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MEMORANDUM

ATTENTION	Senate	**DATE**	March 19, 2015
FROM	Jon Driver, Vice-President, Academic and Provost, and Chair, SCUP	**PAGES**	1/1
RE:	Faculty of Communication, Art and Technology: External Review of the School of Interactive Arts and Technology (SCUP 15-11)		

At its March 11, 2015 meeting, SCUP reviewed and approved the Action Plan for the School of Interactive Arts and Technology that resulted from its External Review.

The Educational Goals Assessment Plan was reviewed and is attached for the information of Senate.

Motion:

That Senate approve the Action Plan for the School of Interactive Arts and Technology that resulted from its External Review.

c: M. Hatala
O. Underhill

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MEMORANDUM

ATTENTION	Jon Driver, Chair, SCUP	**DATE**	March 2, 2015
FROM	Gord Myers, Associate Vice President, Academic	**PAGES**	1/1
RE:	Faculty of Communication, Art and Technology: External Review of the School of Interactive Arts and Technology		

Attached are the External Review Report and the Action Plan for the School of Interactive Arts and Technology (SIAT). The Educational Goals Assessment Plan is included with the Action Plan for information only.

Excerpt from the External Review Report:
"The review is timely: the school has successfully created a significant teaching and research interdisciplinary design program, and now has the opportunity to reflect on core values and galvanize the emerging themes as a guide for future growth. SIAT has the opportunity to continue on this trajectory to a world class academic environment, if given the appropriate support and focus."

Motion:

That SCUP approve and recommend to Senate the Action Plan for the School of Interactive Arts and Technology that resulted from its external review.

Following the site visit, the Report of the External Review Team* for the School of Interactive Arts and Technology was submitted in April 2014. The Reviewers made a number of recommendations based on the Terms of Reference that were provided to them. Subsequently, a meeting was held with the Dean, Faculty of Communication, Art and Technology, the Director of SIAT and the Director, Academic Planning and Quality Assurance (VPA) to consider the recommendations. An Action Plan was prepared taking into consideration the discussion at the meeting and the External Review Report. The Action Plan has been endorsed by the School and the Dean.

SCUP recommends to Senate that the School of Interactive Arts and Technology be advised to pursue the Action Plan.

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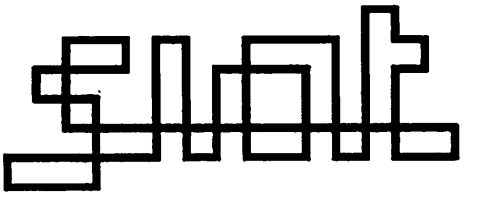
*External Review Team:
Jodi Forlizzi, Carnegie Mellon University (Chair of Review Team)
Abby Goodrum, Wilfrid Laurier University
Mary Lou Maher, University of North Carolina at Charlotte
Fred Popowich (Internal), Simon Fraser University

Attachments:
1. External Review Report (April 2014)
2. SIAT Action Plan
3. SIAT Educational Goals Assessment Plan

cc Owen Underhill, Dean Pro Tem, Faculty of Communication, Art and Technology
Marek Hatala, Director, School of Interactive Arts and Technology

EXTERNAL REVIEW COMMITTEE REPORT: SIMON FRASER SCHOOL OF INTERACTIVE ARTS AND TECHNOLOGY

APRIL, 2014



SCHOOL OF INTERACTIVE
ARTS + TECHNOLOGY

EXTERNAL REVIEW COMMITTEE REPORT: SIMON FRASER SCHOOL OF INTERACTIVE ART AND TECHNOLOGY

APRIL, 2014

EXECUTIVE SUMMARY

Overall, the External Review Committee was very impressed with the success of SIAT over the past 10 years, the spirit of collaboration and interdisciplinarity, and the excitement of the students to be part of this innovative set of programs. The review is timely: the school has successfully created a significant teaching and research interdisciplinary design program, and now has the opportunity to reflect on core values and galvanize the emerging themes as a guide for future growth. SIAT has the opportunity to continue on this trajectory to a world class academic environment, if given the appropriate support and focus.

The Committee's recommendations are grouped into seven categories:

1. External Profile
2. Undergraduate Programs
3. Master's Programs
4. PhD Program
5. Tenure-track Faculty
6. Teaching Faculty
7. University Support at Surrey

EXTERNAL PROFILE

Identity. SIAT should communicate a consistent identity to the world. One statement that was proposed during the review: SIAT is... "the Media Lab of Canada".

Core areas. SIAT should take this opportunity to reflect on and identify core areas of strength. Three areas that are the potential core for undergraduate, graduate, and research strengths are:

- Interactive systems
- Design
- Media, art and culture

Emerging areas. SIAT should continue to encourage emerging areas to grow (e.g. visual analytics, computational creativity) and at the same time connect the emerging areas to core strengths. This will ensure that emerging areas can strengthen and adapt the core principles rather than defer resources and time to other topics.

UNDERGRADUATE PROGRAMS

1. Re-envision the curriculum taking into consideration the strengths and diversity of the tenure-track faculty and teaching faculty. Identify gaps and repetition the progression of the courses to ensure that the courses build on knowledge gained in previous semesters.
2. Create room in the schedule and facilitate opportunities for a minor that SIAT students can take outside SIAT.
3. Explore opportunities beyond co-op for students to engage with industry.
4. Create opportunities for students to engage with the community in maker's spaces and with entrepreneurial incubators.

MASTER'S PROGRAMS

1. Consider changes to requirements to reduce the time to graduation for students not continuing to the PhD.
2. Consider developing two programs at MA/MS level:
    a. Restructure the current MS program into a two-year thesis-focused program that prepares students for a PhD program.
    b. A two-year project-focused program that prepares students for research or management position in a company.

PHD PROGRAM

1. Celebrate the diversity in student-advisor relationships and funding structures.
2. Consider ways in which the commuter campus detracts from the doctoral experience and explore ways to create community.
3. Manifest the PhD culture by displaying student work and creating collaborative spaces for project activities.
4. Consider ways to reduce the time to graduation while allowing PhD students to publish with their advisor as they reach the most productive stages of their research, e.g. consider post-doctoral study for high-performing PhD students.

TENURE-TRACK FACULTY

1. Reduce the amount of time faculty spend on research administration so productive research faculty do not get overloaded, e.g. SFU can decentralize research services so that the Surrey campus has more local support.
2. Increase community engagement and development activities to celebrate the multi-disciplinarity of the faculty and encourage collaboration.
3. Develop partnerships in the broader community to improve engagement, knowledge mobilization and co-creation of knowledge.
4. Strengthen the Office of Research Services' Surrey campus presence.

TEACHING FACULTY

1. Encourage, reward, and support this dedicated and enthusiastic group of faculty.
2. Discuss opportunities and create time for curriculum and personal development.
3. Communicate opportunities for leadership in faculty governance activities.
4. Reconsider teaching spaces and address the need for dedicated studio space.

UNIVERSITY SUPPORT AT SURREY

1. The University should consider multi-campus governance processes that encourage growth, and stabilization, optimal resource allocation.
2. Continue to foster relationships with local Surrey community (municipal government, health organizations, local businesses) in order to leverage infrastructure.

