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MEMORANDUM

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| **ATTENTION: Senate** | **TEL** |
| **FROM: Peter Keller, Vice-President, Academic and Provost, and Chair, SCUP** | |
| **RE: External Review Mid-Cycle Report for the School of Interactive Arts and Technology (SCUP 18-14)** | |
| **DATE: March 20, 2018** | **TIME** |

At its March 14, 2018 meeting, SCUP reviewed the Mid-Cycle Report for the School of Interactive Arts and Technology which resulted from its 2014 external review. The report is attached for the information of Senate.

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MEMORANDUM

ATTENTION: Peter Keller, Chair, SCUP | TEL

FROM: Wade Parkhouse, Vice-Provost and Associate Vice-President, Academic

RE: External Review Mid-Cycle Report for the School of Interactive Arts and Technology

DATE: January 24, 2018 | TIME

The External Review of the School of Interactive Arts and Technology was undertaken in March 2014. As per the Senate guidelines, the Unit is required to submit a mid-cycle report describing its progress in implementing the External Review Action Plan. The mid-cycle report, together with a copy of the Action Plan approved by Senate, and the mid-cycle report on the Unit's assessment of its Educational Goals are attached for the information of SCUP.

c: Thecla Schiphorst, Director, School of Interactive Arts and Technology
Aoife Mac Namara, Dean, Faculty of Communication, Art and Technology

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# MEMORANDUM

To: Glynn Nicholls, Director, Academic Planning and Quality Assurance

From: Thecla Schiphorst,
Director, School of Interactive Art & Technology

Date: January 23, 2018

Re: Mid-Cycle Report for the School of Interactive Arts and Technology

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Attached please find the Mid-Cycle Report for the School of Interactive Arts and Technology which details our progress with the Action Plan stemming from the 2014 External Review. The assessment of our Educational Goals is also attached.

Sincerely,

Thecla Schiphorst
Professor and Director, SIAT

| External Review Update for the School of Interactive Arts and Technology | |
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| **Action** | **Progress Made** |
| **1. Aligning SIAT with SFU's Five Year Academic Plan 2018-2013 Notes for departmental consideration:** | **Key Points from the Plan that SIAT considered**<br><br>In accordance with SFU's Five Year Academic Plan 2018-2023, SFU's Vision/Mission: Engaging students, Engaging Research and Engaging Communities. These goals overlap in meaningful ways that should be encouraged and celebrated (1).<br><br>The SFU Planning Framework consists of: Strategic Research Plan, Innovation, Community Engagement Strategy (2). Strategic priorities include: 1) Aboriginal Reconciliation, 2) Student Experience, 3) Big Data, 4) Innovation and Entrepreneurship and Dialogue (2). Units should seek opportunities in these areas. The purpose of planning in this manner is both operational and aspirational (3). The Plan should be honest and provide critical review of existing practices, structures, processes, policies and procedures. Take this opportunity to embrace transformative initiatives (3).<br><br>"SFU is uniquely positioned to argues for target growth on the Surrey campus, especially in the engineering, health and wellness, creative technologies and innovation education, but we are facing increasing competition from other post-secondary institutions south of the Fraser" (4).<br><br>"Enrolment management is a key challenge as we have a strong reliance on tuition, the softening if our domestic enrolment, the increased competition leading to diminishing transfer student enrolment, and the vulnerability of our international" (4).<br><br>"Focus also on the need to give students strategies and capacities to learn for life, and on paying attention to labour market needs, with deliberate |

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| | growth of opportunities for integrated learning and emphases in the curriculum delivery on developing skills in communication, teamwork, analytics and problem solving, innovation and entrepreneurship as well as fostering a strong work ethic" (5).<br>The nature of teaching and learning environments has shifted quite a bit given "...advances in technology, information packaging, communications and social media" (5).<br><br>Key challenges for academic units to consider:<br>- Student Life, Learning & Success<br>- Academic Quality/ Curriculum<br>- Engagement<br>- Working Across Boundaries/ Interdisciplinarity<br>- Faculty Renewal (have been an issue for SIAT with an influx of retired faculty members as of late)<br><br>The VP Academic stresses the importance of student life, learning and success as being contingent on quality and relevant learning environments, infrastructure, technological backbone for contemporary teaching and learning. This should high standards for undergraduate students, quality graduate supervision, mentoring and tutoring (7). |
| **1.1.1 Undergraduate** | |
| Create adequate space to support learning:<br>• Space with adequate ventilation<br>• Studio space, that is, open space for student work<br>• Workshop space<br>• Flexible teaching space<br>• Exhibition and critique space | Spaces constraints continue to be an ongoing issue for the School of Interactive Arts and Technology, and generally at the SFU - Surrey campus. Campus Administration understands the need for adequate space to support learning and research at the campus. The Director of the Surrey Campus, Steve Dooley and the Facilities Manager, Marie Scheider, are active members of our infrastructure committee. While we wait for these issues to be addressed on a university level, we have evaluated and sought to implement better uses for our current space.<br><br>SIAT has an active Infrastructure committee, chaired by Dr. Philippe |

