Tech FIT

An Advancing Design-related Technological Education Project

FIT **Fashion Institute of Technology**
Center for Excellence in Teaching & the Department of Science and Math

EXECUTIVE SUMMARY

Tech-FIT, as part of an Advancing Design-related Technological Education project has conducted four activities to gather feedback from faculty and industry representatives on their familiarity and use of green and sustainable science curriculum concepts. A Pre-Assessment Questionnaire was distributed to faculty, staff and industry representatives during a launch breakfast in August 2010, a total of 34 participants responded to the questionnaire. The next Tech-FIT activities included two mini-retreats that took place on November 12th, 2010, and on March 4th, 2011.   In addition, on January 25th, an Advisory Board meeting took place which included 12 representatives from industry. This report focuses on results from these activities and recommends next steps for implementing the goals for the project.

OVERVIEW

The Fashion Institute of Technology (FIT) is part of the State University of New York (SUNY). Located in New York City, it is an internationally recognized college for design, fashion, art, communications, and business. FIT offers Associate of Applied Science Degrees, Bachelor of Science Degrees, Bachelor of Fine Arts Degrees, Master of Professional Studies Degrees, Master of Arts Degrees, and a Master of Fine Arts Degree. In June of 2010, the Center for Excellence in Teaching and the Department of Science & Mathematics was awarded an Advanced Technology Education (ATE) grant through the National Science Foundation. The purpose of the Advancing Design-related Technological Education: A Three-way Partnership Project (Tech-FIT) grant is to better prepare graduates at the college to meet industry demands for the design, development, and manufacture of green and sustainable products such as textiles, toys, home products, cosmetics, and packaging. Through innovative curricula and

creative pedagogies, faculty will motivate students at the college to persist in the study of science and to improve their skills.

A launch breakfast took place on August 25, 2010 which presented the opportunity to pre-assess faculty, staff and industry representatives on their current knowledge in green technology concepts and interest in participating in Tech-FIT upcoming activities. The Pre-Assessment Questionnaire asked individuals their names and to identify themselves by academic division and/or specialty area while industry representatives were asked to identify their organization or company. The Pre-Assessment Questionnaire consisted of 11 questions **(see appendix A).** Four questions asked about knowledge of "green" and design-related technology concepts, two questions asked about familiarity with green technology and product development and how it can be incorporated into the science curriculum and how industry can contribute to the development of science curriculum that is responsive to green technology. Another question asked opinions about how prepared FIT graduates are for the demands for the design, development, and manufacture of green technology products and services. The remaining questions looked for availability in terms of participation in future Tech-FIT Project activities. The results can be found in appendix A.

The next Tech-FIT activity included the first of a two-part mini-retreat breakfast. The first retreat took place on November 12th, 2010. The title of the retreat was "*Toward a Greener Sustainable and More Eco-friendly Curriculum*" and included four FIT faculty members and a guest speak from the Savannah College of Art and Design with the charge of presenting and discussing topics related to infusing the curriculum with sustainability and exploring the potential for inter-disciplinary and cross-curricular transformation. At the end of the

presentation, a questionnaire **(see appendix B)** was distributed to gather feedback from participants. A total 23 participants completed the survey. A second mini-retreat, "*Science + Design = Effective Business"* took place on March 4th, 2011. The same questionnaire given on November 12th was also used for March 4th.

RESULTS

Pre-Assessment Questionnaire

A total of 34 participants responded to the questionnaire, and all but two were faculty members. The greatest amount of responses (47%) came from the Art & Design division faculty followed by Liberal Arts (18%), Business & Technology (12%), and Academic & Student Affairs (9%). Four individuals (15%) did not identify a division **(see table 1).**

Table 1. Pre-Assessment Questionnaire Number of Respondents by Division

FIT Division	Number of responses	Percent
Art & Design	16	47%
Liberal Arts	6	18%
Business & Technology	4	12%
Academic & Student Affairs	3	9%
Not identified	5	15%
	34	**100%**

The first four questions were provided to respondents in a Likert scale format. Individuals had the option to choose from a range of "1" representing "Not familiar" to "5" representing "Very familiar" as well as "unsure" as selection options when rating their knowledge of certain green and design-related technology concepts. Respondents felt most familiar with the term

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"Sustainability" with a mean rating score of 4.4 out of 5, which is closer to "very familiar" on the response scale. Participants felt less familiar with "Cradle to Cradle" design with a mean rating score of 3.4 out of 5, which is closer to a "somewhat familiar" response.

Question 5 and 6 were somewhat similar. When comparing question #5. *How familiar are you with how green technology and product development can be incorporated into the science curriculum?* and question #6 *How familiar are you with how industry can contribute to the development of science curriculum that is responsive to green technology?, respondents* felt slightly more familiar with how "industry" can contribute to the development of science curriculum with a familiarity rating of 3.4, versus how "green technology and product development" can be incorporated into the science curriculum with a lesser familiarity rating of 3.1. Both of these response averages equate to a "somewhat familiar" reply to awareness of knowing how green technology and product development can be incorporated into the science curriculum and how industry can contribute to the development of science curriculum that is responsive to green technology.

The lowest rated question on the entire questionnaire was the questions # 7. *How prepared are today's FIT graduates for the demands for the design, development, and manufacture of green technology products and services?* On as scale that ranged from 5 being "extremely prepared" to 1 representing "extremely unprepared", the response average was 2.8, which equates to just barely under "somewhat prepared".   No one responded that FIT graduates were "extremely prepared" or "extremely unprepared", for the demands for the design, development, and manufacture of green technology products and services. Two individuals or almost 18 percent felt that FIT graduates were prepared, 50 percent felt that FIT graduates

were "somewhat prepared" six believed that FIT graduates are "unprepared", and 9 individuals

did not respond to the question **(see table 2)**.