INTRODUCTION

The School of Interactive Arts and Technology (SIAT) undertakes research and provides undergraduate and graduate education across a broad spectrum of human-centred systems, technology, design and art. SIAT is explicitly interdisciplinary. It combines the science of human experience, the analysis of media and culture, the creation of original and experimental works of art and design, and the conception and implementation of new interactive technologies. SIAT aims to understand and transform the digitally-mediated technologies and experiences that increasingly shape our lives.

SIAT's history began in 1997 with the advent of the Technical University of British Columbia (TechBC). In 2002, SFU absorbed TechBC and continued major aspects of its programs in a single unit which, in due time, became SIAT. Since 2002 SIAT has matured, acquiring the programs and structures normal to established units at SFU.

From its origins at SFU in 2002, SIAT has experienced rapid growth in students (533 AFTE in 2008 to 759 AFTE in 2012), somewhat less growth in faculty (37 FTTE in 2008 to 40 FTTE in 2012) and growth in income from research grants and contracts (approximately $1.4M in 2008 to $1.8M in 2012). It has developed solid relations with external communities and its graduates have found diverse career paths in industry and academia. Its research has grown dramatically both in inputs, outputs and reputation.

To date, SIAT has had three directors: Tom Calvert, John Bowes, and Marek Hatala. Units within SFU undergo routine External Review Committee visits every seven years. In March, 2014, the current Director convened an External Review Committee focused on SIAT specifically.

Members of the External Review Committee are:

- Jodi Forlizzi, Professor, School of Design and Human-Computer Interaction Institute, Carnegie Mellon University, Pittsburgh, PA, USA
- Abby Goodrum, Vice-President of Research, Wilfrid Laurier University, Waterloo, Ontario, Canada, and Director, Social Science and Humanities Research, NCE GRAND
- Mary Lou Maher, Chair and Professor, Software and Information Systems, College of Computing and Informatics, UNC Charlotte, Charlotte, NC, USA

The Committee met at SIAT for 30 hours over March 26-28, 2014. This is the Committee's report prepared after that meeting. The report is organized into the following sections:

- Overview and Charter
- External Profile
- Undergraduate
- Graduate
- Tenure Track Faculty
- Teaching Faculty
- Staff
- University Support
- Workplace Environment
- External Profile

Each section concludes with broader strategic recommendations specific to that topic. These are reiterated in the Executive Summary.

OVERVIEW AND CHARTER

In the initial meeting of the External Review Committee visit, Hatala gave the committee the following charter: to review the quality of teaching done at SIAT, to review the quality of research done at SIAT, to assess governance of SIAT, and to assess the quality of the work environment.

The committee was also asked to examine the Terms of Reference developed by the School:

1. Suggest ways to strengthen our identity and positioning as a world-class program.

One of SIAT's unique properties is the fact that it is currently one of the only universities in North America where interaction design can be studied as an undergraduate student. SIAT can leverage this in publicity and communications. It can also create other attractive undergraduate concentrations and minors.

Another one of SIAT's unique properties is its design culture. This can be leveraged by further communicating the importance of design culture in how people collaborate and communicate. Building a more expansive shop and more design studios will result in more deeply inculturating design. The addition of more collaboration spaces and dedicated studio spaces (like Studio A and Studio B) will foster more interdisciplinary and new kinds of collaboration.

2. Recommend an approach to offer a leading inter-disciplinary program that balances content specialization and inter-disciplinarity over the next ten years.

At the undergraduate level, there is an opportunity to spread knowledge about what it means to be an undergraduate student at SIAT even before students apply, by communicating about SIAT's program and typical career paths for undergraduates to potential freshmen and their parents. The pre-requisite for a calculus class should be examined to determine if it is the correct course for a pre-req or if it is necessary at all. There is a need to revisit the undergraduate curriculum to address potential gaps and overlaps in the courses that are offered, along with the potential to create an undergraduate capstone class that would be beneficial for students and client stakeholders alike. An opportunity also exists to create new undergraduate concentrations and minors and potentially, an accelerated MS or a combined MS/BS degree.

At the graduate level, there is an opportunity to explore a professionally-oriented Master's program which could exist alongside the current program, which has a research focus. Here, too, the curriculum could be examined for gaps, overlaps, and appropriate length. SIAT should consider if the Master's programs can be capped at two years in length. The graduates of the MS and PhD programs should be scaffolded in finding the best job opportunities post-graduation. SIAT's growing alumni network could be leveraged to accomplish this.

Work examining the curriculum and programs could be done by the curriculum committee through a series of retreats, possibly involving external consultants.

3. Identify SIAT's competitors and potential partners.

In the Self-Study Report, SIAT identified the following peer or collaborator schools: Arizona State University, Design Media Arts; Concordia University, Department of Design and Computation Arts; Indiana University School of Information and Library Science; and Michigan Institute of Technology (MIT) Program in Art, Culture and Technology.

In conversations with the faculty, a number of schools and potential partners were identified that are not current "peers", but are the schools SIAT aspires to be compared with and identify as potential partners. These include: Carnegie Mellon University Human-Computer Interaction Institute; Georgia Institute of Technology School of Interactive Computing, MIT Media Lab; and Technical University Eindhoven. Some faculty are already fostering collaborations with faculty and students in these schools. In Canada, Ontario College of Art and Design and Emily Carr University in Canada are partners in ongoing collaborations in design.

4. Is the diversity and composition of faculty adequate to achieve the School's mandate and vision?

Traditionally, disciplines like HCI, interaction design, and computational creativity have drawn a more diverse set of women and minorities closer to the field of computer science. During the advisory board visit, the committee discovered a wonderful diversity in tenure-track and teaching faculty in terms of area of expertise and current subject matter for research. A current challenge for SIAT is to do some strategic planning to discover whether they should increase the diversity of the current expertise of the faculty, or instead strengthen existing groups.

For example, the committee participated in discussions at many levels, ranging from the provost to the students, about the loss of faculty in the games area and whether or not games should remain its own focus for future hiring and curriculum development in the future. In general, tenure-track faculty were not enthusiastic about a new games hire. People felt such a decision would be hasty or trendy, and that a single person hired alone into a research area would likely not succeed without a great deal of focused mentoring.

Based on these conversations, the committee suggests that an alternative strategy for increasing diversity would be to seek "best athletes" that strengthen and extend the core themes of SIAT's research: Interactive Systems, Design, and Media, Art and Culture. The committee recommends that SIAT hires strategically, using this opportunity for a new hire to connect students to new and emerging areas, while supporting core research areas that form a legacy of research at the school.

5. Is there adequate studio, classroom and lab space and equipment to support the educational goals and rapid development of SIAT's fields over the next 5-10 years?

There was clear evidence that the collaborative studio spaces that have been developed for undergraduate students, Studio A and Studio B, were working well. These spaces are active hubs of collaboration that are frequently oversubscribed. They were also described in glowing terms in our interviews with undergraduates.

Based on these successes, both teaching and research faculty identified a need for collaborative studio and lab space 1) to support the unique cultures of design, interdisciplinary research, and making and 2) to provide a better studio experience in the classroom. In both cases, having to pack up and move projects-in-progress inhibits the progress of research and learning. Research faculty stated that having a project space where students could gather and work is more important than having desk space.

Some research groups stated that the current policy for reallocating space on a yearly basis was less than effective, noting that a year term did not match the average term of a grant, which is longer. This leads to a recommendation to explore new policies and processes for optimizing and reallocating space, to better match with the ebbs and flows of research. Some opportunities may include looking at start-up or incubator space, and other local community sources such as exhibition space and space within local industry.