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| | Pasquier (2017/18). Work has been done to consult current stakeholder groups who use SIAT spaces. For instance, in September 2017, feedback was solicited for the recently renovated graduate lounge to ensure that it was meeting the needs of students. Students have reported that the space allows them to connect for academic/collaborative and social purposes. It was also determined that the meeting room next to the SIAT graduate lounge would be available for booking by SIAT graduate students, faculty and staff (Room 3708).<br><br>The Infrastructure committee is currently assembling a 5-year plan for equipment requests. This type of forecasting will enable us to be proactive in budgeting according to cycle purchasing needs.<br><br>The Surrey campus extension is currently underway - the Sustainable Energy Engineering Building. We hope that space is freed up for existing programs like SIAT at the SFU- Surrey campus. We await further direction from the SFU Surrey Campus Administration.<br><br>In 2016/17 renovations to expand Solid Space were made. The additional square footage added to the space now houses all digital making equipment – separate from the physical prototyping workshop. This addresses the health and safety concerns noted in the external review. Proper ventilation was also installed to allow equipment fumes to be contained, addressing health and safety concerns. Unfortunately, there is still no adequate space for students and faculty to work on modeling/ porotype finishing – like painting. This continues to be a priority for the school.<br><br>A new studio space for SFU was constructed behind the brew pub at the Surrey campus. Currently only one Interactive Arts and Technology course IAT 481 – Business of Design, taught by Dr. Rob Woodbury, is using this space. The SFU Surrey campus administration reviews proposals for this space and we hope that we can utilize it for studio-based courses. |

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| | SIAT's commitment to "Innovative Creative Technologies" is recognized by SFU and the Surrey Community. We hope that future commitments will be made to enhancing the competitiveness of our School on a provincial, national and international stage. Compared to other creative technologies programs, SIAT continues to be resourced inadequately for the curricular demands of the program, thus raising competitive risk. We look forward to the new Creative Technology Community Building coming to the City of Surrey, especially in light of Surrey being one of the largest and fastest growing youth populations/aboriginal youth populations, and most culturally diverse communities in Canada.<br><br>Again, the School of Interactive Arts and Technology continues to advocate for the following space priorities:<br><br>• Prototyping, making and assembly spaces<br>• Critique and display spaces<br>• Additional studio spaces for studio-based courses and to support learning and teaching |

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| • Continue with 5-year plan improvements to the curriculum | The SIAT curriculum has been evolving since its inception over 15 years ago. We view this evolution of the curriculum as a healthy way to respond to the needs of our students, industry changes, and faculty teaching/ research interests. The nature of what we do in the area of innovative technologies continues to be transformed by our social, political and cultural environments. SIAT prides itself on its dynamic and responsive curriculum for this reason.<br><br>At the Undergraduate level, course laddering for the Bachelor of Arts and Bachelor of Science has been going on for quite some time, with a dedicated sub-committee overseen by the Undergraduate Curriculum Committee (UCC). The UCC has been working alongside the FCAT UCC to standardize and provide clarity around program requirements. Additional courses in the design concentration have been added to the curriculum to improve course access issues. Historically the design concentration has been our most popular concentration stream (IAT 339 – Web Design and Development and IAT 499 – Graduation Project have been added). In addition, IAT 359 – Mobile Computing was added to the curriculum given its popularity as a special topics course. Lastly, the honours program requirements have been updated to ensure that unrealistic credit count requirement don't hinder successful students' involvement in the program.<br><br>Next on the school's agenda is addressing continuity in its writing and critical theory areas. The school is considering adding a second-year level (IAT 209W) critical theory course to enhance students' knowledge in technology literature and social, political, cultural and historical trends that impact the way we interact and develop new technologies.<br><br>We also constructed several "educational goals" working groups to encourage faculty members teaching in similar areas to collaborate and build curriculum and teaching/ learning deliverable holistically. We are currently focusing on "programming proficiency" and "practicing of making" as important parts of the curriculum. |