Table 2. Pre-Assessment Questionnaire Response #7 on Preparedness of FIT Graduates

	Frequency	Percent
Unprepared	6	17.6
Somewhat Prepared	17	50.0
Prepared	2	5.9
Total	25	73.5
No response	9	26.5
	34	100.0

The remaining questions on the Pre-Assessment Questionnaire were designed to gather

information about the frequency and availability of attendees for upcoming Tech-FIT activities

which includes meeting with FIT faculty participants to discuss curriculum, online discussions,

attending breakfast meetings like the launch event, and participating as an Advisory Board

member.   Respondents were asked to identify how frequently they would be willing to

participate in Tech- FIT activities' ranging from two/three times a year to as often as once a

week.

The largest percent (33%) of FIT faculty were willing to meet once a week when it

came to discussing curriculum, and another 30 percent were willing to meet once every two

weeks. Thirty-nine percent, or 11 individuals were willing to engage in online conversation

regarding curricular topics at least once a month, 9 people (32%) were willing to engage in

online conversations at often as once a week. Thirteen people (39%) were willing to attend

another breakfast meeting once a month, 33 percent (11 individuals) would attend two or three

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times a year. The largest percent of respondents (26 %) indicated that they would be willing to participate as an Advisory Board member at least once a month followed by once a week with 23 percent.

Mini-retreat #1

The retreat questionnaire gave the option for participants to identify themselves by name and academic division. There were 11 questions and a section at the end of the questionnaire for open comments and suggestions. The first eight questions were in a Likert scale format allowing respondents to reply to each question by indicating whether they "Strongly Agree", "Agree", "Disagree", "Strongly Disagree" or feel neutral about each question. A total of 23 participants responded to the questionnaire. The greatest amount of responses (26%) came from the Liberal Arts division faculty followed by Art & Design (22%), Business & Technology (13%), and Academic & Student Affairs (13%), Graduates Studies (9%), Continuing/Professional Studies (4%). Three individuals (13%) did not identify a division **(see table 3).**

Table 3. Mini-Retreat #1 Number of Responses by Division

FIT Division	Number of responses	Percent
Liberal Arts	6	26%
Art & Design	5	22%
Business & Technology	3	13%
Academic & Student Affairs	3	13%
Graduate Studies	2	9%
Continuing/Professional Studies	1	4%
Not identified	3	13%
	23	**100%**

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The first question asked participants to comment on their agreement to the following statement: *"This presentation has promoted my thinking about how teaching and the curriculum might be infused with Sustainability."* All participants agreed with this statement, with 26% or 6 people selecting "agree" and the majority (74%) or 17 people selecting "strongly agree". On the next question, participants were asked if the presentation promoted their thinking about teaching and the curriculum and how it might be infused with Green Design. Thirteen or 57 percent of participants "strongly agree" with this statement, seven or 30 percent "agree" with this statement and two people were neutral. For question 3, a majority (83%) of participants disagreed with "having no idea what design for sustainability was all about. Based on the responses for questions 4 and 5, 52% or 12 attendees plan to change their teaching based on what they learned from the presentation and 48% were neutral on this decision, while 61 percent or 14 participants plan to change curriculum based on what they learned from the presentation. The majority of participants (65%) also indicated that they were more aware of the Green and Sustainability initiatives at FIT based the mini-retreat presentations and 86 percent mentioned that they would like to learn more about specific techniques to use to make teaching and curriculum more eco-friendly. The final question asked if participants knew how to integrate social innovation into design curriculum before attending the retreat, almost fifty percent (48%) disagreed with this statement, 26 percent agreed with this statement and 26 percent were neutral on this statement.

The end of the questionnaire focused on gathering information about the general logistics of the retreat and suggestions for future presentations. A majority of the participants (70%) heard about the retreat from email and internet resources. Other sources include faculty meetings and mailed invitations. In terms of the materials and handouts, 39 percent

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found the materials to be "very helpful" and 48 percent found the materials to be "somewhat helpful". In closing, 4 percent of attendees rated the retreat to be "fair" overall, 17 percent found it to be "good" and the majority of participants (78%) rated the retreat to be "excellent" overall.

Mini-retreat #2

A total of 33 participants responded to the questionnaire for retreat #2. The greatest amount of responses (33%), came from the Art & Design division faculty followed by Liberal Arts (18%), Academic & Student Affairs (12%), Business & Technology (9%), and Graduates Studies (6%). There were no individuals that identified themselves as part of the Continuing/Professional Studies division and seven individuals (21%) did not identify a division **(see table 4).** When compared to the first retreat, ten additional participants attended retreat #2, with almost double the participation from Art & Design division.

Table 4. Mini-Retreat Questionnaire Part I- Number of Response by Division

FIT Division	Number of responses	Percent
Liberal Arts	6	18%
Art & Design	11	33%
Business & Technology	3	9%
Academic & Student Affairs	4	12%
Graduate Studies	2	6%
Continuing/Professional Studies	0	0%
Not identified	7	21%
	33	**100%**

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The answers for retreat #2 on the first question *"This presentation has promoted my thinking about how teaching and the curriculum might be infused with sustainability"* resulted in three individuals with neutral responses, and the remaining participants (91%) in agreement with this statement, with 49% or 16 people selecting "agree" and the rest (42%) or 14 people selecting "strongly agree". For question two, participants were asked if the presentation promoted their thinking about teaching and the curriculum and how it might be infused with Green Design. Seven individuals were neutral on this statement, and 25 (75%) agreed with this statement. For question 3, a majority (94%) of participants disagreed with "having no idea what design for sustainability was all about, two individual were neutral. The responses for questions 4 and 5 asked whether attendees plan to change their teaching and curriculum based on the presentation. Fifty-one percent of participants agreed that they would change their teaching, and 45 percent said they would change curriculum based on the presentation. The only disagreement came from those unwilling to change curriculum (6%), and fifteen participants (46%) were neutral when it came to teaching, with the same amount selecting neutral for the curriculum question as well. The majority of participants (72%) also indicated that they were more aware of the Green and Sustainability initiatives at FIT based the mini-retreat presentations and 91 percent mentioned that they would like to learn more about specific techniques to use to make teaching and curriculum more eco-friendly.