The committee also recommends in the interim term to explore expanding the shop and building space. It should potentially link to a configurable space that can be used for assembly, as a studio classroom, as a space for project research, or even as a public event or gallery space.

6. Recommend a strategy for balancing SIAT's focus on innovation in teaching and research, scholarly education, and industry needs (jobs)?

The committee acknowledges that SIAT has a strong focus on innovative teaching and research. In addition, the teaching faculty are very strong in scholarly education and continually improving their understanding of teaching and learning in this interdisciplinary design environment. The committee noticed that the response to and integration of the core activities with industry needs is not as strong. The current co-op programs have not been successful in connecting SIAT students with industry positions that build on the strengths developed in their education.

The committee recommends the development of a strategy to connect education, research, and industry needs through better communication between SIAT and a selection of industry partners and by creating opportunities for industry partners to bring real world projects to the classroom and students to their working environment. This will strengthen ties to the local community, and create industry partnerships that can be expanded through MITACS or similar funding. This can also contribute to growth of co-op and internship pool.

Alumni and partners can be involved in this effort in several ways. First, they could advise on modifications to the undergraduate curriculum that will help place SIAT graduates in better jobs. The could also advise on creating a Master's program that includes courses focused on professional development and projects sponsored by industry partners. In addition, graduate and undergraduate students could work directly with alumni and partners on small research and development projects, which would, in turn, lead to ways to develop new themes in undergraduate and graduate curricula.

SIAT'S EXTERNAL PROFILE

SIAT's growing national and international research profile has positioned it as the "MIT Media Lab of Canada." According to the Self-Study document, "As of 2013 we are home to a Tier 2 Canada Research Chair, a research Centre and a research Institute, a number of research labs, and a host of research and public outreach activities. The School supports, physically, institutionally, and through mentorship and other mechanisms, an innovative and committed set of researchers, creators, inventors and scholars."

Some of SIAT's external highlights include:

- A significant number of faculty are involved (and funded by) the Networks of Centres of Excellence in Graphics, Animation, and New Media (NCE GRAND)
- Several faculty are involved in the UBC-SFU Vancouver Institute for Visual Analytics
- The University has approved the Interaction Design Centre led by Ron Wakkary, and the Chronic Pain Research Institute led by Diane Gromala
- The average research funding per faculty member averages $100,000 annually, and annual funding for the entire SIAT faculty is close to $2M
- SIAT has developed extraordinary research capacity in three core areas: Interactive systems, Design, Media, art and culture

SIAT is intentionally interdisciplinary, and this is what makes SIAT unique. It has an innovative approach not found much in Canada, and affords great opportunity to partner with industry, to create social and cultural innovation, and to conduct leading edge research with the flexibility to shift and evolve to take advantage of new opportunities as they arise. The research is absolutely cutting edge and relevant.

The committee recognized an opportunity to create a unified message about SIAT research, focused around three core areas of strength: interactive systems, design, and media, art, and culture. This framing would allow well-established areas such as visual analytics and computational creativity to continue to grow, while allowing new strengths to emerge. Emerging strengths could form the basis for new hires, and be leveraged to create a consistent message across all undergraduate and graduate programs.

UNDERGRADUATE

About 800 undergraduate majors study toward the Bachelor of Arts or Bachelor of Science degrees in Interactive Arts and Technology, with an option to specialize in one of three concentrations: Interactive Systems, Design, or Media Arts. Two joint majors, with Communication and Business Administration programs, complement the undergraduate offerings. In general, the gender distribution of undergraduates has continued to grow slowly, from 43% female in SIAT's first year to 50% currently for undergraduate students.

As reported in the Self-Study report, the overall curricular design "...reflects a dynamic between two separate pedagogical imperatives. First, we must maintain our commitment to the development of understandings and skills fundamental to the three core directions of our school: media arts, design, and interactive systems. Second, we are determined to build a synergy that combines these focused strengths into a broader path that draws on, combines, and extends these foundational skills into a broad university education."

This has translated into an interdisciplinary design program that uses a pedagogy of knowledge/skills in the form of lecture/lab courses and design studio as a pedagogy of learning by making and doing.

GROWTH

The Self-study report states: "The number of undergraduate course section offerings has slowly grown since 2009. In 2009-10 there were 69 sections offered and by 2012-13 this had increased to 90 sections. Despite this increase in offerings, demand for lower and upper level courses has largely exceeded University-wide levels."

With continuous growth in student numbers comes challenges to infrastructure since infrastructure growth comes in spurts. For example, the students are expected to work in teams and on design projects, yet the space was configured for standard classroom teaching. The curriculum has been evolving since its inception in 2008/2009 and has some legacy issues that have created gaps and repetition.

The committee met with a representative group of undergraduate students ranging from 1st to 4th year students. The students seemed to know each other well, and were very articulate in expressing how much they liked the program and what concerned them. They expressed the following concerns and suggestions:

- Many expressed that they accidently found out about the program and that there wasn't enough information about SIAT at high schools.

- Gaps from one year to next is too big: first year was too easy and second year was very interesting and too demanding.
- Content is repeated from one year to the next: should build on what they learn instead of doing it again in a different topic.
- Designers need knowledge of an application area: students would like to take a minor outside SIAT.
- Students feel they are not ready for a job when they graduate: existing opportunities for coop and internships are not related to what they want to do after graduation.
- Students would like entrepreneurship classes and some freelance opportunities.
- Students don't have access to all the labs in SIAT, some have $50 fee to use.

RECOMMENDATIONS

1. Re-envision the curriculum taking into consideration the strengths and diversity of the tenure-track faculty and teaching faculty. Identify gaps and repetition the progression of the courses to ensure that the courses build on knowledge gained in previous semesters.
2. Create room in the schedule and facilitate opportunities for a minor that SIAT students can take outside SIAT.
3. Explore opportunities beyond co-op for students to engage with industry.
4. Create opportunities for students to engage with the community in maker's spaces and with entrepreneurial incubators.

GRADUATE

SIAT currently offers three graduate degrees: an MSc and an MA degree (n = 36), and a PhD (n = 60). These programs focus on a research tradition and computational literacy as core values. Student numbers have held steady in the graduate programs, ranging from 45% female enrollment to 52% female enrollment currently for graduate students. There is an expectation that the current numbers of graduate students will be maintained, but an opportunity exists to leverage SIAT to draw more women and minorities to computer-science related fields.

Graduates of the PhD program have typically gone on to academic careers or research-focused positions in industry at companies like Google, Microsoft, and Nokia. Graduates of the Master's Program go on to work at local companies, design firms, and startups; in a few cases, they go on to PhD programs at SIAT or other schools.

CURRICULAR DESIGN

SIAT graduate programs are research-focused, and the main learning outcomes of both the MS and PhD programs are the development of student research skills. From the Self-Study Report, the committee learned that: "SIAT graduate programs revolve around four well-defined educational goals: 1) research, scholarship, and creative production; 2) methodological tools and processes; 3) critical thinking, problems solving, communication, and dissemination; and 4) technical proficiency. These are expected, mandatory goals behind the graduate programs, but graduate students often learn a range of skills that go well beyond the above."

GROWTH

From the Self-Study Report, the committee learned that: "Admission to SIAT graduate programs is competitive... [numbers have grown steadily with] the recent trend towards more PhD students and less Master's students... the overall maturation of SIAT is a factor." While numbers of graduate students will be maintained, a desire exists to reduce the graduate program completion time. One of the proposed solutions is reform the course requirement towards a three-course PhD, and a four-course Master's.