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| • Concurrent Bachelor/Masters | Discussions between our UCC and Graduate Program Committee (GPC) were had shortly after the external review report was rendered. The program is interested in exploring the possibility of a Concurrent Bachelor and Master's program but struggled with how to go about identifying potential students for this type of program. A decision was made first to strengthen the Interactive Arts and Technology honours program since these students would likely be interested in graduate-level programs. |
| • Pursue joined programming with other programs in Surrey, including Mechatronics and Software Systems | SIAT has been collaborating with a number of other faculties and schools. For instance, our course bridging design and business has been quite successful over the past year (IAT 481 – Business of Design). We have an upcoming semester (Spring 2019) in alternative realities, which is a partnership with Centre for Digital Media (CDM) and is being offered in a "semester in dialogue" model. We continue to explore the partnerships and joint programs between SIAT, Mechatronics, and Software Systems, though one of the biggest barriers is the intensive and mandatory curricula is all three of our programs. |
| • Participate in the programming initiatives on entrepreneurship; establish working relationship with Venture connection | We have a great number of IAT students pursuing minors/concentrations in business and entrepreneurship. Dr. Sarah Lubik, Director of Entrepreneurship, and Venture Connection has been wonderful resources, advocates and supports to these students. |
| **1.1.2 Graduate** | |
| • Revise graduate program requirements | The school completely finished an overhaul of the program requirements in September 2017. The newly developed cohort model, was discussed in 2016/17 and was lead by GPC Chair, Dr. Lyn Bartram. The GPC is currently in its cleaning up phase of the project to ensure continuity in language. Changes will come into effect in 2018. Important consideration was given to improving student experience and strengthening relationship between students and supervisors.<br><br>Links to graduate calendar:<br><br>https://www.sfu.ca/students/calendar/2018/spring/programs/interactive-arts-and-technology/doctor-of-philosophy.html |

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| | https://www.sfu.ca/students/calendar/2018/spring/programs/interactive-arts-and-technology/master-of-arts.html<br><br>https://www.sfu.ca/students/calendar/2018/spring/programs/interactive-arts-and-technology/master-of-science.html<br><br>https://www.sfu.ca/students/calendar/2018/spring/programs/visual-analytics/graduate-certificate.html |
| • Investigate industry-focused project-based Master program | Even though there is an interest in exploring a project-based Master's program, the department decided to prioritize enhancing the existing curriculum first and foremost. Administratively speaking, new programs need to have faculty level support and funding - new program creation isn't a priority at the moment. Consultation with current and past graduate students are currently being conducted and SIAT plans on making this initiative a priority in our upcoming 5-year plan. Research into our project-based Master's programs would be conducted by the GPC. |
| • Collaborative spaces | A social space was created and renovated this past year. The space is conveniently attached to graduate lab spaces, office spaces and mailboxes. Couches, tables, a kitchen and TV helped to create a conducive space for graduate student to collaborate and socialize. The students use this space for both academic and social inclusion purposes. A separate meeting room was also designed.<br><br>Dr. Sylvain Moreno is the Director of the Digital Health Hub and is the Head of Innovation for the Neurodevnet NCE and part of the AGE-WELL NCE's innovation team. The AGE-WELL Innovation Hub has been approved and will be situated at the SFU Surrey campus.<br><br>A community partnership NCEs – KBHN – Age Well innovation Hub (VIVA) – co-located in that space (next year) – renovation – community centred lab invites translational research – Sivan. Between researcher and community health. Children with brain disabilities and seniors' preventive |

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| | health. Bridges SIAT research, graduate students and community health. |
| | |
| **2. Research and External Profile** | |
| • Develop connections to community | SIAT considers developing connections to community as a key strategic priority in research; Connections to community also unites the research goals of our faculty members. Developing connections to community is priority for each and every one of our faculty members and motivates them in their research and teaching. We continue to champion this important priority and work to enable the synthesis between teaching and research through our community partnerships.<br><br>Sample research profiles show unique teaching and research collaborations with many community-based initiatives/organizations:<br><br>Dr. Alissa Antle<br>Dr. Diane Gromala<br>Dr. Brian Fisher<br>Dr. Sylvain Moreno<br>Dr. Kate Hennessy |
| • Work with SFU's external affairs to integrate with community and highlight SIAT | The external affairs structure within SIAT and FCAT has changed substantially since the external review was conducted. SIAT has had an active communications committee for three years now and FCAT has now adopted a similar model with 1) representatives from the schools, 2) SFU external affairs, 3) and newly hired communication specialists for the faculty.<br><br>This structure allows information to flow more readily between the schools and SFU's external affairs unit. Stories featuring our students, staff and faculty now appear on the following blog, which allows the SFU community to get a sense of some of the incredible things that are going on in our school:<br><br>https://www.sfu.ca/fcat/blog.html |