The final question asked if participants knew how to integrate social innovation into design curriculum before attending this second retreat. Fifty-eight percent (48%) disagreed with this statement, 15 percent agreed with this statement and 27 percent (9 participants) were neutral on this statement. The overall majority (97%) of participants found the retreat to be to be "good" (30%) or "excellent" (67%).

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Comparing Retreat #1 to Retreat #2

Six individuals identified themselves by name, and therefore could be identified as attending both retreats. These participants represent the Art & Design, Liberal Arts and Academic & Student Affairs divisions. Upon revisiting the first question on whether the presentation promoted thinking about how teaching and the curriculum might be infused with Sustainability, during the first retreat participants agreed with this statement, with 26% or 6 people selecting "agree" and the majority (74%) or 17 people selecting "strongly agree. Again with the second retreat, the majority of participants agreed with this statement, **(see appendix C)** with 48% or 16 people selecting "agree" and 14 people (42%) selecting "strongly agree". Three participants selected "neutral".

Comparing question #2, participants were asked if the presentation promoted their thinking about teaching and the curriculum and how it might be infused with Green Design. Thirteen or 57 percent of participants "strongly agree" with this statement from the first retreat, while 10 participants (30%) selected "strongly agree" for retreat #2. Of note is question #5 where participants were asked about changing curriculum based on the presentation. The responses dropped from 61 percent in agreement from retreat #1 to 45 percent in agreement for retreat #2. Participants for both retreats were also given the opportunity to provide suggestions for improvements; these remarks are found in appendix D.

In summary, the results for questions for retreat #1 and #2 were, for the most part, identical with very little or small fluctuation in number of responses and the representation based on percents. This holds true for the overall rating of the retreats where the results

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demonstrated that 95 percent of participants rated their experience as "good" or "excellent" for the first retreat and 95 percent of participants for the second retreat.

Advisory Board

The first TechFIT Advisory Board (AB) meeting took place in January of 2011.   The composition of the group included faculty members and representatives from industry (**see appendix E**). These individuals possess expertise in sustainable clothing and textiles, packaging, manufacturing, and interior, exhibition design as examples. The Board met for the purpose of being formally introduced to the goals of TechFIT project, to hear about the upcoming faculty development activities, view examples of the learning modules and to participate in a feedback activity.

In summary, questions for the feedback activity sought to gather information and provide views to support the major objectives of the TechFIT project. AB representatives were asked to provide answers to following questions;

- *What is green and/or sustainable design?*

- *What critical initiatives can you identify in your industry with regard to green design and sustainability?*

- *When graduates first arrive in your industry, what skills should they have with regard to eco-responsible design and business?*

- *What kinds of green/sustainable products and/or processes should students be developing in their classes?*

Views on the definition of green and sustainable design included a combination of answers that clustered around three categories, social conscientiousness, awareness of the impact of materials and environmental issues.   For example, the theme of "social

conscientiousness" was communicated by AB members when they described green and sustainable design as;

> *…ethics, social responsibility, awareness*
>
> *…civics/civic engagement*
>
> *…greater awareness and social responsibility/ethics*
>
> *Quality of life-social responsibility*
>
> *Consideration of future generation*

When AB members spoke about the "impact of materials" they used phrases such as;

> *Product life cycle*
>
> *Product life cycle, natural resources-mining*
>
> *Product supply chain examined*
>
> *Optimizing resources for effective products*
>
> *Right manufacturing*
>
> *Least damaging materials*

And finally, AB members expressed ideas about "environmental issues" by stating that green and sustainable design includes;

> *Green washing*
>
> *Degradation(on environmental or human life)*
>
> *Rapidly renewable natural resources, sun, wind, geothermal, focus on energy*
>
> *Optimizing resources*
>
> *Design that benefits ecological cycle*
>
> *Minimum pollution impact*

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The next feedback question for AB members asked them to identify critical initiatives in industry with regard to green design and sustainability? Examples of the responses include;

Reuse of materials, defining systems that can be used over and over again

SEEP (Social, economic, ecological, performance)

Full cost accounting. Cradle to cradle initiatives

How to market a green product profitable

AB members were also asked to provide comments about FIT students. Specifically, the question looked to uncover the perception of the skills that FIT graduates should have in relation to eco-responsible design and business. Responses centered on several areas, for example;

Ecological ethics, social responsibility, awareness, some direct experience.

Able to design new, more efficient structural systems.

Ability to be lead

Technology knowledge. Science knowledge. Knowledge of scientific foundation.

Problem solving skills-big picture-critical thinking

The final question asked AB members to define the kinds of green/sustainable products and/or processes that students should be developing in classes. Responses to this question include;

Redesign to eliminate the use of "waste"

Redesigning/innovating new structure systems

Redesign to eliminate waste production

How to market the idea

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Green roof. Solar panels & heating

Life Cycle Awareness. Testing procedures. Certifications.

Life Cycle. Business skills

Understand the full life cycle from materials to consumer education

The second Advisory Board (AB) meeting took place in August of 2011. The meeting included four new feedback questions as noted below;

What have you learned about green and/or sustainable design while being a part of Tech FIT Advisory Board?
Can you identify any new critical initiatives in your industry with regard to green design and sustainability since the last meeting?
What skills have you witnessed from graduates/interns/students with regard to eco-responsible design and business since the last meeting?
What should students be learning in the classroom to enhance comprehension and knowledge in terms of green/sustainable products and/or processes?

The first question sought to discover any learning opportunities that may have occurred while being a part of the Advisory Board. Some the responses shared include;

The idea that purchasing goods from a source may be sustainably good but socially incorrect. (i.e. cotton).

How critical science is.

That there are a multitude of facets to consider when designing green, including but not exclusive is the commercial aspect must be considered.