OBSERVATIONS FROM INTERVIEWS

In interviews with graduate students, the committee heard a number of praises and concerns about the program.

- Students praised the interdisciplinarity and diversity of the programs, describing the individualized research and advising relationships of the faculty.
- Students praised similarly diverse advising and funding relationships. Some students participate in TAships and RAships; others with scholarships who do neither. PhD students liked the core required research courses in qualitative and quantitative research methods.
- Students also praised the mixed methods research course that is periodically offered, suggesting that it might also be made a part of the required core.
- Master's and PhD students liked the intrinsic relationships they had with their research advisors. However, if a faculty member left campus, it could be difficult to find another well-matched advisor.
- SIAT's commuter campus works against graduate culture. Many students work from home; many faculty only come to campus on the days that they have meetings. This limits collaboration across people and groups, making it difficult to find a sense of community.
- Graduate students were concerned about the department's desire to shorten graduation time. This was viewed as a bad idea for a number of

reasons. First, master's and PhD students who are productive in their research are not in a hurry to move to a new position (nor do their supervisory faculty want to lose a productive researcher). One strategy that had been suggested for this was to reduce the courseload. Students viewed this negatively, as this would reduce the number of available courses and force students to take courses far from their knowledge base.

- Doctoral students also felt that the path through their doctoral studies was not well communicated. Although they do have periodic internal evaluations which require them to submit written reports, the review committee noted that they did not have a clear model of the timeline to writing a dissertation.
- Students have trouble brainstorming about the kinds of jobs they would be eligible for post-defense.

Based on these findings, the committee makes the following recommendations for changes to SIAT's Graduate Programs:

RECOMMENDATIONS FOR MASTER'S PROGRAMS

1. Consider changes to requirements reduce the time to graduation for students not continuing to the PhD.
2. Consider developing two programs at MA/MS level:
    a. Restructure the current MS program into a two-year thesis-focused program that prepares students for a PhD program.
    b. A two-year project-focused program that prepares students for research or management position in a company.

RECOMMENDATIONS FOR THE PHD PROGRAM

1. Celebrate the diversity in student-advisor relationships and funding structures.
2. Consider ways in which the commuter campus detracts from the doctoral experience and explore ways to create community.
3. Manifest the PhD culture by displaying student work and creating collaborative spaces for project activities.
4. Consider ways to reduce the time to graduation while allowing PhD students to publish with their advisor as they reach the most productive stages of their research, e.g. consider post-doctoral study for high-performing PhD students.

TENURE-TRACK RESEARCH FACULTY

The Self-Study Report states: "Research by Faculty members in SIAT is notable for interdisciplinarity, a focus on applied and use-inspired research, and by collaboration with other researchers and external partners. While interdisciplinarity often refers to closely related disciplines, here we refer to much broader forms of interdisciplinary research. SIAT has interests in four broad areas: computing, media, design, and people."

Faculty in SIAT have been successful in obtaining grants and are highly cited in their respective areas. The Self-Study Report showed that the percentage of faculty with grants has grown from 72% in FY08-09 to 89% in FY12-13, resulting in an increase from $1,454,000 in FY08-09 to $1,847,000 in FY12-13. As well, there is evidence of collaboration (both internal and external) through co-supervisions, co-publications and co-applications for grant funding.

Over the course of our site visit, the committee met with tenure-track faculty in six research groups: 1) Pain and Bioinformatics, 2) Visual Analytics, 3) Interaction Design and Tangible Interaction, 4) Perception and Aesthetics, 5) Media and Mediated Culture, 6) Movement and AI for Creativity. Collectively, the committee noted some challenges in the way tenure-track research faculty do their work:

Identity. The faculty describe their research areas in ways that distinguish them within the School. They identify with particular labs, centres, or institutes rather than SIAT overall. This evolved naturally from the bottom-up research collaborations that grew SIAT. However, the overall SIAT research themes School are hard to articulate. For an outward facing identity, there needs to be a small set of themes understandable to people that are not in the faculty. The review committee has suggested a possible set -- Interactive Systems, Design, and Media, Art and Culture.

Space. A committee currently examines and reallocates lab space on a yearly basis. This is based on the number of graduate students supported per faculty member, per year. Overall, tenure-track research faculty cited this as a process that needs improvement. First, it is difficult to plan for research over multiple-year projects, where students might graduate and new ones may join a group. Second, some types of research (for example, building a room-scale prototype or doing motion capture research) require more space than others, making the notion of a per-student measure of square feet unrealistic.

Time allocation. Tenure-track research faculty are spending up to one day a week doing research administration. Several told horror stories of how the progress of research is hampered by a lack of systematic research support and accounting services that would make their jobs easier and allow them to focus on their re-

search. This process of priortizing some types of accounting procedures and making other nearly impossible seems to be a hindrance to the research process.

RECOMMENDATIONS

1. Reduce the amount of time faculty spend on research administration so productive research faculty do not get overloaded, e.g. SFU can decentralize research services so that the Surrey campus has more local support.
2. Increase community engagement and development activities to celebrate the multi-disciplinarity of the faculty and encourage collaboration.
3. Develop partnerships in the broader community to improve engagement, knowledge mobilization and co-creation of knowledge.
4. Strengthen the Office of Research Services' Surrey campus presence.

TEACHING FACULTY

The committee met with seven teaching faculty, two of whom had been at SIAT for over ten years. The committee was impressed with this happy and productive group, who are clearly vested in their students and their teaching and contribute a great deal to the department.

RECOMMENDATIONS

1. Encourage, reward, and support this dedicated and enthusiastic group of faculty.
2. Discuss opportunities and create time for curriculum and personal development.
3. Communicate opportunities for leadership in faculty governance activities.
4. Reconsider teaching spaces and address the need for dedicated studio space.

STAFF

Interviews with staff found them to be generally happy. They take pride in their work, and seem to have agency in how administrative work is divided among staff members at SIAT. They are overworked, but described the likelihood of hiring additional staff members to be very small. In order to mediate their large workload, staff would like faculty to be more responsive to their requests made by email or in person. In particular, the role of undergraduate advisor seems to be particularly overloaded, so this could be a place to target a future hire.

UNIVERSITY SUPPORT AT SURREY

The SFU campus at Surrey is well positioned for growth and is strongly supported by the municipal government and local community. There are plans to develop an "innovation boulevard" along the university boundary that will extend from city hall and the local hospital to the university. The province is not currently incenting growth, so the challenge is how to position the Surrey campus to take advantage quickly of future growth funding opportunities from the province as they emerge.

SFU's investment in Surrey has brought exceptional post-secondary education to one of Canada's fastest growing communities. As this investment grows, it will serve as a hub for new economic innovation and entrepreneurship, and capitalize a unique partnerships that leverage community, academic and private sector resources and investment in the BC PSE system. One example of this is the Bridges to Surrey initiative. This short term (1-3 years) investment by SFU will hopefully lead to an increase of provincial investment in the future.

The committee recommends that SFU leverage the reputation and capacity of SIAT faculty and students to better position the university within the local community in order to leverage additional infrastructure and resources for the university. There is enormous potential within SIAT to build bridges around applied research, entrepreneurship, shared community-university maker labs/studios, and exhibition spaces. There is also a strong aboriginal research component in the faculty that can provide an additional bridge to the local community.

