

# CREATIVE THINKING

FINAL REPORT  
SEPTEMBER 2012



**MONTCLAIR STATE**  
UNIVERSITY

*“This course changed my life.”*

—Student, Creative Thinking course

On the cover:  
*FAR* by Wayne McGregor | Random Dance  
Photo by Ravi Deepres

Inset:  
Wayne McGregor | Random Dance company members  
lead a workshop with Montclair State dance students,  
November 1, 2011.  
Photo by Sarah Bishop-Stone



# MONTCLAIR STATE UNIVERSITY

## CREATIVE THINKING FINAL REPORT

### Project Summary

#### Overview

Peak Performances at Montclair State University focuses on innovative artists committed to transcending traditional boundaries between art forms and between the arts and other disciplines. The Creative Thinking project integrated the creative approaches of visiting artists into the intellectual and cultural environment of the campus via the development of a new course designed to help students in all academic areas harness their creative abilities. The Office of Arts and Cultural Programming (ACP), the University's presenting arm under the banner of Peak Performances, worked in partnership with the Research Academy for University Learning (RAUL), the unit charged with developing deep learning initiatives across campus. The focus of the project was the Creative Thinking course, inspired by the "Integration of Abilities" approach of Paul Baker (Baylor University) and drawing on Peak Performances artists and their work as a catalyst for exploring and understanding creative processes across disciplines.

The project represents an evolution from engagement with artists on a performance-by-performance basis to a more comprehensive integration into the academic life of the campus. Three artists creating new work co-produced or commissioned by Peak Performances were integral to the project: choreographer Wayne McGregor and his company Random Dance, performance/visual artist Robert Whitman, and director Robert Wilson. By opening their creative process, these artists served as a resource during course development, as well as in the classroom and theater. The artists were selected on the basis of their well-established relationships to research, interdisciplinary approaches, and the integration of technology and the arts.

#### Course Development Activities

ACP and RAUL worked with the University administration to propose and execute the first iteration of the Creative Thinking course, creating a heretofore untested structure for a multidisciplinary course, and forging a new path toward establishing what could become a model for a new kind of University-wide curriculum for incoming students. A number of activities and programs were designed to feed into the course's development, as well as to publicize the values and mission of the project to the wider University community. These included:

- **Convening a multidisciplinary faculty Working Group to devise, plan, and teach the course.** The Working Group met monthly, beginning in fall 2010, to discuss the shape, ethos, goals, content, and

curriculum for the course, as well as the scholarly research behind creativity in the classroom.

- **Supporting artist residencies that fed into course planning and execution.** Throughout the two-year span of the project, visiting artists worked with faculty, students, and the Creative Thinking Working Group. In particular, members of the R-Research and Creative Learning units of Wayne McGregor | Random Dance introduced the company's Choreographic Thinking Tools (CTT), a methodology used by the company to generate new choreographic material. The company's ongoing work on developing a CTT-based curriculum coincided with the development of the Creative Thinking course, leading to a cross-pollination of ideas.
- **A research and education week that featured *Brainstorm: A Symposium on Creative Thinking on April 12, 2011*.** Spearheaded by the R-Research unit of Wayne McGregor | Random Dance, *Brainstorm* was the centerpiece of a week of workshops and discussions across campus that explored cognitive tools for accessing creativity.
- **Participation by artists immersed in the process of creating new work.** Three new works co-produced or commissioned by Peak Performances were integral to the project: *Passport* by Robert Whitman (world premiere performances, April 16 and 17, 2011), *FAR* by Wayne McGregor | Random Dance (American premiere performances, October 27-30, 2011), and *Zinnias: The Life of Clementine Hunter*, directed by Robert Wilson (workshop rehearsals at Montclair State, May 7-25, 2012; world premiere performances, January 26-February 3, 2013).

The Creative Thinking course was approved by the University in early 2012, and a pilot version was offered during a four-week Summer Session, May 14–June 7, 2012. Participating artists included director Robert Wilson, choreographer Liz Lerman, and theorist/systems designer Iain Kerr. Dr. Ashwin Vaidya, a physics instructor in the Mathematical Sciences department, led the course, supported by the faculty Working Group. Students came from a variety of majors and departments, including music, theater, biology, psychology, nutrition, anthropology, broadcasting, and film.