Board members were asked if there were any new critical initiatives in their industry with regard to green design and sustainability since the last meeting. Samples of the remarks include the following;

There is an attempt by some large retailers to work with vendors in creating green factories in some remote places of the world.

Use less - less [of] everything; water, energy, chemicals, resources. This is a big focus - takes recycling beyond just a bottle or can and the idea is not to recycle and repurchase but recycle/repurpose.

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I would say that there is more and more focus on the wet finishing (dyeing, printing, finishing) areas of textile production as that is where environmental insults and improvements occur.

The next question for Board members shifted the focus to FIT students. Members were asked about the skills that they have witnessed from graduates, interns or students with regard to eco-responsible design and business since the last meeting. The responses appeared to highlight awareness and interest, for example, two members provided the following comments;

Students are more interested in learning about agriculture as well and trying to understand the various initiatives aimed at sustainability.

There is a heightened awareness about sustainable fashion. Students and graduates care about this and try to employ it in their design concepts. There has been an increased focus on FASHIONABLE sustainable fashion - less utilitarian and basic.

While another member expressed concern about the lack of knowledge;

I was surprised to hear that many new people in the industry have little knowledge of how the product they are designing actually is produced. Production Cycle.

Finally, when members were asked what students should be learning in the classroom to enhance comprehension and knowledge of green and sustainable products. Members offered suggestions about the importance of thinking holistically, knowing the manufacturing process and incorporating a business sense to design. Results from the first and second AB meetings appear in Appendix F. Overall the questions and subsequent feedback activity sought to gather information on progress and to provide views that support the major objectives of the TechFIT project.

NEXT STEPS

This report concentrates on the Tech-FIT activities involving faculty/instructors and industry representatives by gathering their perceptions about the retreats and their current activities as they relate to their familiarity with "green" terminology, and their anticipated use of curriculum focused the design, development, and manufacture of green and sustainable products. As part of continuing to progress, it is recommended that project participants incorporate and explore linkages to additional activities associated with the goals of the Tech-Fit project.   For example, further information could be gathered about the completion of green science modules and use by faculty, student patterns in taking science courses and student science interest or knowledge based on the implementation of "green" or "eco-friendly" modules and faculty participation in TechFIT retreats.

APPENDIX A

Tech-FIT Pre-Assessment Questionnaire

NAME:_____ TITLE_____

ACADEMIC DIVISION: ☐Art & Design ☐Business & Technology ☐Liberal Arts ☐Graduate Studies
☐Continuing/Professional Studies ☐Academic or Student Affairs **DEPARTMENT:**_____
SPECIALITY/AREA or DISCIPLINE:_____

*DIRECTIONS: Green Technology is a rapidly growing field that encompasses a continuously evolving group of methods and materials, from techniques for generating energy, to ecological implications of garments, to the production of non-toxic cleaning products. This questionnaire is designed to gather information for the NSF-ATE, **TechFIT** project. The project is designed to prepare FIT graduates to meet new industry demands for the design, development, and manufacture of green and sustainable products. Please indicate your knowledge and/or familiarity with the green technology terms and/or provide examples below.*

1. "Sustainability"   Very familiar   Somewhat familiar   Not familiar
                          5   **4**   **3**   **2**   **1**

What would be an example of "sustainability" in your discipline or specialty area? K Unsure

2. "Cradle to cradle" design   Very familiar   Somewhat familiar   Not familiar
                                    5   **4**   **3**   **2**   **1**

What would be an example of a "cradle to cradle design" in your discipline or specialty area? K Unsure

3. Source reduction   Very familiar   Somewhat familiar   Not familiar
                          5   **4**   **3**   **2**   **1**

What would be an example of source reduction in your discipline or specialty area? K Unsure

4. Innovation   Very familiar   Somewhat familiar   Not familiar
                    5   **4**   **3**   **2**   **1**

What would be an example of innovation in your discipline or specialty area? K Unsure

5. How familiar are you with how green technology and product development can be incorporated into the science curriculum?

                    Very familiar   Somewhat familiar   Not familiar
                    5   **4**   **3**   **2**   **1**

What would be an example of science curriculum that incorporates green technology? K Unsure

6. How familiar are you with how industry can contribute to the development of science curriculum that is responsive to green technology?

                    Very familiar   Somewhat familiar   Not familiar
                    5   **4**   **3**   **2**   **1**

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APPENDIX A continued

7. How prepared are today's FIT graduates for the demands for the design, development, and manufacture of green technology products and services?

C Extremely Prepared   C Prepared   C Somewhat Prepared   C Unprepared   C Extremely Unprepared
C Not really sure

How available are you to participate in the following TECH FIT Project activities?

8. Meet occasionally with FIT faculty to discuss curriculum.

C Two/three times a year   C Once a month   C Once every two weeks   C Once a week   C Not available

9. Engage in online conversation regarding curricular topics.

C Two/three times a year   C Once a month   C Once every two weeks   C Once a week   C Not available

10. Attend an occasional breakfast event such as the one today.

C Two/three times a year   C Once a month   C Once every two weeks   C Once a week   C Not available

11. Participate as an Advisory Board member for this NSF project.

C Two/three times a year   C Once a month   C Once every two weeks   C Once a week   C Not available

Thank you for taking the time to complete our questionnaire

APPENDIX A

Tech-FIT Pre-Assessment Questionnaire Results Tables

1. SUSTAINABILITY

		Frequency	Percent	Valid Percent
	Somewhat familiar (3)	5	14.7	16.1
	Familiar(4)	8	23.5	25.8
	Very familiar(5)	18	52.9	58.1
	Total	31	91.2	100.0
	No response	3	8.8	
Total		34	100.0	
Mean		**4.42**		

2. CRADLE

		Frequency	Percent	Valid Percent
	Not familiar (1)	5	14.7	17.2
	Not/Somewhat familiar (2)	4	11.8	13.8
	Somewhat familiar (3)	3	8.8	10.3
	Familiar(4)	6	17.6	20.7
	Very familiar(5)	11	32.4	37.9
	Total	29	85.3	100.0
	No response	5	14.7	
Total		34	100.0	
Mean		**3.48**		