As SFU continues to evolve across multiple campuses, ongoing attention to resource allocation and prioritization will be essential. Currently, SFU has not addressed multi-campus governance and administration processes in a formal/strategic manner. Processes and practices have evolved in an ad hoc fashion, without the benefit of guidance that an overarching governance framework would provide. For example, decisions about the provision of services, lines of authority and accountability, and many other matters have been made in the absence of an overarching governance model that provides input from multi campus stakeholders. There are numerous models for multi-campus governance and no one multi-campus model works best for all institutions. This committee, therefore, does not presume to dictate what model the university should adopt, nor the process by which the university should address multi campus governance and administration. Instead the recommendation is that the university begin a dialog across campus stakeholders that will allow for the strategic optimization and allocation of resources.

In line with this, the committee felt strongly that the provision of services by the Office of Research Services was severely lacking on the Surrey campus. Given the

research capacity that has been developed by SIAT faculty, some attention must be paid to comments that ranged from the inconvenience of having to travel to multiple campuses to obtain multiple signatures for grant application submission, to the time lag in obtaining university approvals, and the lack of local administrative support for post award management.

RECOMMENDATIONS

1. The University should consider multi-campus governance processes that encourage growth, and stabilization, optimal resource allocation.
2. Continue to foster relationships with local Surrey community (municipal government, health organizations, local businesses) in order to leverage infrastructure.

WORKPLACE ENVIRONMENT

Based on the results of a 2013 survey, SIAT found people to be generally satisfied and productive in their workplace. In interviews with the committee, individuals praised the nimble administration in assisting day to day work, and in moving a sizeable group of junior faculty to tenure.

The committee identified a key issue that may have an effect on future growth and the workplace environment. The commuter campus, while currently having an effect on day-to-day research and teaching, will certainly be the site of future growth. It is important that SIAT secure commensurate resources to ensure that this growth will be facilitated.

RECOMMENDATIONS

1. Use the Surrey campus location to SIAT's advantage. This campus will be the site of future growth; ask for commensurate resources now.
2. Hire or institute a curator and/or knowledge mobilization officer to help display faculty and student work periodically throughout the year.
3. Make decentralized services available in some instances.
4. Re-examine the process of space allocation. Different types of research require different space usage. Lengthen the period between space re-allocation to support terms of graduate study and grants.

EXTERNAL PROFILE

The committee met with the communications team, reviewing the design of SIAT's new web site. They also reviewed paper documents advertising the undergraduate and graduate programs. The committee recommends creating a concise

message about who it is, why it is unique, and to use this message to unify com-communications about SIAT at all levels.

CONCLUSION

In summary, we found Simon Fraser's SIAT to be a successful creation of a multidisciplinary institute, successful in its research and educational programs and admired nationally. Our recommendations are offered in the spirit of helping SIAT to continue what it does best, and to become a leader in the field.

EXTERNAL REVIEW – ACTION PLAN

Section 1 – Completed by the SIAT Director

Unit under review	Date of Review Site visit	Responsible Unit person,	Faculty Dean
School of Interactive Arts and Technology (SIAT)	March 26-28, 2014	Dr. Marek Hatala, Director	Owen Underhill, Dean Pro-term

Notes

1. *It is **not** expected that every recommendation made by the Review Team be covered by this Action Plan. The major thrusts of the Report should be identified and some consolidation of the recommendations may be possible while other recommendations of lesser importance may be excluded.*
2. *Attach the required plan to assess the success of the **Educational Goals** as an addendum (Senate 2013).*
3. *Should any additional response be warranted, it should be attached as a separate document.*

1. PROGRAMMING

1.1 Actions:

1.1.1 Undergraduate:

- **Create adequate space to support learning** **Due: see resource section below**

In a short term, five types of spaces are needed to address health and safety issues, maintain quality of learning, and to achieve excellence in learning. These are:

1) *Health and Safety:* adequately ventilated space where students may solder, glue, putty and paint and do other forms of work that require ventilation;
2) *Maintain Quality*: additional dedicated studio space;
3) *Maintain Quality*: dedicated prototyping and assembly space;
4) *Maintain Quality*: reconfigurable teaching spaces suitable for design instruction; and
5) *Achieve Excellence*: more and better organized display and critique space.

SIAT offers programming in design, media and interactive systems that is unique in North America. A hallmark of each of these disciplines, but especially of design, is that students learn through making (designing, prototyping, evaluating) artifacts and systems for people. Students work individually and in teams. In both situations it is essential for their work—physical prototypes—to be present at SIAT, often for extended periods of time. SIAT provides facilities that help them in their work, and the presence of lots of student work creates a rich learning environment in which students can evaluate their progress. The regular presence of students doing their work at SIAT lifts all who participate. SIAT has inadequate facilities to realize its potential,

especially in design.

The review panel confirmed our unmet need in types of spaces that are conducive to creating design culture and instilling essential patterns of design communication and collaboration as well as community engagement. It did not conduct a thorough architectural brief (it lacked both time and expertise to do this), but did identify some obvious shortcomings of SIAT's facilities. It stated these briefly, and we expand on them here to more fully describe the conversations we had with the review panel. The following are in no particular order: all are important.

- *Space with adequate ventilation.* Students solder, glue, putty and paint when making prototypes in courses such as IAT 106, 233, 320, 336, 437, 438 and others. A limited and inadequate provision of such space was taken away from SIAT and given to Mechatronics, leaving SIAT with nothing to support this need. Students do work on the team-based prototypes on campus, often breaking rules for type of work allowed to be performed in spaces that are available. Implications for *health and safety* are clear. [Note: An agreement has been reached in January 2015 to transfer ventilated room SRY 3350 to SIAT use starting Fall 2015. An upgrade and extension of the ventilation system is needed.]
- *Studio space, that is, open space for student work*, available for that purpose 24 hours a day, seven days a week. There are many models for such space and SIAT's current model makes studios space available across courses and employs both faculty leadership and student governance in managing space. SIAT needs additional dedicated studio to serve its three lower division and ten upper division design courses.
- *Workshop space*, which differs from studio space, in its requirement for tools to process parts and space in which to assemble them. SIAT's sole workshop (Solid Space) lacks any assembly space. Students must assemble parts made in Solid Space wherever they can, producing both additional risk and inefficiency. As an interim solution before a new building becomes available, SIAT needs dedicated prototyping and assembly space to expand our Solid Space fabrication lab supporting instruction in IAT336, 437 and 438 as well as other courses and to support the research of faculty and over 20 graduate students using the lab. SIAT would dramatically increase requirements for fabrication across its courses were even more facilities available. [Note: Room SRY 3350 will address this requirement for existing level of fabrication teaching within the curriculum.]
- *Flexible teaching space.* The Surrey campus set up provides "one-size-fits-all" teaching spaces with neat rows of utilitarian seating. This has a major and unfortunate impact on how content gets delivered and project work understood by students. For example, it leads to students presenting formally, often onscreen, while in their neat little rows; and to lecturing in place of dialogue. Such arrangements stand in sharp contrast to known best practices in learning design. In many ways, design IS dialogue, supported by drawings, models, projections and other external media. Spaces for design teaching are reconfigurable, have lots of space for pinning up work and encourage dialogue. Our current spaces encourage formal presentation that can leave no trace for other students to see. Our students need to discuss, collaborate and present, but our spaces lean toward presentation.
- *Exhibition and critique space.* Students in most design schools display their work on a regular basis, often leaving it up for

extended periods. Work reviews (called critiques in design school) become positive and public events through which students learn even more about design. Student work and the review events that occur around it can become an important vehicle for community engagement—in many schools worldwide, such reviews are an important part of the creative industries' professional culture. What limited review space is available to SIAT lacks adequate display panels and stands and is highly time constrained.

