two key questions: How does Discovery happen? How is Discovery integrated into both within and beyond the classroom? According to Glynda, Discovery is an invitation to “an explosion of possibilities,” where individuals are immersed in the power to express and engage their interest to the fullest.

Pat Steenland is a faculty member for the [Discovery Trailblazer “First Step Discovery Initiative.”](#) an initiative which seeks to transform Berkeley’s beginning requirements in Reading & Composition and Foreign Languages. By moving away from skills-based requirements to gateway experiences, this cohort of faculty hope to connect first and second year students with the best and most exciting resources the University has to offer by “taking beginner requirements and transform[ing] them into a Discovery experience.” During the panel discussion, Pat highlighted the challenge of integrating genuine inquiry into beginning classes within a traditional, hierarchical university structure. According to Pat, students who are enrolled in beginning classes often believe they are not fully equipped with the skill to “create knowledge” because they “need to learn so much first.” She argues that approaching teaching through a point of inquiry rather than instruction, fosters “shared inquiry for the teacher and the students alike,” which teaches students foundational research methods while engaging with required course content. Additionally, Pat also emphasized transforming foundational courses into Discovery experiences, fostering knowledge creation beginning in the early stages of education. To illustrate her argument, Pat drew an analogy to teaching theater to novice students, suggesting that direct engagement with participation in a scene or production (for example), rather than prolonged preliminary study of acting technique alone, can foster deeper interests as well as better learning outcomes. In closing, Pat advocated for collaborative, interdisciplinary teaching approaches to enhance creativity and effectiveness in Discovery education.

Susan Moffat, former director of the [Global Urban Humanities Initiative](#) and [Future Histories Lab](#) from 2013 to 2023, develops interdisciplinary, studio-style courses and programming that helps students examine urban life and history through the lenses of



environmental design and the arts and humanities. In her discussion, Susan referred to the [“Year on Angel Island”](#) project, a cross-curricular program which involved creating a public history project that was designed to be accessible through websites, audio tours, physical installations, and more. The project centers around sharing local histories through the landscape and arts. In contrast to traditional assignment submissions, this project aims to make students’ work consequential by engaging the public. By “raising the stakes,” with the inclusion of public viewing/interaction with a project, Susan hopes to help students realize the impacts of their work and thereby enhance students’ overall educational experience. By engaging the wider community through the interactive creation process and inviting the public to contribute to the long term impact of the project, Moffatt emphasized the importance of interactivity and clear guidelines in collaborative projects to ensure a rewarding path to Discovery.

Eugene Chiang is a faculty member in the Department of Astronomy whose work in theoretical astrophysics ranges from planet formation to orbital dynamics and planetary atmospheres. Chiang discussed how he believes improvements in undergraduate education can be achieved through coordinated communication at the departmental level and a peer-advising system. He highlighted the establishment of a tutoring system that departs from traditional advising programs within the department that supports students across different stages of their education. Finally, Eugene transitioned to discuss the department’s emphasis on development of research projects, since research is believed to be “one of the highest forms of Discovery.” The ULAB Physics and Astronomy DeCal on campus, for instance, seeks to provide a seamless and accessible research experience to all undergraduate students in an attempt to eliminate the traditionally significant barriers to entry for students without a strong research background. In this, Eugene also touched on the challenges of sustainability and scalability in educational innovations, emphasizing the ongoing need for funding and institutional support to continue the success of such programs.

Kosa Goucher-Lambert is an Assistant Professor of Mechanical Engineering and the Director of the Cognition and Computation in [Co-Design Lab](#) at UC Berkeley. To open, he discussed the structure of the [Jacobs Institute of Design Innovation](#), which provides a progression from basic discovery in design to advanced research involvement. During the panel, Kosa focused on the [Engineering Design Scholars](#) program, which aims to bridge students who have beginner-level design experiences to faculty-led research on the UC Berkeley campus. During this summer research experience, each student is paired with a faculty member that is a part of the Jacobs Institute network. The program is particularly focused on inclusivity, providing opportunities for first-generation college students and those from diverse backgrounds to engage in the summer research projects. By facilitating the program, Kosa hopes to provide students who may not otherwise have access or exposure to Discovery/High Impact Practices to gain this important experience for their UC Berkeley learning journey.