3. SOURCE

		Frequency	Percent	Valid Percent
	Not familiar (1)	3	8.8	10.0
	Somewhat familiar (3)	7	20.6	23.3
	Familiar(4)	14	41.2	46.7
	Very familiar(5)	6	17.6	20.0
	Total	30	88.2	100.0
	No response	4	11.8	
Total		34	100.0	
Mean		**3.67**		

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4. INNOVATION

		Frequency	Percent	Valid Percent
	Not familiar (1)	1	2.9	3.4
	Not/Somewhat familiar (2)	1	2.9	3.4
	Somewhat familiar (3)	3	8.8	10.3
	Familiar(4)	11	32.4	37.9
	Very familiar(5)	13	38.2	44.8
	Total	29	85.3	100.0
	No response	5	14.7	
Total		34	100.0	
Mean		**4.17**		

5. CURRICULUM

		Frequency	Percent	Valid Percent
	Not familiar (1)	3	8.8	11.5
	Not/Somewhat familiar (2)	2	5.9	7.7
	Somewhat familiar (3)	11	32.4	42.3
	Familiar(4)	7	20.6	26.9
	Very familiar(5)	3	8.8	11.5
	Total	26	76.5	100.0
	No response	8	23.5	
Total		34	100.0	
Mean		**3.19**		

6. INDUSTRY_CURRICULUM

		Frequency	Percent	Valid Percent
	Not familiar (1)	3	8.8	11.5
	Somewhat familiar (3)	8	23.5	30.8
	Familiar(4)	12	35.3	46.2
	Very familiar(5)	3	8.8	11.5
	Total	26	76.5	100.0
	No response	8	23.5	
Total		34	100.0	
Mean		**3.46**		

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APPENDIX A- Tech-FIT Pre-Assessment Questionnaire Results Tables continued

7. PREPARED

		Frequency	Percent	Valid Percent
	Unprepared (2)	6	17.6	24.0
	Somewhat Prepared(3)	17	50.0	68.0
	Prepared (4)	2	5.9	8.0
	Total	25	73.5	100.0
	No response	9	26.5	
Total		34	100.0	
Mean		**2.84**		

8. ACTIVITY_Meetings

		Frequency	Percent	Valid Percent
	Once a week	6	17.6	18.2
	Once every two weeks	10	29.4	30.3
	Once a month	11	32.4	33.3
	Two/three times a year	6	17.6	18.2
	Total	33	97.1	100.0
	No response	1	2.9	
Total		34	100.0	

9. ACTIVITY_online

		Frequency	Percent	Valid Percent
	Once a week	9	26.5	32.1
	Once every two weeks	7	20.6	25.0
	Once a month	11	32.4	39.3
	Two/three times a year	1	2.9	3.6
	Total	28	82.4	100.0
	No response	6	17.6	
Total		34	100.0	

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10. ACTIVITY_breakfast

		Frequency	Percent	Valid Percent
	Once a week	4	11.8	12.1
	Once every two weeks	5	14.7	15.2
	Once a month	13	38.2	39.4
	Two/three times a year	11	32.4	33.3
	Total	33	97.1	100.0
	No response	1	2.9	
Total		34	100.0	

11. ACTIVITY_board

		Frequency	Percent	Valid Percent
	Once a week	8	23.5	27.6
	Once every two weeks	7	20.6	24.1
	Once a month	9	26.5	31.0
	Two/three times a year	5	14.7	17.2
	Total	29	85.3	100.0
	No response	5	14.7	
Total		34	100.0	

APPENDIX B

Mini-Retreat Questionnaire

November 12, 2010 & March 4, 2011

Part 1 -*Toward a Greener Sustainable and More Eco-friendly Curriculum*

Part 2 *-Science + Design = Effective Business*

NAME:_____TITLE/POSITION_____

ACADEMIC DIVISION: ☐Art & Design ☐Business & Technology ☐Liberal Arts ☐Graduate Studies
☐Continuing/Professional Studies ☐Academic or Student Affairs **DEPARTMENT:**_____

Circle your responses using the scale below which ranges from 5 for "strongly agree" to 1 ""strongly disagree"

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. This presentation has promoted my thinking about how teaching and the curriculum might be infused with **Sustainability.**	5	4	3	2	1
2. This presentation has promoted my thinking about how teaching and the curriculum might be infused with **Green Design**.	5	4	3	2	1
3. Before today's presentation, I had no idea what **Design** for **Sustainability** was all about.	5	4	3	2	1
4. I plan to change my **teaching** based on what I have learned from this presentation.	5	4	3	2	1
5. I plan to change my **curriculum** based on what I heard today.	5	4	3	2	1
6. I am more aware of the **Green** and **Sustainability** initiatives at FIT based on what I heard today.	5	4	3	2	1
7. I would like to learn more about specific techniques I can use to make my **teaching** and **curriculum** more eco-friendly.	5	4	3	2	1
8. Before today's presentation, I had no idea on how to integrate **Social Innovation** into design curriculum.	5	4	3	2	1

How did you hear about this talk? ☐Email/internet ☐Mailed invitation ☐faculty meeting ☐Unsure ☐Other_____

Did you find the materials/handouts helpful? ☐Very helpful ☐Somewhat helpful ☐Not really helpful ☐Unsure

Overall how would you rate this presentation? ☐Excellent ☐Good ☐Fair ☐Poor ☐Unsure

Any suggestions for future presentations?_____

Thank you ☺!