The current delivery of our programming is compromised by inadequate space for its current needs. SIAT would aspire to far more with better facilities, and requires a professional architectural programming process to link needs to a proposal for any new space.

Good space requires good management. Currently a small number of SIAT faculty contribute to making SIAT's limited space more effective. The curatorial officer in Action item 4.1 will help SIAT's faculty in better engaging the community through its design facilities.

Here is a summary of currently available space compared to current need. Note well that SIAT has had to adapt its curriculum to its inadequate facilities. Were it provided with facilities comparable to other good design schools, it would expand the quality and scope of its design curriculum.

SIAT overall: 899 majors and joint majors, 113 minors

Enrolments in courses mentioned in the text above (2013/14 numbers). Work in these courses is done both individually and in teams. Teamwork is important in design, but can lead to less accountability in student work. SIAT is increasing the individual work in its courses, but is constrained by its facilities in doing so: individual work generally poses even higher facilities demands than team work.

- IAT 106 - 144 students 36 teams
- IAT 233 – 177 students 44 teams
- IAT 320 – 93 students 31 teams
- IAT 336 – 149 students 37 teams
- IAT 437 – 70 students 23 teams
- IAT 438 – 79 students 27 teams

Existing studios have the following capacity

- 3020 - 1120 sq.ft. - 8 teams capacity, limited capability for storing project artifacts
- 3875 - 1324 sq.ft. - 10-12 teams capacity, no project artifact storage

Workspaces can be used by several teams during the day, however only for projects that do not require any artifacts to persist in space, which is limited.

In addition Room 3240 is a campus room similar in size to Room 3020 scheduled for classes & some time allocated to projects. It is not suitable for ongoing support for project work. [Note: By re-allocating room SRY 3350 to SIAT from Fall 2015 SIAT will lose its use if 3240 for student projects. A limited number of these projects may be supported within the 3350.]

- **Continue with 5-year plan improvements to the curriculum** **Due: Sept 1, 2015, then continuous**
  Work is ongoing on improving linkages between courses in the undergraduate program.

- **Concurrent Bachelor/Masters** **Due: Sept 1, 2016**
  SIAT will investigate creation of the concurrent Bachelor/Master degree for the most capable SIAT students.

- **Pursue joined programming with other programs in Surrey, including Mechatronics and Software Systems** **Due: Sept 1, 2017**
  SIAT currently has Joint Major programs with Communication and Business. We are in the process of establishing joint programming with Mechatronics, initially for small groups of students at the level of minors. We will continue to pursue joint programming with Computing Science, especially with CS program Software Systems offered on Surrey Campus.

- **Participate in the programming initiatives on entrepreneurship; establish working relationship with Venture connection** **Due: Sept 1, 2016**
  SIAT is currently a partner in two certificate initiatives with focus on entrepreneurship. The Creative Entrepreneurship Certificate is being developed by FCAT programs to prepare students for career in the creative industries. SIAT is also taking part in the Certificate in Entrepreneurship and Innovation led by Beedie School of Business. We will additionally establish closer links with Venture Connection to nurture promising students' projects.

1.1.2 Graduate:

- **Revise graduate program requirements** **Due: Sept 1, 2015**
  SIAT is in the process of revising its graduate program requirements that were in place since approval of the program in 2005. The new requirements will reflect newly established learning goals. The process will continue with redesign of the courses in the program to match the research focus of the School (in 2014/15).

- **Investigate industry-focused project-based Master program** **Due: Sept 1, 2016**
  SIAT will investigate this recommendation in light of strong research focus of faculty and success of its research-based graduate program. The proposal for a project-based Master program will be considered alongside currently planned professional graduate certificate program.

- **Collaborative spaces** **Due: Sept 1, 2015**
  SIAT is working on reorganizing its research lab spaces and will consider creating spaces to support external collaboration and social interaction as suggested by the review committee. Indeed, this and other concerns and opportunities have been raised in the current (2014) space and facilities review. However, achieving such effectively is very difficult with current space types and locations. At a minimum, some architectural changes will be necessary.

1.2 Resource implications and expected completion dates

Short term

The allocation and equipping of dedicated spaces for teaching should be provided by the SFU/Surrey campus. These include (no priority implied by the order):

1) adequately ventilated space where students may solder, glue, putty and paint and do other forms of work that require ventilation;
2) additional dedicated studio space;
3) dedicated prototyping and assembly space;
4) reconfigurable teaching spaces suitable for design instruction; and
5) more and better organized display and critique space.

The School and Dean will work with the university to explore possibilities to meet these space requirements.

Longer term **Due: at the time of Surrey campus expansion**

Achieving SIAT's long term goals requires purpose designed and built space. When new building space becomes available in Surrey, it should be professionally programmed and the architect selected should have a demonstrated track record in spaces for creative enterprises.

SIAT is SFU's first "design" school. Typical buildings housing design schools are more industrial than institutional in character. They tend to have high floor loads, high ceilings, lots of natural light, plain finishes, good ground access and dedicated flexible spaces, especially teaching spaces.

In the interim, we will explore opportunities with Surrey Campus and will work with community partners to follow on recommendation to provide public event and exhibition space and other forms of shared facilities.

2. RESEARCH and EXTERNAL PROFILE

2.1 Actions:

- **Develop connections to community** **Due: Sept 1, 2015**
  We will establish event series that will connect SIAT with its existing and potential partners from the community, especially in Surrey. This will include SIAT community engagement days and bi-monthly informal socials.

- **Work with SFU's external affairs to integrate with community and highlight SIAT** **Due: Sept 1, 2016**
  The review panel recognized SIAT as "MIT Media Lab of Canada". This endorsement recognizes "The research is absolutely cutting edge and relevant" within a unique, intentionally interdisciplinary program. We are working on delivering this message through the redesign of our web presence that will reflect our quality of unique creative aspects of the School. We will work with SFU External Relations and Surrey campus to "leverage the reputation and capacity of SIAT faculty and students to better position the university within the local community in order to leverage additional infrastructure and resources for the university."

2.2 Resource implications:

SIAT resources are limited both in terms of appropriate space and support personnel. These actions need support from campus and other SFU units to facilitate organization and execution of the events. SIAT would benefit from accessing resources that are deployed to support community engagement on Surrey campus. We need to identify external partner organizations that can commit time and effort to helping us.

3. ADMINISTRATION

3.1 Actions:

- **Streamline processes to reduce staff work overload** **Due: Sept 1, 2015**
  We will analyze administrative processes in the School, especially in the advising area, and introduce changes and tools to streamline the processes. SIAT will continue to encourage SFU to develop central systems to support conversion of labor intensive paper based processes to online systems that will create efficiencies and help to address staff workload concerns.

- **SFU to commit services to enable research in Surrey** **Due: Sept 1, 2015**
  "The committee felt strongly that the provision of services by the Office of Research Services was severely lacking on the Surrey campus." SIAT will work with other research-intensive programs in Surrey in identifying needs and pursuing solutions that will bring the services where the researchers are.