*FAR* by Wayne McGregor; photo by Ravi Deepres

## Partnerships and Process Lessons

### Campus Partners

The core campus partners were the Office of Arts and Cultural Programming (ACP) and the Research Academy for University Learning (RAUL).

Under the banner Peak Performances, ACP provides a place for innovative artists to create and present works across multiple disciplines. Artists include established and up-and-coming creators on a national and international level, as well as members from the College of the Arts. ACP's role in the project was to identify and support the artists collaborating on the project, to spearhead project-related marketing and communications, and to provide administrative and documentation support during course development. Key ACP staff members were Jedediah Wheeler, Executive Director; Carrie Urbanic, Cultural Engagement Director; and Sarah Bishop-Stone, Creative Campus Coordinator.

RAUL focuses on student learning and how best to create an environment that stimulates its development. RAUL seeks to approach teaching and learning in a scholarly manner by exploring the existing research and theoretical literature on what it means to learn, how best to foster learning development, and how professors and students can best understand its meaning and progress. ACP partnered with RAUL as academic support for the Creative Thinking project: to oversee the development and evaluation of the content of the Creative Thinking course itself and to oversee evaluation of the process and the project. Key RAUL staff members were Dr. Ken Bain, Director and Vice Provost for University Learning (former); Dr. Cigdem Talgar, Interim Director and Associate Director; and Julie Dalley, Assistant Director.

A multidisciplinary Working Group of Montclair State faculty was established to build and structure the course and to provide teaching and support. Members of the Working Group (and their respective departments) included:

Dr. Ashwin Vaidya (Mathematical Sciences/Physics, course lead instructor)  
 Dr. Jerry Fails (Computer Science)  
 Dr. Mika Munakata (Mathematical Sciences)  
 Dr. Tiger Roholt (Philosophy and Religion)  
 Dr. Debbie Saivetz (Theatre and Dance)  
 Dr. Marissa Silverman (Music Education)  
 Dr. Yawei Wang (Marketing)



Fails

Munakata

Roholt

Saivetz

Silverman

Vaidya

Wang

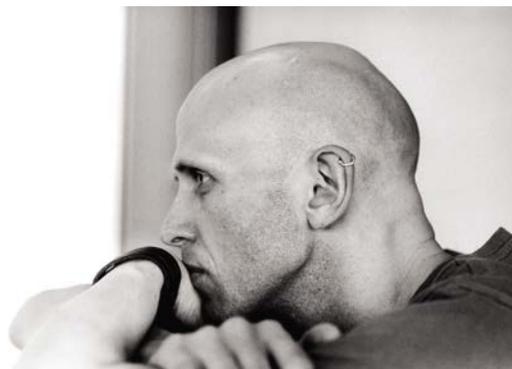
*Creative Thinking Faculty Working Group; photos courtesy of Montclair State University*

## Wayne McGregor | Random Dance

In a multipart residency throughout 2010–2011, Wayne McGregor|Random Dance (WM|RD) participated in workshops, public discussions, and small-group dialogues that focused on the company's Choreographic Thinking Tools (CTT) and their connection to the Creative Thinking project. During this period, choreographer Wayne McGregor and the company were using the CTT in the creation of *FAR*, a new full-length work co-produced by Peak Performances and Sadler's Wells, London. The CTT, developed by WM|RD's R-Research and Creative Learning units in collaboration with cognitive scientists, are used to examine and reinvigorate the company's choreographic process. R-Research, directed by Scott deLahunta, organizes collaborative partnerships with scientists to support the company's creative process and further the understanding of creative thinking in general. Creative Learning, directed by Jasmine Wilson, develops the company's techniques and practices for use in a range of educational settings. At Montclair State, deLahunta also consulted with the Creative Thinking course Working Group on course development, providing insight and expertise based on the company's work on the CTT.

A centerpiece of WM|RD's residency was a research and education week that featured *Brainstorm: A Symposium on Creative Thinking* on April 12, 2011. Spearheaded by R-Research, the afternoon pursued the same question as the then-emerging Creative Thinking course: how do we define creativity in such a way

that it becomes accessible to thinkers in any discipline—not just artists—as a tool for learning? Cognitive scientists David Kirsh (UC San Diego) and Philip Barnard (formerly of the Medical Research Council's Cognition and Brain Sciences Unit, Cambridge, UK) discussed their collaboration with WM|RD, and Barnard and deLahunta participated in a panel discussion on creative methods with composer Michael Gordon, choreographer Elizabeth Streb, and visual artist Robert Whitman. The week also included CTT-based workshops and discussions with dance, theater, mathematics education, and visual art students.