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| | FCAT's Communication support staff - https://www.sfu.ca/fcat/contact-us/alisha-pillay.html<br><br>Here are just some of our external affairs work/events from this year:<br><br>• SIATfest – IAT courses final showcase projects. A week-long of events showcasing students' final projects<br>• SIAT Industry Mixer – September 2017 – a chance for students, alumni, and faculty to meet with industry members, learn about upcoming projects, positions and discuss collaborations<br>• UX Design Awards – two SIAT student groups won in design categories. These groups were from our IAT 499 – Graduation Project. These groups were mentored by SIAT instructor, Russell Taylor.<br>• TouchPoint – a two-day event featuring Industry talks and an intensive interview schedule for senior students.<br>• MakerFaire – June 2017 – SIAT participates annually, having students and faculty presenting on projects and research to promote the school.<br>• IAT 499 – Graduation Project<br>• SFU Welcome Week events – FCAT's Hiekwa<br>• SFU Program Fair<br>• Numerous Recruitment/Conversion events<br>• SFU - Surrey Open House<br>• Industry visits in conjunction with co-op (i.e. Facebook, Google, IBM)<br>• Industry talks and guest lectures in IAT courses<br>• IAT 481 – Business of Design – students in this course had their own table and presented their final projects at the Mini Maker Faire in June 2017 (Dr. Rob Woodbury). |
| | |
| **3. Administration** | |

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| • Streamline processes to reduce staff work overload | Graduate Admissions – Clerk 5 (1.0) – has been omitted as the work has been streamlined and automated. For example, a number of manual processes have been automated and moved online, including the Graduate Travel Awards and are now being done by the Administrative Coordinator. All clerical support tasks have been identified and are done by clerical temporary staff as required.<br><br>Financial Clerk/ Reception – Clerk 5 (0.5) – position was omitted and the work was re-allocated to the Administrator Coordinator.<br><br>No job descriptions have been changed to date. This is something that we hope to evaluate in 2018. |
| • SFU to commit services to enable research in Surrey | While SFU Surrey continues to be bound by space constraints – Surrey campus is welcoming the research led by Dr. Sylvain Moreno which is integrated into the SIAT research community through the Professor of Professional Practice- http://www.canadadhh.com/ |
| | |
| **4. Working Environment** | |
| • Establish curator/knowledge mobilization officer | Establishing a curator and knowledge mobilization officer was a recommendation proposed by the External Review committee. With the advent of the new Dean, Dr. Aoife Mac Namara and the restructuring of staff at the faculty level, the curator and knowledge mobilization officer was deemed too specialized at the unit level. Several faculty members have been keen on showcasing their students' in more public spaces. For example, Susan Clements-Vivian and Dr. Kate Hennessy will be working with the Roundhouse Community Arts & Recreation Centre to showcase senior digital media students' work and films in December. Other faculty members will be participating in an on-campus showcase called "SIATfest". Students will have an opportunity to showcase their work to other students, faculty members, industry, the media and alumni. This event is being coordinated by the Coordinator, Curricular Support & Enrolment Management – Jill Sutherland. |

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| | http://www.sfu.ca/siat/undergraduate/siatfest.html<br><br>This position was approved by the VPA's office but the funding was re-assigned by the FCAT Dean's office. |

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**Educational Goals**
**Assessment of Goals/Outcomes**

January 19, 2018

Submitted by: Dr. Thecla Schiphorst

The School of Interactive Arts and Technology has been working closely with the Teaching and Learning Centre since 2014 on establishing educational goals, evaluating these goals, and implementing strategies and rubrics to assess these goals. This report aims to summarize this process and report on its findings to date.

**Why are we doing this Educational Goals process?**

SIAT School Level Goals for the Educational Goals Process:

- Share combined knowledge of and improve our Curriculum
- Explore, investigate and evaluate the strengths and skills gaps in the SIAT undergraduate curriculum (as noted in the SIAT External Review).
- Identify common expectations and inconsistencies across the SIAT undergraduate curriculum

- Understand and gather data on our Undergraduate Student Experience
- Identify the core skills/abilities we want to see in our SIAT undergraduates.
- Identify student strengths and skills/learning gaps across courses, concentrations and the SIAT program (Co-op, industry, etc.).

- Reflect on and refine "Who We Are" (SIAT identity)
- Create common language and to support consistency across the curriculum
- Establish clear expectations around skills and learning for SIAT undergraduates

- Utilize EGs to communicate "what we do" within SIAT, with our students, with external partners, and other stakeholder audiences.

**SIAT Outcomes:**

A set of SIAT Educational Goals will:

- Strengthen and focus the SIAT Undergraduate curriculum
- Improve standards for teaching and learning across SIAT
- Establish clear standards and expectations for SIAT undergraduate
- Enhance Student Experience
- Strengthen SIAT's vision of "who we are"

**How will SIAT create and assess Educational Goals?**

- SIAT is using the Educational Goals development process outlined by Susan Hatfield, of The Jossey-Bass Leadership Institute, 2012.
- In 2013, SIAT Directors Marek Hatala and Thecla Schiphorst attended the *Academy for Assessment of Educational Goals and Student Learning* workshop facilitated by Gloria M. Rogers, PhD.
- 2013-14 Defining measurable program outcomes;
  Three retreats led by Thecla Schiphorst and SIAT UCC:
  - SIAT faculty identified core skills
  - Faculty mapped the skills to clusters of SIAT courses
  - The school defined nine educational goals with performance indicators with relevant SIAT course clusters
- Phase 1- 2014-16 Determine Assessment Points & Identify Appropriate Assessment Methods and ways to aggregate data