## Breakout Discussion

Breakout sessions facilitated further and more personal discussions on topics of 1) Tension of Academic Requirements and Discovery, 2) Student Journey of Discovery, 3) Equitable Access to Discovery Experiences, and 4) Co-creation in the Classroom. Insights that arose during round-table discussions included challenges such as balancing academic requirements with Discovery, ensuring equitable access to Discovery experiences, and the co-creation of knowledge in the classroom.

In the breakout session discussing the “Tension of Academic Requirements and Discovery,” participants’ discussion centered around topics of scaffolding of learning material, imposter syndrome, and the educators’ role in the students Discovery journey. The discussion began with the debate of whether the existing campus-wide American Cultures (AC) requirement could be a good course for introducing students to Discovery-based learning. The discussion underlined questions such as, “What does Discovery in an AC course look like?” and “How will students’ learning be impacted if more Discovery elements were put in place?” In this discussion, some participants pointed out the challenges towards adopting Discovery-based learning. Since faculty, graduate students, and lecturers are already overwhelmed with the challenge of meeting existing classroom goals in traditional classrooms, such as fulfilling course content, introducing a new teaching paradigm will require additional support. On the other hand, others shared their personal experience with Discovery-based learning as an international student. On the topic of scaffolding, participants agreed that the classroom should be structured to allow students to experience, experiment, and co-create knowledge with the instructor and their peers. However, a large scope of Discovery also equates to the educator standing in as role models for their students. As such, educators are responsible for having passion and awareness of Discovery, and should encourage students to challenge themselves through creativity and curiosity. The discussion concluded in discussion of how educators can scaffold students’ discovery with authority while simultaneously allowing for freedom and exploration. This is when the topic of ‘banking’ versus problem-solving education arose. In the end, all participants agreed that educators should function as co-investigators within the classroom, and balance authority with an engaging and enjoyable learning environment.

Surrounding the discussion of “Student Journey of Discovery,” participants began by noting the need to construct clear instructions on boundaries regarding artificial intelligence (AI) technologies. For example, when essays can be written by a chat-bot, where does its role as a support end and concerns of plagiarism begin? While much of the “tedious work” students encounter in their academic studies can be easily resolved with AI technologies such as Chat-GPT, these assignments are also crucial for building discipline within students. Participants pointed out the concern that if students overly rely on digital technology to solve their problems, they could potentially become uncomfortable resolving future challenges without the help of AI technology. As a result, being isolated with digital and AI oriented knowledge creation, could



hinder their overall learning experience such as their ability to take in information and collaborate with a larger group of peers and educators. In an effort to promote equitable learning, the group suggested implementing more accessible resources to foster human-focused collaboration and limit the use of AI technology in the classroom. The breakout session emphasized the importance of building connections across the student body to cultivate human creative skill sets. While mentorship plays a huge role in scaffolded learning, collaboration between peers would allow for interdisciplinary and multi-faceted learning and development, which could be hugely beneficial to undergraduate students still uncertain of their academic interests. Also, collaborative learning could encourage students to become better team members in addition to independent, critical leaders.

The breakout session on “Equitable Access to Discovery Experiences” outlined barriers to equitable learning and transitioned to discussing how to foster belonging in students’ passion for Discovery on campus. For instance, everyday issues such as accessible parking and lack of transportation can pose a huge barrier for certain students to achieve an equitable learning experience as their peers. For some, transportation to school can be lengthy and unsafe, while others may find everyday transportation to be a huge portion of their monthly spendings. As a result, students in these situations may find it challenging to learn collaboratively with their peers or to engage in experiences outside the classroom. Participants within the breakout session also discussed the necessity of balancing syllabus materials and Discovery opportunities. In other words, participants hoped to answer the question of how educators can accommodate the needs of certain students to explore equitably with their peers while maintaining written obligations to certain course materials. While no consensus was reached during the discussion, participants all shared innovative approaches and suggestions towards potentially introducing more equitable educational experiences to the student body on campus.