Wayne McGregor; photo by Nick Mead

WM|RD completed its residency in conjunction with the American premiere of *FAR* at Montclair State University in October 2011. To further extend the previous year's interactions, Wayne McGregor participated in a roundtable discussion with students and faculty, including members of the course Working Group, and WM|RD dancers led additional CTT-based workshops.

The breadth of interactions spanning two academic years created a dynamic and shared environment of inquiry that spurred a campus-wide dialogue on creativity and supported deeper engagement with the artists' work. The residency was equally fruitful for R-Research and Creative Learning: feedback and reflection by students was incorporated into their ongoing development of a CTT-based curriculum. deLahunta commented:

This research collaboration with MSU has proven to be extremely valuable. The CTT workshops were an invaluable context for testing out the potential of the choreographic/creative thinking tools.... Our interaction with the work group has been very stimulating, and we have directly benefited from participating in a discussion of creative thinking that steps outside of artistic practice.



*Brainstorm* panel participants, from left to right: Elizabeth Streb, David Gordon, Scott deLahunta, Robert Whitman, and Philip Barnard; photo by Mike Peters

## Robert Whitman



*Robert Whitman; photo by Rosa Menkman*

As part of the pre-production work for *Passport*, a new multisite work by visual/performance artist Robert Whitman co-commissioned by Peak Performances and the Dia Art Foundation, students from Montclair State's College of the Arts collaborated with Whitman on the physical elements of the production. Over the four months preceding the April 2011 world premiere, Whitman

worked closely with students in the Art and Design and Theatre Studies programs on creating video projections that were an integral part of the performance; two of the students also were incorporated as performers. Students in the Broadcasting Department participated as archivists of the development and rehearsal process and in creating a documentary on the project. One student wrote afterward, "Being inside this vanguard event has had an irreversible effect [on] my artistic personality."

*Passport* coincided with the broadening campus dialogue on creative thinking in spring 2011. Prior to the premiere, Whitman took part in the *Brainstorm* symposium, discussing his long history of innovating art and performance and providing insight into his creative process and early inspirations for *Passport*.

## Robert Wilson

The initial offering of the Creative Thinking course was scheduled to take advantage of on-campus workshop rehearsals for *Zinnias: The Life of Clementine Hunter*, a new chamber opera being created by Robert Wilson in collaboration with Bernice Johnson Reagon, Toshi Reagon, and Jacqueline Woodson, commissioned and produced by Peak Performances. Wilson met with students in the Creative Thinking course to talk about his way of working and inspirations that have guided him during his career. The students then visited a workshop rehearsal of *Zinnias* to observe Wilson in action during the making of the piece. In addition, students in the College of the Arts participated as design interns during the three-week workshop period. In January 2013, in preparation for the world premiere of *Zinnias* at Montclair State, these students and others will have additional opportunities to participate during final rehearsals of the production. One student in the Creative Thinking course wrote:

Meeting Robert Wilson was an interesting experience, but watching him do what he does best in the preparation of a performance/show was humbling.... Watching the rehearsal for *Zinnias* has made everything I've learned in this course about creativity a concrete confirmation.



*Robert Wilson; photo courtesy Robert Wilson*



*Robert Wilson rehearsing Zinnias at Montclair State; photo by Stephanie Berger*



*Robert Wilson addresses Montclair State University students in the Creative Thinking course to talk about his creative process and inspirations, May 17, 2012. The students also visited a workshop rehearsal of Wilson's new chamber opera Zinnias: The Life of Clementine Hunter to observe him in action during the making of the piece.  
Photo by Sarah Bishop-Stone*

## Liz Lerman



*Liz Lerman with Montclair State students;  
photo by Sarah Bishop-Stone*

Choreographer Liz Lerman joined Scott deLahunta for a meeting with the faculty Working Group in fall 2010; Liz and Scott consulted with the group on a strategy and framework for developing course content during the initial stages of the project. For the pilot version of the Creative Thinking course, Liz returned to lead a two-day session on the theme “Harvesting Intuition”; she

guided the students through a series of physical and thought exercises intended to help them examine their own methods of working by challenging habits and paradigms of thinking. Of Lerman’s lessons, students wrote:

She made me realize how important it was to not be ashamed of the way I approach my creative process. Instead, she urged me to find ways to balance analysis and spontaneity. For that, I’m forever thankful.