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APPENDIX C-Retreat Results

Breakdown of Participants By Division					
FIT Division-RETREAT#1	**Number of responses**	**Percent**	**FIT Division-RETREAT#2**	**Number of responses**	**Percent**
Liberal Arts	6	26%	Liberal Arts	6	18%
Art & Design	5	22%	Art & Design	11	33%
Business & Technology	3	13%	Business & Technology	3	9%
Academic & Student Affairs	3	13%	Academic & Student Affairs	4	12%
Graduate Studies	2	9%	Graduate Studies	2	6%
Continuing/Professional Studies	1	4%	Continuing/Professional Studies	0	0%
Not identified	3	13%	Not identified	7	21%
Total	**23**	**100%**	Total	**33**	**100%**

1.   **This presentation has promoted my thinking about how teaching and the curriculum might be infused with Sustainability.**

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Agree	6	26	Agree	16	48
Strongly Agree	17	74	Neutral	3	9
Total	23	100	Strongly Agree	14	42
			Total	33	100

2. **This presentation has promoted my thinking about how teaching and the curriculum might be infused with Green Design.**

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Neutral	2	9	No response	1	3
Agree	7	30	Agree	15	45
Strongly Agree	13	57	Neutral	7	21
Total	22	96	Strongly Agree	10	30
No response	1	4	Total	33	100
Total	23	100			

3. **Before today's presentation, I had no idea what Design for Sustainability was all about.**

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Strongly Disagree	11	48	Disagree	15	45
Disagree	8	35	Neutral	2	6
Neutral	1	4	Strongly Disagree	16	48
Agree	1	4	Total	33	100
Strongly Agree	1	4			
No response	1	4			
Total	23	100			

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APPENDIX C continued

4. I plan to change my teaching based on what I have learned from this presentation.

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Neutral	11	48	No response	1	3
Agree	10	43	Agree	13	39
Strongly Agree	2	9	Neutral	15	45
Total	23	100	Strongly Agree	4	12
			Total	33	100

5. I plan to change my curriculum based on what I heard today

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Disagree	1	4	*No response*	1	3
Neutral	7	30	Agree	11	33
Agree	13	57	Disagree	2	6
Strongly Agree	1	4	Neutral	15	45
No response	1	4	Strongly Agree	4	12
Total	23	100	Total	33	100

6. I am more aware of the Green and Sustainability initiatives at FIT based on what I heard today.

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Strongly Disagree	1	4	*No response*	1	3
Disagree	4	17	Agree	17	52
Neutral	3	13	Disagree	4	12
Agree	9	39	Neutral	4	12
Strongly Agree	6	26	Strongly Agree	7	21
Total	23	100	Total	33	100

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APPENDIX C continued

7. I would like to learn more about specific techniques I can use to make my teaching and curriculum more eco-friendly.

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Disagree	1	4	Agree	16	48
Neutral	1	4	Neutral	3	9
Agree	10	43	Strongly Agree	14	42
Strongly Agree	10	43	Total	33	100
No response	1	4			
Total	23	100			

8. Before today's presentation, I had no idea on how to integrate Social Innovation into design curriculum.

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Strongly Disagree	2	9	Agree	4	12
Disagree	9	39	Disagree	14	42
Neutral	6	26	Neutral	9	27
Agree	4	17	Strongly Agree	1	3
Strongly Agree	2	9	Strongly Disagree	5	15
Total	23	100	Total	33	100

How did you hear about this retreat?

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Email/internet	16	70	*No response*	2	6
Faculty meeting	1	4	Email/internet	20	61
Mailed invitation	3	13	Faculty meeting	1	3
Other	3	13	Mailed invitation	8	24
Total	23	100	Other	2	6
			Total	33	100

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APPENDIX C continued

How did you hear about this retreat? : Other

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
No response	19	83	*No response*	30	91
Flier	1	4	Brochure in CET lab	1	3
Helped facilitate the event	1	4	faculty invite	1	3
Jeanne Colly	1	4	Participated in the panel - Nov. event	1	3
on the panel	1	4	Total	33	100
Total	23	100			

Materials/handouts helpful?

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Not really helpful	2	9	*No response*	1	3
Unsure	1	4	Not really helpful	2	6
Somewhat helpful	11	48	Somewhat helpful	15	45
Very helpful	9	39	Unsure	3	9
Total	23	100	Very helpful	12	36
			Total	33	100

Overall how would you rate this retreat?

Retreat #1	Frequency	Percent	Retreat #2	Frequency	Percent
Excellent	18	78	Excellent	22	67
Good	4	17	Good	10	30
Fair	1	4	Fair	1	3
Total	23	100	Total	33	100

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APPENDIX D -Any suggestions for future retreats? [Retreat # 1]

Use more eco-friendly handouts :) Offer a mini-retreat that helps promote more inter-disciplinary discussion or classes perhaps. To that end I would love to see Artie offer a workshop for faculty on the issues he teaches in his class. Could be a grant perhaps? I was surprised that the faculty I sat with were unaware that the MFIT had an exhibit on eco-fashion and sustainability - particularly since the exhibition had been up for quite some time and was getting ready to close. Great speaker - I really liked his use of the word permeable when describing his classroom walls. I feel much the same way.

Interdisciplinary teaching and team teaching - how to do this in the existing structure of classes in the college.

Let's continue the sustainability movement...I have a great fundraising idea or grant funding

Reasonable Limits for Being Green: How Far Should It Go?

It should have been a panel or a presentation. Scott was an excellent presenter with innovative content. He should be brought back at the conference.

If we are talking sustainability let's recycle our breakfast refuse. Save paper by limiting handout material. Leave enough time for discussion. This presentation was interesting but more interesting was the discussion which only allowed for ten minutes.

Invite more industry people and students.

More interactive time available for guests.

More and more on this subject. Showing in some detail how various departments including the CIC can be proactive on sustainable art and design and sustainable business and technology.

I would like to reach people who might not normally attend a sustainability-centered event.