The fourth discussion session discussed “Co-Creation in the Classroom” under sub-discussions of AI co-creation and the impact of Discovery. To begin with, while AI technology can effectively function as a tool to formulate structure and facilitate ideas, it also raises ethical and legal issues especially surrounding student learning and Discovery. While participants speculated that students often resort to AI when faculty support is not available, especially surrounding coding, they were also concerned about AI technologies potentially widening the digital divide and leading to an increase in the number of individuals who struggle with information literacy. As a result, the group proposed to begin by restructuring the class curriculum and designing assignments that cannot be accomplished by AI alone. Through this model, the group hopes to teach students useful skills they would need in their later career, place students in the driving seat of their learning and exploring, and maintain a human-driven creative process from start to finish.

## Large Themes

In *Teaching Towards Discovery Symposium: Student as Creators*, the [Discovery Initiative](#) and the [Center for Teaching and Learning](#) at UC Berkeley focused on redefining the educational experience by emphasizing the role of students as active participants and creators in their Discovery learning journey. The symposium invited panelists and attendees to discuss the approaches and challenges towards fostering creative and high impact learning experiences both within and beyond the classrooms.

Panel moderator Glynda Hull discussed literacy as the contemporary “identity kit” on how individuals navigate society (Gee, 1989). Through individuals’ exchanges of meaningful dialogues, historical and social discourses come into being and are transcended over time and boundaries. However, modern higher education institutions often prioritize efficiency and coverage through formulaic curricula, thereby overlooking student exploration and creativity (Hull, 1990). Several panelists discussed the difficulties inherent in integrating Discovery-based learning with the rigid frameworks of traditional education systems. The hierarchical and departmental divisions in universities often hinder the interdisciplinary and innovative teaching approaches necessary for effective Discovery learning.

The symposium underscored several larger themes, including the evolution of the educational landscape from a focus on information transmission to one of co-creation of knowledge, with students seen as active creators rather than passive recipients. This resonates with educational activist and theorist Pablo Freire’s arguments on the benefits of problem-posing education. A mentor-mentee relationship between educators and their students can be dialogic or monologic. ‘Banking’ education, as opposed to problem-solving education, treats students as “containers” to be “filled” by their instructors (Freire, 1970, p. 72). Under this form of instruction, learning is detached, disconnected, hollow, and alienating. Additionally, since the format predominantly emphasizes the ability of the instructors’ to “fill” their subjects, banking education values the weight of the words over their transformative powers. Through banking education, students become meek and obedient recipients whose only focus is to “receive, memorize, and repeat” what their instructors distribute in the imbalanced, one-sided conversation (Freire, 1970, p. 72). Rather than drawing a dividing line between the instructors as “us” and the students as “them,” education can attempt to foster belonging and inclusivity by integrating students and their opinions into the teaching structure and learning process. The student panelists highlighted the profound impacts Discovery can have on their personal and professional development once they took charge of their learning through Discovery projects. By engaging in creative, interdisciplinary research and documentary projects, students were able to gain a deeper understanding and ownership of their educational paths. While enhancing their learning experience, Discovery also prepares them for real-world challenges.

The transition towards active learning reflects broader societal changes towards recognizing the interconnectedness of humans with the world and environment, and the

importance of agency in navigating these relationships. Evelyn Thorne and Lisa Wymore's presentation thoughtfully navigated the changing landscape of education in the digital age, underscoring a significant paradigm shift from traditional didactic methods to more dynamic, interactive, and relational forms of learning. Both speakers converged on the idea that in today's information-rich environment, the role of universities and educators must evolve from being mere dispensers of knowledge to facilitators of a deeper, more engaged learning process. By integrating real-world problems into the curriculum, educators can make learning more relevant and engaging. This approach will allow students to apply theoretical knowledge to practical situations, enhancing their problem-solving and critical-thinking skills and preparing them for future challenges outside of the classroom.

The panel discussion highlighted a series of innovative educational approaches aimed at enhancing discovery and creativity across various disciplines, emphasizing the transformation of traditional learning environments into dynamic spaces where students can engage in genuine inquiry and creation of knowledge. Pat Steenland's initiative to integrate discovery into foundational courses challenges the conventional educational model by encouraging students to create knowledge early in their academic careers. Similarly, Susan Moffat's work with the Global Urban Humanities Initiative illustrates the power of interdisciplinary, project-based learning to convey complex urban histories through public-facing digital and physical installations, thereby making academic work impactful and relevant to broader communities. Kosa Goucher-Lambert and Eugene Chiang provided insights into the integration of design and research into engineering education, demonstrating how structured programs like the Engineering Design Scholars and comprehensive advising and tutoring systems in physics and astronomy can bridge the gap between theoretical knowledge and practical application. These discussions collectively underscore the vital role of innovation in education, suggesting that when academic institutions break down silos, encourage cross-disciplinary collaboration, and make learning publicly relevant, they not only enhance educational outcomes but also prepare students to be thinkers and creators in a diverse and complex world.