- Three EG pilot teams were created, comprised of faculty identified in the relevant course clusters

**Phase 1 – *Spring 2016 - Spring 2017***

- Writing and Oral Communication (facilitated by Chantal Gibson)
- Practices of Making (Susan Clements-Vivian)
- Programming Proficiency (Andrew Hawryshkewich)

**Phase 2 – *Summer 2017- Summer 2018***

- Review first phase outcomes and apply these to next set of Educational Goals
  - Media Proficiency (Kate Hennessy)
  - Design Proficiency (Will Odom)
  - Critical Thinking (Marek Hatala)

**Phase 3 – *Summer 2018 - Summer 2019***

- Technological Literacy (Gabriela Aceves-Sepulveda)

  - Teamwork (Carman Neustaedter)
  - Ethics and Professionalism (Chantal Gibson)

- SIAT EG First Round Pilot Teams Outcomes:
  - Revise and create a set of goals and performance indicators for each team
  - Create an assessment tool (s) to measure and evaluate student skill/performance
  - Report insights and findings to the School

- Pilot Groups were tasked with
  - Stage 1: Creating Assessment Tool
    - Identifying/revising EG assessment points, including skills and student performance indicators
    - Identifying courses where summative assessment of skills and student performance could occur
    - Creating an assessment tool (rubric) using the performance indicators
- Stage 2: Assessing the Tool
    - Assessing sample student work from one or more selected courses using the first iteration of the rubric—using inter-rater reliability
    - Evaluate the effectiveness of the assessment tool based on inter-rater results
    - Clarifying skills and performance indicator language and revising assessment tool (rubric) based on inter-rater findings and team discussion
- Stage 3: Re-Assessing the Tool
    - Second round of assessment of student sample work using revised rubric
    - Final clarification of skills and performance indicator language and revising assessment tool (rubric) based on inter-rater findings and team discussion
- Stage 4: Setting a Baseline, Assessment of Student Work
    - Final round of assessment of student work
    - Deliverables: Report outlining
      - a. the process and outcomes of the Pilot Process and
      - b. a first assessment of the student competencies

**Defining the General Educational Goals**

1. **Critical Thinking**

- Select and work appropriately with sources: find, analyze, interpret and evaluate a range of source materials.
- Systematically generate arguments: apply research processes to develop clearly articulated arguments to support and justify a position, stance or point-of-view..
- Analyze and evaluate arguments: critically examine and evaluate arguments and their implications from multiple perspectives.

- Synthesize sources, research and personal voice: synthesize new information using knowledge from experience, research, courses, and scholarly work.

2. **Written and Oral Communication**

- Present clear and concise written ideas, knowledge and arguments in a structured form.
- Deliver oral ideas, knowledge, argument in a clear, concise form.
- Present ideas with digital media in a clear, concise and well-structured form.
- Choose appropriate forms and channels of communication for diverse audiences including lay, cross-cultural, cross-disciplinary, and professional audiences.

3. **Teamwork**

- Collaborate with colleagues to achieve individual and shared roles and tasks.
- Establish and maintain accountability within a team.
- Select and use appropriate collaborative practices to meet project requirements.
- Select and use planning tools for team management and organization.
- Apply decision-making and conflict resolution strategies.
- Apply effective leadership and management skills.

4. **Ethics and Professionalism**

- Know and apply standards of ethical practice.
- Know and apply academic and creative integrity.
- Know social responsibility.

**Defining the SIAT specific Educational Goals:**

1. **Technological Literacy**

Ability to:

- Select and apply best practices using standard technologies.
- Select and apply appropriate theoretical concepts and frameworks to technology design.
- Reflect critically on the social, ethical and theoretical implications of technology and human technology interaction.

2. **Design Proficiency**

- Employ a design process to solve both open-ended and constrained problems.
- Utilize lateral and creative thinking strategies to generate new ideas and develop novel solutions.
- Test and evaluate design processes, methods and artifacts.
- Critique and apply feedback to iterative design processes, methods and artifacts.

3. **Media Proficiency**

- Demonstrate application of theoretical concepts, frameworks and approaches within media practice.
- Critically evaluate socio-technical systems and cultural contexts within media practice.

- Demonstrate creativity and apply aesthetic principles to a concept through the creation of visual, sonic, kinaesthetic, time-based, and interactive media.