Scott's presentation was excellent and inspiring - have continued to think about his projects since last Friday! The retreat was excellent - I hope the one in the spring is as successful and I hope we can continue having programming like this as I'm always surprised to have faculty be clueless about what's going on at FIT and in their own industries (had comments about this from faculty new at sustainability initiatives/incorporating into curriculum at the retreat!)Thanks Elaine, Karen and Celia - It was an honor and pleasure being on the panel! On another note regarding handouts - since I'm on the Ad Hoc Sustainability Committee and the President's Council on Sustainability I urge all committees, departments and schools and anyone using paper to reduce the amount. I would much prefer electronic links instead of handouts so I can read online or print out on my own. I see so much paper waste around FIT.

I would like to see how this information collected from the groups would be used.

APPENDIX D -Any suggestions for future retreats? [Retreat # 2]

Word + image. Using language and sketching together in learning and discovery. Multi-sensory learning.

Love the exercises. Gets you thinking and learn how other disciplines

Use a bigger space. The boardroom is too small; feels like the last flight out of Chicago for thanksgiving

It may be nice to provide speakers with a laser pointer. The speaker kept walking back and forth to the screen to point out certain things. Sort of makes for an awkward moment with the images projecting on speaker sometimes. Would allow speaker to stand anywhere in the room and point out items on screen. Also I don't think the microphone system attached to speaker was working.

I was honored to be included and have found great value in both the "hand outs" and the interaction with the faculty. Thank you!

Follow up on these initiatives

Hope there is more of these and more sharing of what faculty are doing with curriculum and in the classroom on sustainability; but on student learning; and assessment and outcomes. Thank you!

The invitation did not state where it was; and being new I did not know where the board room was or where to go. Food selection was lovely. Lighting was good; speakers were very well prepared; sorry I had to leave early; I did share this with my class as two students are working on this issues in their marketing reports.

We still need to have off-site; two-day---"all-faculty" & admin. retreats; as we have had in the past (IBM Palisades location); these truly helped to shape our school's future. Have more water available. Get new window shades for the board room!! Like CET has---dual light control!!

This was excellent! We need more…

It was great!!! I have two minor suggestions. Have a 10 minute break in the middle. I understand that space is tight at FIT and you probably couldn't get the 8th flr A bldg or Great Hall but either would have been better.

Please note that I am NCF; as such questions 3-4 were rated "neutral". Future retreat suggestions: "Infusing critical thinking in all coursework"; "Determining Who We Have In the Classroom: Assessing Academic Preparedness"; "going Beyond the Syllabus: Learning How to Inspire Our Students in the Classroom"

I think this was a very good retreat that got the conversation started; however it seemed to be more about what we need in science/math than about sustainability in the classroom. While you can't have sustainability without the science; I did not feel that was the focus of the main presenters talk.

Not yet....

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APPENDIX D -Any suggestions for future retreats? [Retreat # 2 continued]

More of them to keep the dialogue going.

Not at the moment but I do have a comment about this one. I enjoyed the concept of integrating science with non-science curriculum but was left without a plan for implementation. I know this is difficult. And introducing the idea is a progressive step; but I would have benefited from a discussion of how this might be acted upon. Thanks very much for the seminar. I'm sorry my reply to the questionnaire is so late.

The presentations were outstanding. I thought the invited speaker, Susan Elrod led the program just right. I especially appreciated spending an hour with her and Science and Math Faculty before the formal event began. I am convinced more than ever that interdisciplinary courses will be beneficial for the FIT students, no matter what the student's interest or major is.

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APPENDIX E

Advisory Board Members

Paul King, architect, Professor of Architecture, CityTech/CUNY, President American Society of Registered Architects (NY Chapter)

Celeste Lilore, Restore Clothing (sustainable/green clothing)

John Burke, Tommy Hilfiger

Brenda Cowan, FIT faculty, Exhibition Design

Eileen Karp, FIT faculty, Fashion Design

Marcella Echevarria, Surevolution (artisanal and sustainable products)

Norman Szychter, Aeropostale

Laura Tufariello, Design and Source (packaging design)

Lili Wright, Wright Design (interior design)

Jeffrey Silberman, FIT faculty, Textile Development and Marketing

Lia Dikigoropoulou, architect, Professor of Architecture, Citytech/CUNY

Tom Foley, Cromwell Industries (industry employment)

Dominic Cammarota

Joseph Liddicoat, Liberal Arts, Science & Mathematics

Jean Marc Rejaud, AMC

Amy Leonard

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APPENDIX F

JANUARY 2011-Advisory Board Feedback Activity

What is green and/or sustainable design   Ethics, social responsibility, awareness, product life cycle, what are you wearing, and what is its life cycle. Natural resources-Mining-Transport-Manufacture xxxx
1.Communities 2. civics/civic engagement. Altering behavior and systems Comparison Responsibility lifestyle
Marketing what you think you know vs. reality. Involves product lifecycle. Natural resources-mining-transport use, sales/marketing-disuse-repurposing-waste/waste prod. Throughout-ethics, decision-making. Goal=greater awareness and social responsibility/ethics, economics
Every step supply chain examined. Triple bottom line. Diff. Sust/green washing. Consumer driven/corp driven initiatives
1. Understanding true cost as it relates to triple bottom-line 2. Quality of life-social responsibility
Whatever reduces impact. Degradation (on environmental or human life) recognition of systems. Consideration of future generation
Using rapidly renewable natural resources, sun, wind, geothermal, focus on energy
Optimizing resources for effective products that eliminate negative impacts on our world today and in the future.
Design that benefits ecological cycle. Right manufacturing
Design that adds the minimum pollution impact utilizing the least damaging materials

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APPENDIX F

JANUARY 2011-Advisory Board Feedback Activity- continued

What critical initiatives can you identify in your industry with regard to green design and sustainability
Leeds & products, topics, water, air, waste streamxxxx
Reuse of materials, defining systems that can be used over and over again. Local supplies. XXXXXX
Levis initiative, Patagonia-repurpose. Hannah. No-waste design
SEEP (Social, economic, ecological, performance). BCI (better cotton initiative) agriculture, merchandising
Eco Working Group EWG of IA 100 Americanxxxx & Levi. Single most hopeful story
Teens for jeans. Full cost accounting. Cradle to cradle initiatives
In architecture-use building to sustain itself
Exploring innovation and considering an entire life cycle
XXX???
How to market a green product profitable the best way to integrate green process in market. Direct mail is still the best way to market yet the most damaging