Liz is a great teacher, but she does not instruct, she helps you instruct and understand yourself

## Iain Kerr

Iain Kerr is a founding member of the international transdisciplinary collective spurse and an adjunct professor in Montclair State’s Visual Arts MFA program. His engagements have taken him into and across the fields of philosophy, emergent architectures, evolutionary ecology, developmental systems theory, clothing design, labor practices, and foodways, among other things. With a focus on challenging theories that privilege moments of individual insight as the primary source of creativity, Iain met first with the faculty Working Group in fall 2011. In May 2012, he spent two days teaching in the pilot version of the Creative Thinking course. His approach offered the faculty and students tools that focused on creation as a collaborative process within a system, rather than “creativity” as a mysterious, intangible element. One student commented that Iain’s “discussions helped me view the material in the course as applicable to almost any endeavor.”



*Sketch by Robert Whitman for Passport*

### **Baker Idea Institute**

The initial inspiration for the Creative Thinking course was the “Integration of Abilities” approach developed by visionary theater director Paul Baker during his tenure as a professor at Baylor and Trinity universities. Baker’s ideas were seen as effective for developing students’ full creative potential and as applicable across disciplines. Robyn Flatt, Baker’s daughter, is director of the Baker Idea Institute, which creates curricula and special programs based on Baker’s methodology. Flatt conducted an Integration of Abilities workshop with the faculty Working Group in fall 2011 and then provided constructive criticism and feedback on the emerging plans for the course at a midpoint in course development.

### **Reflection on Campus Partnerships**

The primary partnership with RAUL was extremely important in terms of curricular and pedagogical expertise and for shepherding development of the structure of the course during the development process. In addition:

- Having a high-level partner in Dr. Ken Bain (Vice Provost and Director of RAUL) helped gain the attention and support of upper-level administration, increasing the prestige of the project and raising awareness across campus.
- As the unit responsible for professional development on campus, RAUL has an established network of young, forward-thinking faculty, which was instrumental in recruiting Working Group members.
- The administrative process for course approval was challenging and time consuming, particularly since the Creative Thinking course did not fit into a conventional model. RAUL's established relationship with administrative personnel in Academic Affairs was instrumental in navigating the approval process. RAUL's staff also handled much of the administrative research and paperwork.
- The Associate Director of RAUL, specializing in evaluation, gave us an in-house evaluator, supported by student research assistants.

We found a significant challenge to be the commitment of time in an environment where all partners have multiple responsibilities competing for their attention. Despite the faculty Working Group's commitment to the project and engagement when "in the room," sustaining investment between meetings was a challenge and convening all members of the Working Group for each meeting was often difficult. With the addition of a Creative Campus Coordinator in January 2011, ACP was able to devote more time to increasing communication with the Working Group in order to sustain attention and momentum between meetings. This was done via regular email communication of meeting recaps and news, as well as a blog resource to stimulate further reflection and dialogue around issues and ideas raised in meeting discussions. The Working Group and RAUL also were invited to performances and special events sponsored by ACP to increase opportunities for interactions with artists and with each other outside the scheduled activities related to the project.

In addition, staff changes had an impact on project implementation and evaluation. The departure of Dr. James Zimmerman at the start of the first year of the project resulted in a necessary delay in initial implementation of an evaluation plan. After Dr. Ken Bain's departure in January 2012, RAUL's Associate Director, Dr. Cigdem Talgar, took on a more hands-on role in guiding the Working Group's development of the course syllabus. Provost Willard Gingerich also stepped in to provide support during course approval. Dr. Bain continued to consult on the project and returned for the launch of the pilot course.

### **Reflections on Project Management**

- High-level administrative support is essential, especially when a project involves navigating curricular procedures and allocating faculty teaching time. Support by the Provost's Office in particular not only helped to expedite the administrative steps but also reinforced the validity of the project to the campus community.