The breakout discussions highlighted concerns regarding the adoption of Discovery-oriented curriculums. To begin with, concerns were raised about the sustainability of Discovery-based projects, particularly in terms of funding and institutional support. Participants pointed out that for these initiatives to be successful in the long term, they must be integrated into the core educational strategy of institutions rather than being treated as peripheral supplements. Additionally, navigating the balance between providing authoritative structure and allowing student freedom is critical in Discovery learning. While too much structure can stifle creativity, too little can lead to disorganized learning experiences. Effective Discovery learning requires carefully designed activities that guide students through the learning process while leaving them sufficient room to explore and create. Finally, participants discussed the need to address cultural and institutional barriers that might prevent the adoption of Discovery learning practices. From changing faculty attitudes towards teaching to adjusting assessment methods to

accommodate creative projects, participants hope to ensure all students are granted equitable access to Discovery opportunities regardless of their background and conditions.

In sum, the symposium shed light on the transformative potential of viewing students as creators within their educational Discoveries. By rethinking educational practices to support Discovery and creation, institutions can empower students to become innovators and problem solvers.

## Conclusion

In conclusion, the experience from the Teaching Towards Discovery Symposium revealed a variety of methods for creating a learning community that embraces the student as a creator in knowledge production within the university. These potential methods include:

### Students

1. As exemplified by the student panelists, attend lecture series that expose you to a range of research and career opportunities, ask questions, and set up meetings with the speakers.
2. Connect with communities in one's learning journey through peer-led advising opportunities, internships, and community-engaged programs.
3. Utilize [Discovery Hub resources](#) to find hands-on real-world learning opportunities.
4. Advocate for Discovery and high impact learning experiences through the ASUC and departmental leadership opportunities.

### Faculty

1. Join the [high impact learning community listserv](#) to continue the conversation and share resources with each other.
2. Engage with [CTL](#) to bring small and/or large changes to the classroom and one's department teaching culture.
3. Shift towards seeing students as co-contributors/creators of knowledge in the classroom.
4. Expand the classroom to the larger community that is impacted by the research and teaching being taught; this can include public presentation/sharing of students' work/research which allows students to witness the impact of their work and receive feedback outside the classroom.
5. Participate in bringing change to the university's structures and systems through service opportunities and research grants that integrate high impact learning for undergraduate students.

**Staff**

1. Coordinate staff and peer advisor communications to create pipelines to faculty research and experiential learning projects (including utilizing the Discovery database).
2. Hold working groups for staff to share best practices and resources, and join the [high impact learning community listserv](#).
3. Document and highlight student stories of Discovery experiences within your unit.
4. Share and utilize [Discovery resources](#) to make experiential learning more accessible to all students.

**Donors**

1. Seek out information about programs that support high impact learning.
2. Advocate for funds to be used to support more interdisciplinary cross-campus ventures that shift the focus to the student as an active participant in their learning journey.
3. Fund more advising and staff positions so that these types of programs can flourish.

Changing traditional learning structures to adapt to the current time we face, when technology and access to knowledge and information is shifting rapidly, requires investment in rich hands-on experiences for our students. Artificial Intelligence and Generative AI is being woven into our classrooms, studios, and laboratories in unprecedented ways. With this change, the role of high impact learning becomes even more visible and important as our learning and research communities engage with this technology to reimagine, make, and rethink the role of human creativity. High impact and experiential learning allows students to apply their current knowledge within real world situations alongside fellow students (and often within community contexts). When students can experience learning in this way, they realize that their ideas can transform and co-construct knowledge. This is a transformational way of learning and helps students understand that they are part of a fabric of knowing the world around them, that they can co-create the change they seek in the world.

**Citations**

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