3.2 Resource implications:

SFU to commit to provide services in Surrey few days in a week.

4. WORKING ENVIRONMENT

4.1 Actions:

- **Establish curator/knowledge mobilization officer** **Due: September 1, 2015**
  As identified in the report, current SIAT staff resources are already stretched. However, establishing curator position is essential to support both the strong research culture in the School as well as to facilitate the community engagement. Creating a position with curatorial responsibilities can be combined with organizational support needed for the continuous community engagement initiatives.

4.2 Resource implications:

0.5 FTE support staff for knowledge mobilization and community engagement to be added to SIAT staff complement.

The above action plan has been considered by the Unit under review and has been discussed and agreed to by the Dean.

Unit Leader (signed)	**Date**
Marek Hatala, Professor and Director	**February 13, 2015**

Section 2 - Dean's comments and endorsement of the Action Plan:

I am writing to endorse the School for Interactive Art and Technology Action Plan arising from their positive External Review.

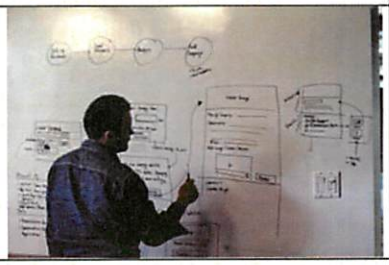
With respect to the space adequacy issues (1.1.1), we have made progress on some components thanks to an agreement with the Faculty of Applied Science and the support of the VPA. This agreement will facilitate a properly ventilated room that can also be used for workshop space. Other aspects of the space issues will need to be addressed in the next few years. It is critical that Surrey campus expansion (1.2) address purpose built space for SIAT over the longer term. As the date of such expansion continues to be uncertain, it is recommended that interim solutions continue to be sought including evaluating opportunities outside the SFU Surrey footprint.

A commitment has been made to introduce the .5 knowledge mobilization and community engagement staff position in 2015-2016.

Progress is already underway on a number of other parts of the action plan.

Faculty Dean	Date
Owen Underhill	Feb. 17/2015

SIAT STUDIOS VISUALIZED AND COMPARED TO PROFESSIONAL AND SCHOOL COMPARISONS

Above: SIAT students in Studio A doing collaboartive process work	Above: Hootsuite offices, Vancouver. Collaborative work spaces in the professional environment.	Above: SIAT students in Studio A doing collaboartive board work
		
Above: Close-up of SIAT students in Studio A doing collaborative board work	Above: Engine Digital Vancouver, offices, professional deisgenrs at work in physical team space work	Above: Engine Digital Vancouver, professional designers in team space work. Both are SIAT grads.
Above: the Stanford D School collaborative enviornment	Above: SIAT Studio A present collaboartive layout, furnishing	Above: SIAT Studio B present collaboartive layout, furnishing
Above: SIAT students in Studio A doing physical prototyping with foam and hand tools	Above: SIAT students in Solidspace Labs doing "dirty prototyping" incldiuing soldering, glues and solvents	Above: SIAT students in studios doing "dirty prototyping" incldiuing sprays and solvents

**Overleaf: Stanford d Schools Design Studios and Maker spaces in detail

vitra design studio

b! technologies

Institude of Design at Stanford

N.American design agency

Institude of Design at Stanford

European design agency

California College of Arts

European design agency

N.American design agency

SIAT Educational Goals Assessment Plan

Undergraduate Program

June 14th 2014

I. Introduction

The SIAT Educational Goals Assessment Plan provides program level assessment for the SIAT Undergraduate Program. The SIAT undergraduate program is comprised of three concentrations (Design, Media Arts, & Interactive Systems). We have defined nine (9) Educational Goals that define degree level expectations. Of these nine educational goals, 4 are general goals and 5 are disciplinary specific goals.

SIAT General Educational Goals:

1. Critical Thinking
2. Written and Oral Communication
3. Teamwork
4. Ethics and Professionalism

SIAT Disciplinary Specific Educational Goals:

1. Practices of Making
2. Programming Proficiency
3. Design Proficiency
4. Media Proficiency
5. Technological Literacy

Each Educational goal includes 3 to 5 indicators, which are used to assess the educational goals within the SIAT curriculum. The detailed description of SIAT's Educational Goals and indicators is included later in this document.

II. History

The process of defining SIAT's Educational Goals has evolved from prior curriculum review that focused on course level learning outcomes. During 2012 and 2013 all SIAT undergraduate courses were reviewed and analyzed based on course level learning outcomes, course assessment structures, and other factors such as skill development and group and individual assessment models. This data was used to address curricular issues such as grade inflation, lower division skills development, prerequisite structures and horizontal and lateral curriculum integration.

This course level analysis has prepared SIAT for a program level review of Educational Goals and has informed our strategies for defining an assessment plan. In Fall 2013 as a part of the SIAT self-study document, a working group undertook a process to define our program level Educational Goals, and to design a process to assess these Educational Goals. The working group membership is Thecla Schiphorst, Susan Clements-Vivian and Chantal Gibson, with support from Barb Berry in the SFU Teaching and Learning Group.

III. Definitions

We have developed a set of definitions to enable the SIAT faculty to converge on goals and outcomes for Educational Goals Assessment.

Educational Goals Lexicon Definitions

Educational Goal	defines expectations of SIAT student capabilities upon completion of their BA or BSc degree
Degree Level Expectations	describes student capabilities upon completion of their SIAT degree and are described explicitly through the Educational Goal Indicators and Assessed through the EG Rubrics
Performance Indicator	a set of 3 to 5 descriptors that define the Educational Goal
Assessment	Project or Assignment within the SIAT Curriculum (internal assessment) or results of survey or interview (external assessment) that the Indicator is evaluated against
Education Goal Rubric	Rubric that maps Program Level Assessment to Educational Goal. Indicates quality of the SIAT program and is based on Degree Level Expectations that SIAT sets through the educational goal performance indicators.
Course map	identifies all courses within the SIAT curriculum that include internal assessments of the performance indicator. Maps the SIAT Educational Goals to the Course Level Learning Outcomes. The course map is used to select summative Assignments in which the Educational Goals can be assessed.

IV. Assessment Design

We have completed the high-level design of our assessment definition and process. Based on the resource material provided in the SFU website, we have defined a timeline that distributes the assessment of our 9 educational goals across a 3-year assessment cycle, assessing 3 educational goals within each of the 3 annual cycles.

Our three assessment cycles distribute the Educational Goals in the following way:

Assessment Cycle 1:

1. Written and Oral Communication
2. Practices of Making
3. Programming Proficiency

Assessment Cycle 2:

1. Critical Thinking
2. Design Proficiency
3. Media Proficiency

Assessment Cycle 3:

1. Teamwork
2. Ethics + Professionalism
3. Technological Literacy

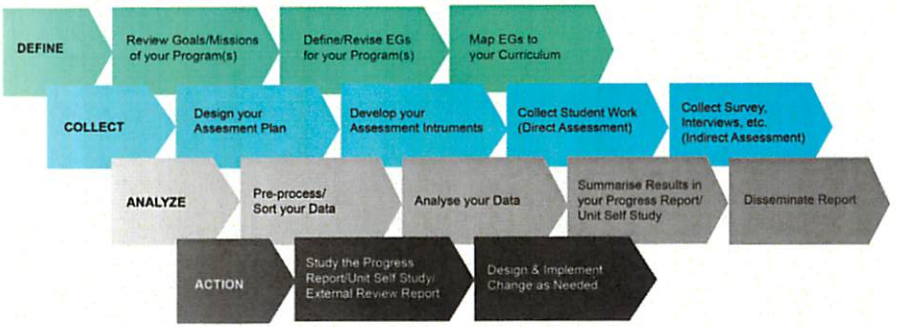
In our distribution of the 9 Educational Goals across three years, we were careful to ensure that each of the 3 assessment cycles contained a mix of General Educational Goals alongside Discipline Specific Educational Goals.