- Defining and re-defining the roles of project partners is important throughout the process. Assessment of partners' roles should be ongoing in order to effectively leverage time and expertise. Periodic and regular planning meetings between the core project partners (ACP and RAUL) were essential to keeping the project moving forward. These meetings were essential for determining strategy and tasks for the Working Group.
- Communication to the wider campus community is essential to building support for the project. We used various outlets to create a narrative of the project, which built support for the course and related events. This raised awareness of the work being done by the campus partners and also increased awareness of ACP and Peak Performances as an academic resource. This heightened awareness was crucial for getting the course approved and for moving the project forward in the future.
- Consistent communication among partners is essential to maintaining momentum.
- Capitalize on existing campus resources and programs in order to spread the labor and also to increase awareness of the project more broadly on campus.
- Flexibility when working with an emergent process is crucial. We often had to re-assess and alter planned strategies in order to keep the process moving forward.

## Project Evaluation

### Evaluation Plan

Dr. James Zimmerman was the original evaluator for this project. Upon his departure from the University, the evaluation was taken over by incoming Associate Director of RAUL, Dr. Cigdem Talgar. Dr. Talgar and Dr. Ken Bain devised an evaluation plan that would investigate how igniting student's creativity would impact various aspects of their lives, from the approaches that they take to their studies to how they interpret artistic events that they attend. Three evaluative studies were devised:

1. A campus-wide student survey
2. An assessment of course impact on enrolled students
3. A focus group comparison of responses to a performance

### Campus Survey

In fall 2011, before the Creative Thinking course was offered or announced to the student population, a survey was administered to all students to assess their perceptions of the creative atmosphere at Montclair State. The results from 107 respondents indicated that the creative atmosphere on campus was perceived as average (on a scale from 1 to 5 for most questions, the answers were unanimously 3s). The goal of this survey was to serve as a baseline pre-test to determine whether offering the Creative Thinking course has an impact

on student perceptions of creativity on campus. We are currently waiting until the second, semester-long offering of the course (spring 2013) to run the post-test survey.

## Course Assessment

The twelve students enrolled in the summer 2012 offering of the Creative Thinking course were given two questionnaires to investigate the impact of the course. An Adaptive Expertise questionnaire, developed by F.T. Fisher and P.L. Peterson, investigated whether students were adaptive experts and whether the Creative Thinking course influenced the way that they would use information in other classes after taking the Creative Thinking course. The Study Process Questionnaire, developed by John Biggs, was used to assess whether students took deep, strategic, or surface approaches to learning. Students completed both questionnaires on the first day of class; then, alternate versions of both questionnaires were administered on the last day of class, for comparison.



*Student Latisha Lancaster introduces a video project in the Creative Thinking course, June 7, 2012. Photo by Sarah Bishop-Stone*

In the Adaptive Expertise questionnaire, which determined how students would take material that they learned in any class (in addition to the current class) and apply it to everyday experiences, questions assessed changes to Goals and Beliefs, Epistemology, Metacognitive Self-Assessment, and Multiple Perspectives. The results showed that, within the span of the four-week course, students significantly changed in the first three of the four areas. More specifically, with regard to questions that involved their Goals and Beliefs (such as how they deal with challenges, whether they are all right with not doing well in tasks, whether experts are born with their talents, and questions about the nature of intelligence), students' responses changed to be more positive. This positive change also was true for the Metacognitive Self-Assessment

questions (understanding one's own learning process, monitoring one's own understanding, and evaluating one's own performance on tasks). With regard to the Epistemology questions (investigating thoughts about knowledge in the world and how flexible it is and about how knowledge develops and is driven by multiple individuals), the students became much more anchored in the belief that knowledge is flexible, built by collaboration, and subject to change.

With regard to the Study Process Questionnaire, the interest was to determine whether students took a deep or surface approach to their learning when they first started the course and how their approach changed as a function of the course. The results showed that most students were less likely to identify with the surface approach to learning, compared with the deep approach, at the beginning of the course. The results further indicated that, after the four weeks, there was no change to the students' feelings about taking a surface approach to their learning. However, there was a significant increase in the deep approaches that they took with regard to their studies. The lack of a response change for the surface approach questions can be accounted for by the presence of what is termed a "floor effect": in the pre-test, the students were already responding as low as the scale would allow such that the results could not be lower by the end of the class. This was not the case for the questions on deep learning. Most students started the class with moderate responses to the deep learning questions; after taking the course, these responses were significantly enhanced, meaning that their approaches to their studies significantly changed as a function of the course.