4. **Programming Proficiency**
   - Design and implement algorithms and systems using standard programming languages.
   - Write and debug code to complete tasks in areas such as web development, interaction design and creative media.
   - Modify existing systems and algorithms to meet new specifications.
5. **Practices of Making**
   - Situate practice within a historical context.
   - Apply the appropriate aesthetic properties of form, materials and interaction to design and computational artifacts.
   - Build material prototypes at appropriate and various levels of fidelity.
   - Utilize and develop tools, processes and methods as part of making.
   - Develop and refine designs from low to high fidelity prototypes.

**Educational Goals reviewed to date:**

1) Written and Oral Communication – COMPLETE (2017)
2) Practices of Making – Data collected (2017) – Final Summary and Report to be rendered
3) Programming Proficiency - Data collected (2017) – Final Summary and Report to be rendered
4) Design Proficiency - Data collected (2017) – Final Summary and Report to be rendered

Committees, made up of faculty members (both teaching and research), were established to evaluate these four educational goals. The committees united faculty members who teach in the three concentration streams 1) Design, 2) Media Arts, 3) Interactive Systems.

The "Written and Oral Communications" working group was chosen to pilot the remainder of the educational goals process. A rubric was established and a sample of course papers in IAT 309W were tested using the newly formed rubric. A final report was render in late Fall 2017.

**Please see Appendix 1 for the full Writing and Oral Communication Summary and Report*

# Appendix 1

# SIAT Educational Goals Written Communication Summary Report 2017

Prepared May 29, 2017

2015-17 Working Group: Chantal Gibson (lead), Marek Hatala, Michael Filimowicz, Cheryl Geisler, Kate Hennessey, Jim Bizzocchi

## Summary of Writing EG Group Process

The Writing and Oral Communication working group was formed in June 2014 and tasked with three major **goals** for the first round of EG assessment:

- Create a set of goals and performance indicators around written and oral communication competencies
- Create an assessment tool (s) to measure and evaluate student' written and oral communication skills
- Evolve goals and performance indicators through iteration
- Record and report insights, challenges and findings to the school at the end of the process

The following overview provides a summary of the tasks completed by the EG Writing Group

- Stage 1: Creating the Assessment Tool
  - Identifying/revising EG assessment points, including skills and student performance indicators
  - Identifying courses where summative assessment of skills and student performance could occur
  - Creating an assessment tool (rubric) using the performance indicators
- Stage 2: Assessing the Tool
  - Assessing sample student work from one or more selected courses using the first iteration of the rubric
  - Evaluating the effectiveness of the assessment tool using an inter-rater reliability
  - Clarifying skills and performance indicator language and revising assessment tool (rubric) based on inter-rater findings and team discussion
- Stage 3: Re-Assessing the Tool
  - Second round of assessment of student sample work using revised rubric
  - Final clarification of skills and performance indicator language and revising assessment tool (rubric) based on inter-rater findings and team discussion
- Stage 4: Setting a Baseline for Assessment of Student Work
  - Final round of assessment of student work
  - Deliverables: Report outlining
    - a. the process and outcomes of the Pilot Process and
    - b. a first assessment of the student competencies

## Findings

**In Stage 1** (June-July 2014) the first draft of a W+O EG assessment rubric was created using an initial set of assessment points based on the performance indicators created in the 2014 SIAT retreats (Appendix A). The draft was created by Chantal Gibson and brought to the team for discussion. The team quickly noted that the scope of the indicators was too broad. Through a series of iterations and two team meetings, the indicators were revised and a working rubric was developed (Appendix B). The goal was *to provide both good coverage of the assessment points* and *to establish shared meaning of the rubric language by the team participants.* The team agreed to frame evaluation categories around 'standards' (ex: Exceeds Standard, Meets Standard, Progressing to Standard, Below Standard) and created performance criteria mapped to measurable outcomes.

The team discussed testing the rubric in Spring 2015 using writing samples collected in Fall 2014 from across the SIAT curriculum, including IAT103W, IAT206W and IAT309W. Writing samples were collected, but the team agreed the scope of the assessment was too broad for stage 1, which *required the analysis of a synthesizing project where educational goals could eventually be assessed.* The team agreed to test the rubric using IAT309W final papers, since all SIAT students must complete this synthesizing research assignment.

**In Stage 2** (Spring-Fall 2016), this first version of the working rubric (Appendix B) was then tested by assessing 10 student works, each by two team members. Comparing the results showed significant variations in several parts of the rubric: i) semantic misalignment between indicators, ii) how assessors applied the rubric, iii) some inadequacy of indicators to measure the assessment points. Concerns were raised that the rubric—designed to assess oral, written, graphical and visual forms—was trying to do too much.