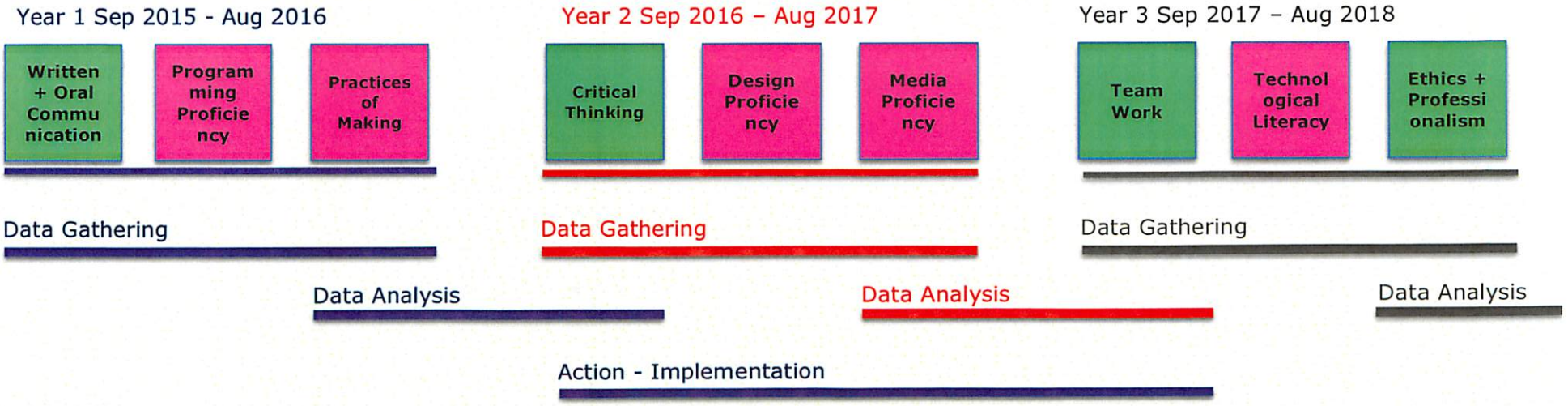
Each Assessment Cycle is distributed over a 2 year process and includes the following stages:

1. Data Gathering
2. Data Analysis
3. Curricular Action and Implementation

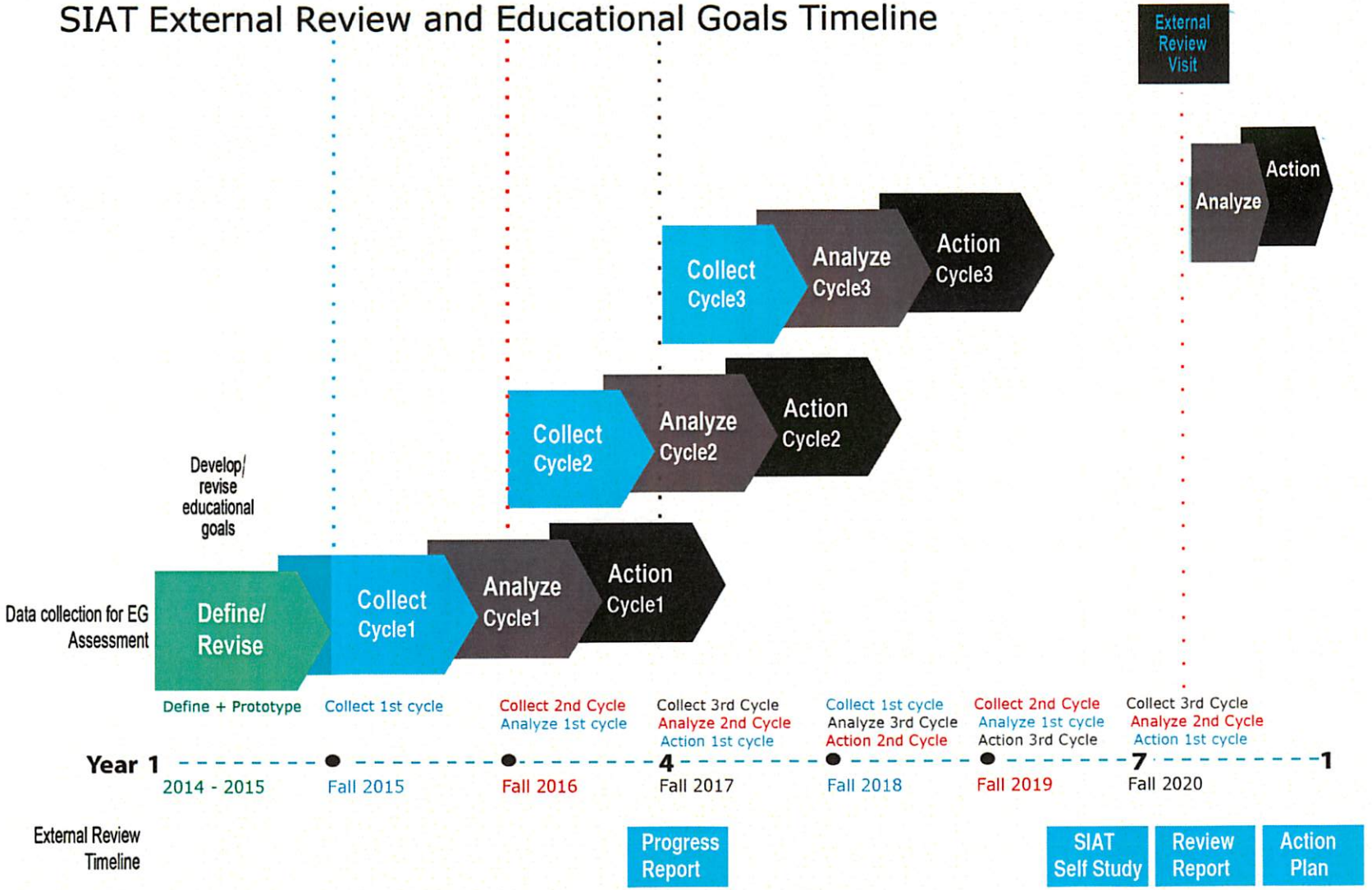
SIAT Educational Goals Assessment Planning 3 year Cycle Timeline

- 3 annual rotating assessment cycles that will assess a total of 9 SIAT educational goals (4 general + 5 discipline specific)
- 3 educational goals are assessed per annual rotating assessment cycle
- Each assessment cycle occurs over 2 years and includes data gathering, data analysis and curricular action-implementation
- The action-implementation phase enables curricular refinement and adjustment based upon analysis of assessed indicators
- Defining and prototyping our assessment process includes a pilot test phase from September 2014 to August 2015
- The pilot phase will enable SIAT to test its process and methods of assessment





SIAT External Review and Educational Goals Timeline



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