*"I am coming out of this class, or process, a better and more confident person. I feel more prepared to take on the world and the people around me, and I now understand more realistic ways to solving my problems. I have left a stronger person."*

—Student,  
Creative Thinking course

### Focus Group

We performed an experimental study to investigate whether a student taking the Creative Thinking course would have a different experience of the performing arts, compared with students who had not taken this course. In this study, we also wanted to take advantage of the interdisciplinary nature of the course. Being taught by individuals from different disciplines as well as by visiting artists, we wanted to assess whether the course influenced the way that students evaluated the arts. More specifically, did students taking this course make interdisciplinary connections in the arts that students not taking the course were not able to do?

Forty students (11 of whom were enrolled in the Creative Thinking course) watched a 30-minute clip of the performance *FAR* by Wayne McGregor|Random Dance. Before watching the performance clip, students were told to watch the performance from the perspective of a person from a different discipline (such as physics, psychology, or the arts) or to watch from the perspective of someone in their own discipline (the discipline of the student watching the show). A third group of students was not primed at all and was asked to enjoy the show. After watching the performance clip, students were asked open-ended questions about what they remembered about the performance, what they thought about the performance, what a person from their own discipline would think about the performance, and why people

would attend performances like the one that they had watched.

Preliminary analysis indicates that, indeed, the students taking the Creative Thinking course were much more descriptive in their answers to the questions outlined above. Furthermore, when students were asked to take a more global perspective when enjoying the performance, their responses were significantly more intricate and also quite abstract when considering the meaning of the performance. When students were not given direction with regard to the performance (i.e., no priming instructions), this was not the case. This difference was not present among students taking the course. Their responses were highly descriptive and took both a local as well as a global perspective, regardless of what instructions they were given.

### Further Analysis

The data collected from the first offering of this course are enough to make general conclusions. However, with the second offering (spring 2013), our sample size will be significantly larger, allowing for the possibility to publish the results of the three evaluative studies discussed above. Upon completion of these studies, we intend to submit our results for publication and will also forward these publications to the Association of Performing Arts Presenters.

### Reflection on Evaluation Results

The goal of the project was the development of a class that would re-invigorate students' creative potential. Overall responses to the first offering of the Creative Thinking course were extremely positive, with students commenting that they believed the experience to be "life changing."

The in-depth analysis of how the course might impact their approach to studying and also their adaptive expertise revealed that, in fact, the course was successful in changing the approaches that the students took to their studies. The broader implications of the results suggest that the course not only influenced their creative potential but also how they will approach courses that they would take in the future, thereby influencing their academic success.

The fact that this course had an impact on how the students view their education, how they approach their studies, and how they would utilize the information that they learn in future courses in their everyday lives went far beyond the original goals for the course. The evaluation results show that the course has the potential to greatly influence individual students with regard to the quality of education that they receive by developing adaptive expertise and helping them to appreciate and exercise deep learning approaches to their studies. Thus, this course has the potential to make large differences in how students approach their education at the undergraduate level and beyond.

*"I had a great time participating in this course. I[t] was a very good experience. I can see how this could be one of the best courses at MSU if continued in the same fashion and constantly improved."*

—Student,  
Creative Thinking course

The course will again be offered in spring 2013, and the long-term goal is for the course to grow into a foundational experience for all incoming students at Montclair State. This Creative Thinking initiative has the potential to create yearly cohorts of students who take a deep approach to learning, while looking for ways to apply what they are learning between classes, thus profoundly affecting student achievement at Montclair State. By seeing the links between classes, the students will be able to create a concept map of their entire educational process that will enable them to continue drawing on their knowledge and experiences far beyond graduation.

The results of the third evaluation also indicate that students enrolled in the course showed a more detailed and open understanding of arts performance. Broader implementation of the course will enable us to assess whether this result is a direct outcome of their experience with the visiting artists. In the post-course survey, students indicated that the artist interactions were a highlight of their experience. A larger-scale offering of this course has the potential to graduate cohorts of students from Montclair State who, while they might not be graduating from the arts programs, will have a much deeper appreciation for the value of the arts in society.