When graduates first arrive in your industry, what skills should they have with regard to eco-responsible design and business?
Ecological ethics, social responsibility, awareness, some direct experience. Use of any products taken out within a 24 hour period
Understand/be current with materials. Xxx xxx wit systems of working with local suppliers. Able to design low-impact exhibit system for crating and shipping. Able to design new, more efficient structural systems
Ethics/awareness/social responsibility/have direct experience/applied experience/ecological footprint-paper
ability to lead, ability to be lead
Lacking in social grace, listening ability. Too much multitasking. Keen observer.
Problem solving skills-big picture-critical thinking, technology-relevant
Should be able to apply terminology for optimal results. Be able to communicate benefits of each. Be able to convince people to make sustainability a priority
Proper vocabulary and its accurate meaning. Ability to research and know how to assess new materials.
Technology knowledge. Science knowledge. Knowledge of scientific foundation
The business skills and the best way to make sustainable product work financially

APPENDIX F

JANUARY 2011-Advisory Board Feedback Activity- continued

What kinds of green/sustainable products and/or processes should students be developing in their classes?
Redesign to eliminate the use of "waste" [produced products?] Hiking/camping learning communities
Redesigning/innovating new structure systems. Innovating convergent technologies, replace material systems, digital, solar i.e. use digital info xxxhospital xxxxhand-held GPS system to show you where restrooms are
Redesign to eliminate waste production. Actixx Stop use. No waste design. Design a replacement. Recycled paper pulp
Work on how to market the idea-how to make it appealing-balance broad ideas, hard core reality of bottom line
Green roof. Solar panels & heating. How to heat and sustain a building in green tech. Importance of local materials
Life Cycle Awareness. Testing procedures. Certifications.
Life Cycle. Business skills xxxx
Understand the full life cycle from materials to consumer education is important process for sustainability. Customer, student, and business community

AUGUST 2011 Advisory Board Feedback Activity

What have you learned about green and/or sustainable design while being a part of Tech FIT Advisory Board?
They idea that purchasing goods from a source may be sustainably good but socially incorrect. ie: cotton.
The role of cotton in the jeans industry and the thought that is involved in coordinating a supply of cotton for the jean industry.
How critical science is.
That sustainability is in fact a "smart" way of applying science to do things better/more efficiently and ore more effectively and in that regards, this logic could also apply to make all business or marketing decisions with for example ,the application of statistical science
That there are a multitude of facets to consider when designing green, including but not exclusive is the commercial aspect must be considered.
That it comes in many shapes and sizes and that everyone learns differently on how to apply these concepts to their businesses.
It is always interesting to hear the different perspectives on sustainability, especially from others' points of view. Everyone wants to do things better, it's just a matter of how to go about it from the various disciplines.
There are many considerations to take into account - it is "not easy being green". Unfortunately, the cost factor - the bottom line - is what will prevail for most businesses. There are exceptions and steps ARE being taken in a forward direction but it will be a difficult but worthy challenge.

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APPENDIX F

AUGUST 2011 Advisory Board Feedback Activity- continued

Can you identify any new critical initiatives in your industry with regard to green design and sustainability since the last meeting?
I am not in the fashion industry other than being an instructor at FIT so I cannot offer much as an answer. However, anything that minimizes an impact on the environment when getting the supplies that fuel the industry should be done.
No
Not at that stage yet
There is an attempt by some large retailers to work with vendors in creating green factories in some remote places of the world.
Use less - less everything; water, energy, chemicals, resources. This is a big focus - takes recycling beyond just a bottle or can and the idea is not to recycle and repurchase but recycle/repurpose.
I would say that there is more and more focus on the wet finishing (dyeing, printing, finishing) areas of textile production as that is where environmental insults and improvements occur.
GOTS (however, the meeting about this was held at a NYC lawyer's office - potential money to be made), Many denim manufacturers are embracing the concept of sustainable design and progress has been made in greatly reducing water usage for the dyeing process by some manufacturers.

What skills have you witnessed from graduates/interns/students with regard to eco-responsible design and business since the last meeting?
I was surprised to hear that many new people in the industry have little knowledge of how the product they are designing actually is produced. Production Cycle.
In my Earth Science course, I emphasize keeping the environment in mind while we go about our daily business and when the students enter a profession in the fashion industries.
That sustainability attracts top talent.
No new ones
N/A
Students are more interested in learning about agriculture as well and trying to understand the various initiatives aimed at sustainability.
There is a heightened awareness about sustainable fashion. Students and graduates care about this and try to employ it in their design concepts. There has been an increased focus on FASHIONABLE sustainable fashion - less utilitarian and basic.

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APPENDIX F

AUGUST 2011 Advisory Board Feedback Activity- continued

What should students be learning in the classroom to enhance comprehension and knowledge in terms of green/sustainable products and/or processes?
Water pollution that can result from improper sitting of factories and disposal of waste. Energy usage of all sorts; support green design of buildings if you are in a position of responsibility that might call on a decision of that sort.
That a Holistic Approach works.
Sustainability is in fact just not being green...this is a common sense business decision to optimize resources in a world where resources become more scarce.
They need to understand the entire product manufacturing process, only then can they have an understanding of what is commercially attainable and what is not.
It has to be the starting point of their thinking. It cannot be design first and figure out how to make it green second. Their approach needs to begin with I am designing a green product every single time. This does not limit the creativity it enhances it.
A small amount of agriculture, wet finishing, and in general, textile process and production.
They should be learning that there is a choice to be made in how things are produced and developed. They should understand what the ramifications are if this continues to be ignored. The science behind the words is important.

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