The rubric was revised and applied to 15 works, with 10 works assessed by two team members. An inter-rater reliability was measured for this version of the rubric with moderate agreement (Cohen's Kappa 0.4-0.6) achieved for indicators Clarity, Coherence and Language, while other indicators were showing fair (0.2-0.4; Focus and Visual) or slight agreement (0.01-0.2; Voice and Support). In a discussion of the results, the team decided the rubric should solely focus on Written Communication skills (included the graphical elements used in writing) to clarify the performance criteria for evaluators. Oral Communication was removed from the rubric and terms were changed or clarified (Appendix C).

In **Stage 3** (Spring 2017) evaluator disagreement around terminology (the amount of terms and what they mean) and indicator measurement (what skill is being measured) continued to be at issue. The rubric was revised again (Appendix D) with focus on simplifying the performance criteria and the indicators lagging in quality and applying numerical values to the evaluation categories (ex: Exceeds Standard 3, Meets Standard 3, Progressing to Standard 1, Below Standard 0). Additionally, it became apparent that a *part of the disagreements in ratings could be avoided by starting the process with a session where assessors would "calibrate" their understanding of the rubric through marking several works together.* Hence, the final testing of the rubric was preceded with a joint session and then the rubric was applied to 15 works ($n=15$), each marked by two team members. In the results, three indicators showed statistically significant moderate agreement: Scope & Focus (Cohen's Kappa $\kappa=0.44$, $p=0.03$), Argument ($\kappa=0.595$, $p=0.013$) and Support ($\kappa=0.5$, $p=0.041$). Rubrics for English Language Use ($\kappa=0.07$, $p=0.077$) and Style ($\kappa=0.0$, $p=1$) showed minimal agreement. Full results and data are included in Appendix E.

At this stage the team decided to adopt the rubric (Appendix D) with an understanding that there are limitations inherent to the rubric and that the next Written Communication EG group will likely continue to refine the tool. The group complemented the adopted rubric with the set of recommendations included in the section below.

## Recommendations:

As an Educational Goal, writing intersects with critical thinking and scholarship. After several rounds of assignment evaluation, it is clear that an overwhelming number of summative writing assignments produced in IAT309W were ranked *Progressing to Standard 1*. Taking into consideration the IAT309W research assignments were revised twice (proposal, first draft, final), the works primarily *lacked in the Argument category*—a category that includes critical thinking and scholarship. As we move forward in the EG process, SIAT will need to implement a writing strategy across the W courses and across the entire curriculum. The group recommends the following:

- The Writing Rubric should be made available to SIAT instructors to adapt and use for their courses. An editable copy will be placed in the Educational Goals archive in Canvas.
    - The rubric can be adapted for research writing and other argument based assignments
    - The performance indicators can be used as 'high level points' for talking about and teaching the components of a good argument.
    - A shared document can provide common ground for instructors and support new teachers and TAs
- The School should consider strategic laddering of the SIAT W courses (IAT103W, 206W and 309W) during the current second-year curriculum design process.
    - Writing assignments and assessment tools should be mapped and laddered across the W courses to promote consistency in expectations and outcomes
    - Reading is a vehicle for thinking and should be a priority in all undergraduate courses to support good writing and SIAT literacy initiatives
    - IAT206W should be re-designed and re-branded (perhaps as a technological literacy course) and required for all SIAT students
    - W instructors should meet regularly (between EG assessment periods) to discuss student performance and share teaching strategies and tools
    - Students should be required to take IAT309W at the start of third year, because many students leave it to their final semester before graduation, which defeats the point of making it a graduation requirement
- During the Second-Year Curriculum Review, the School should consider the need for and implement of resources to support writing across the undergraduate program.
    - Consider a writing proficiency evaluation process across the curriculum
        - An entrance evaluation before students enter the program and a follow- up in second year (part of the first week milieu, not just work on the walls)
        - An early assessment to identify first language writers, international students and FIC students who require support (to begin to address the needs of second language students earlier in the program)
    - Consider a SIAT writing support/peer review service (like TechBytes for writing) for all students
    - Promote the use of SFU resources, such as the Student Learning Commons and CELLTR, but recognize these resources are limited and they cannot and do not address the scope of the writing issues in SIAT.

## Appendix A: Performance Indicators

| Written + Oral Communication Indicators | 103 | 206 | 309 | 313 | 339 | 343 | 403 405 | 443 | Co-op |
|---|---|---|---|---|---|---|---|---|---|
| Present clear and concise written ideas, knowledge and arguments in a structured form. | X | X | X | X | | | X | X | X |
| Deliver oral ideas, knowledge, argument in a clear, concise form. | X | | | | | | X | | X |
| Present ideas with digital media in a clear, concise and well-structured form. | | X? | | X | X | X | X | X | X (portfolio) |
| Choose appropriate forms and channels of communication for diverse audiences including lay, cross-cultural, cross-disciplinary, and professional audiences. | | X? | X | X | X | | X | | X |