## Evaluation Experience

The primary focus of the formal evaluation was assessing the impact of the Creative Thinking course on the enrolled students. Assessment of the benefit to individual students, as well as to the campus environment, was considered to be critically important in order to make the case for continuing and expanding the course after the initial offering. Given that the team members responsible for implementing the project were also the primary evaluators, we were unable to expand the scope of the evaluation to a formal assessment of the impact on artist and faculty development.

However, informal conversations and anecdotal evidence indicate that artist and faculty learning was a key, perhaps unanticipated element in the project. For example, members of Wayne McGregor|Random Dance considered their residency to be very important to the ongoing research and development of the company's own work (see attached report by Scott deLahunta, R-Research Director).

Members of the faculty Working Group reported applying ideas discussed during course development in other courses that they teach and to further investigate creativity in their own fields. Dr. Ashwin Vaidya (the lead instructor of the pilot course) and Dr. Mika Munakata have received a grant from the American Physical Society for a project that aims to engage



*Robert Wilson in rehearsal at Montclair State; photo by Stephanie Berger*

university and K–12 students and teachers in understanding the science in “creative” works and the creative processes within the sciences, and in May 2012, they applied for a National Science Foundation TUES grant (Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics) to further investigate the role of creativity by way of exposure to the arts in the instruction of sciences.

### **Resource List**

The following evaluation resources are attached:

- Report on research residency activities and outcomes, by Scott deLahunta, R-Research Director, Wayne McGregor | Random Dance
- Campus-wide student survey and protocols
- Adaptive Expertise and Study Process Questionnaires (pre- and post-test) and protocols
- Focus Group questionnaire and protocols

## **Sustainability**

From the start of the project, the Creative Thinking course was intended to become an ongoing part of Montclair State’s curriculum. The course responds to goals articulated in Montclair State’s strategic plan that include the integration of deep learning initiatives and creativity into the curriculum and increased integration of the arts into campus life. The Provost’s Office provided key support for the project and took an active role during the course approval process. The course presents an opportunity for ACP to align with the University’s broader goals by providing a platform for ongoing and sustained integration of Peak Performances artists. Students from across the University will have the opportunity to engage with visiting artists in a format that supports students’ ability to understand creative practice as applicable to their academic studies in general and to their life beyond the University.

### **Course and Faculty Development**

The four-week pilot offered in summer 2012 is on track for development into a semester-long course to be offered in spring 2013, as the project partners continue to develop and refine the course during fall 2012. The pilot was designed to provide a thematic framework for the course as it continues to evolve and expand. This flexible structure will leave room for individual instructors to adapt the course to their specific strengths and to draw on their own experience and knowledge. The pilot also drew the attention of additional faculty in various departments who are interested in participating in the project, thus potentially expanding the pool of faculty available to teach the course and reinforcing the multidisciplinary nature of the course, in addition to building broader campus awareness of the project. The project partners will be considering ways to keep students engaged beyond their time in the course, possibly through social media or as peer mentors to other students subsequently enrolled in the course.

The partnership with RAUL provides a sound platform for the approaches and discoveries of the course to inform teaching and learning beyond the course itself. As the locus of pedagogical inquiry and faculty development on campus, RAUL provides an avenue for course methodology and philosophy to be assessed and applied more widely through integration into other RAUL-sponsored initiatives. RAUL is already planning to offer workshops based on artist sessions from the pilot course in its Engaged Teaching Fellows program, a year-long mentorship program for new faculty.

The long-term vision to eventually expand the course to a foundational experience for all incoming students presents a set of logistical challenges: namely, a more formal structure for administration of the course (meeting registration deadlines, tracking and securing department release time for faculty, preparing course materials) and the financial support necessary to exempt faculty from department teaching while serving as course instructors. In addition, as the course expands, the number of faculty needed as instructors will increase, requiring a structure for recruiting and advising new faculty. As part of the refining process in preparation for spring 2013, ACP and RAUL will be working with the Provost's Office on a plan to address these long-term challenges.

### **Artist Collaboration**

The flexibility of the course framework enables different guest artists to interact with the course and to collaborate with the instructors to respond to the needs of the students. By focusing on process and strategies for generating material and problem solving, the knowledge that visiting artists have derived from their own creative practice can be applied by students to any discipline, as well as have an impact on students' capacity to personalize understanding of an artist's work. The primary criterion for artists is an ability to articulate a conceptual understanding of their own strategies and methods, which also can be a learning experience for the artists. This flexible structure is crucial for capitalizing on the changing pool of artists brought to campus through Peak Performances each academic year.

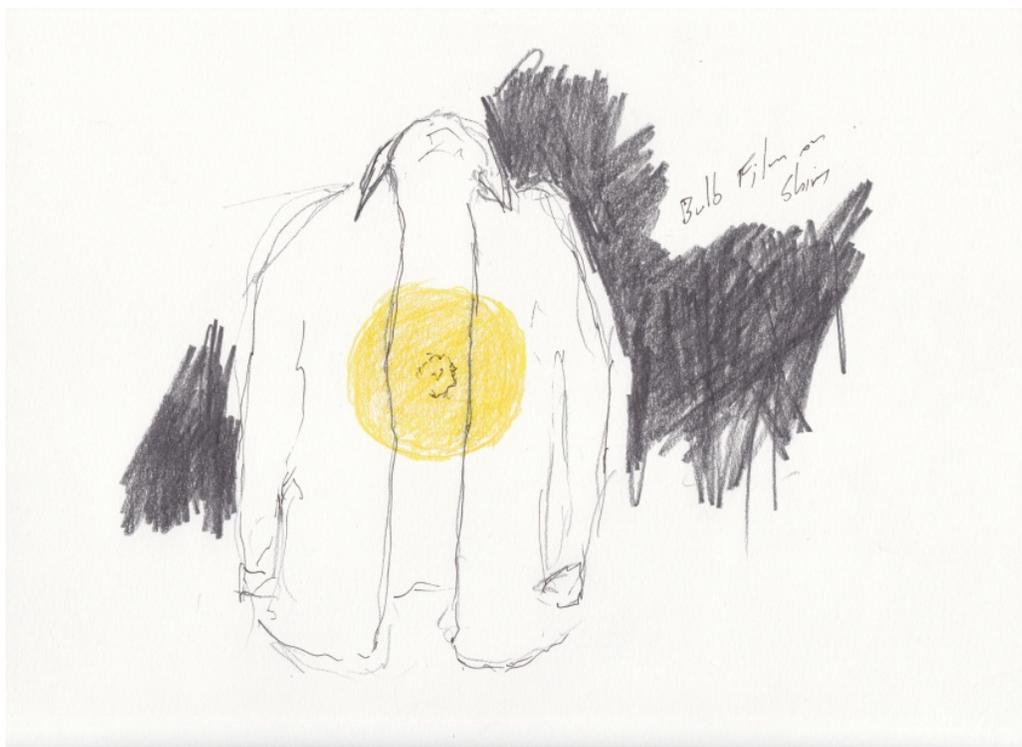
### **Future Planning**

The scope and length of the project and the multidisciplinary make-up of the project partners have extended the reach of ACP and Peak Performances into new academic and administrative areas. This additional network will provide a strong platform for building future collaborations with departments across the University. The many dialogues, discussions, workshops, and of course the Creative Thinking course itself introduced a broader range of students and faculty to Peak Performances and increased awareness of ACP as an academic resource, particularly among departments and administrative units outside the College of the Arts.

*Brainstorm* was ACP's first foray into hosting an academic symposium; more than 200 people attended the event, including students, academics, and dance enthusiasts from the University, the local community, and New York City. The partnership with Wayne McGregor|Random Dance represented the first residency that spanned more than one academic year and reached beyond the

timeframe of a specific performance. Both were particularly effective in positioning ACP as a source for interdisciplinary exchange.

The Creative Thinking project has had a profound impact on ACP's approach to season planning for Peak Performances. Projects are viewed with an eye toward the strength of academic connections and the possibilities for sustained campus engagement. ACP is actively seeking to expand the number of projects involving students and professional artists in the making of new work. And, of course, continuing to identify artists who will intersect well with the Creative Thinking course is a priority. ACP also has taken steps to build on the success of the research-education collaboration with Wayne McGregor|Random Dance: a dialogue with Creative Learning and R-Research is under way to plan for future interdisciplinary exchange, as the company continues to develop the Choreographic Thinking Tools for wider application in educational settings.



*Robert Whitman sketch for Passport*



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