**Figure 1:** Initial set of performance indicators created in the 2014 SIAT retreats.

## Appendix B: W+O Rubric V1

**W + O Assessment Rubric** Drafted C. Gibson July 16, 2014 (Approved by EG group)

**W+O Indicators:** Ability to communicate effectively in oral, written, graphical and visual forms.

- Identify the needs of target AUDIENCE, assesses their understanding of topic and knowledge deficits (AUDIENCE)
- Create content that is researched, factually correct, supported with evidence, explained with sufficient details and properly documented (ARGUMENT). Removed Content.
- Compose effective communications using appropriate organizational forms, genres and conventions. (FORM)
- Appropriate use of grammar, mechanics, and word choice. (STYLE).

| Performance Criteria | | Exceeds Standard | Meets Standard | Progressing to Standard | Below Standard |
|---|---|---|---|---|---|
| Audience | Clarity (how you talk/write to your audience) | Uses effective, engaging language; creates appropriate tone for intended audiences & purpose | Uses effective language; word choice creates appropriate tone for intended audiences & purpose | Uses limited & predictable vocabulary; tone may not be appropriate for intended audiences & purpose | Limited, inconsistent or inappropriate vocabulary; tone not appropriate for the intended audiences & purpose |
| | Voice (how our audience perceives you) | Persona is appropriate for intended audience & purpose; Delivery enhances the credibility of the message | Persona is appropriate for intended audience & purpose; Delivery is consistent with the message with few lapses | Persona is attempted; Some inconsistencies between delivery and message | Persona is inappropriate for intended audience. Little or no inconsistency between delivery and message |
| Argument | Focus | Thesis is clear; Maintains exceptional focus on the topic | Thesis is clear; Maintains consistent focus on the topic | Thesis is evident; Demonstrates inconsistent focus on the topic | Thesis is not evident; Demonstrates little or no focus on the topic |
| | Support | Provides ample, relevant supporting details w appropriate documentation | Provides adequate, relevant supporting details w appropriate documentation | Includes some supporting details; may include extraneous or loosely related material, and inappropriate documentation | Includes inconsistent or few details which interfere with meaning of the text; inappropriate or no documentation |
| Form | Coherence (structure as a vehicle for thinking) | Organizational structure is clearly and consistently observable; conveys completeness in thinking & understanding of content | Organizational structure is clearly and consistently observable; conveys completeness in thinking & understanding of content with few lapses | Organization is attempted; conveys some evidence of thinking & understanding | Little evidence of organization; conveys little evidence of thinking & understanding |
| | Genre (choice of appropriate forms) | Figures, tables, & graphics are clearly provide appropriate context and necessary detail | Figures, tables, & graphics clearly provide appropriate context and necessary details with few lapses | Figures, tables, & graphics provide some context and details | Inappropriate or inconsistent use of figures, tables, & graphics |
| Style | Language conventions | Consistently follows the rules of Standard English | Generally follows the rules of Standard English | Generally does not follow the rules of Standard English | Does not follow the rules of Standard English |

**Figure 2:** First working rubric. The goal was *to provide both good coverage of the assessment points* and *to establish shared meaning of the rubric language by the team participants*. The team agreed to frame evaluation categories around 'standards' (ex: Exceeds Standard, Meets Standard, Progressing to Standard, Below Standard) and created performance criteria mapped to measurable outcomes.

# Appendix C: W Rubric V4

**Writing Assessment Rubric v4.** Drafted C. Gibson March 16, 2016 (revised)

**Writing Indicators:** Ability to communicate effectively in written, graphical and visual forms.

- Identify the needs of target AUDIENCE, assesses their understanding of topic and knowledge deficits (AUDIENCE)
- Create content that is researched, factually correct, supported with evidence, explained with sufficient details and properly documented (ARGUMENT). Compose effective communications using appropriate organizational forms, genres and conventions. (FORM)
- Appropriate use of grammar, mechanics, and word choice. (ENGLISH LANGUAGE USAGE).

| Performance Criteria | | Exceeds Standard | Meets Standard | Progressing to Standard | Below Standard |
|---|---|---|---|---|---|
| Audience | Clarity (how you talk/write to your audience) | Uses effective, engaging language; creates appropriate tone for intended audiences & purpose | Uses effective language; word choice creates appropriate tone for intended audiences & purpose | Uses limited & predictable vocabulary; tone may not be appropriate for intended audiences & purpose | Limited, inconsistent or inappropriate vocabulary; tone not appropriate for the intended audiences & purpose |
| | Voice (how our audience perceives you) | *Tone & Diction* are appropriate for intended audience & purpose; *Delivery* enhances the credibility of the message | *Tone & Diction* appropriate for intended audience & purpose; *Delivery* is consistent with the message with few lapses across the work | *Tone & Diction* inconsistent with intended audience & purpose; *Delivery* is generally inconsistent with the message with several lapses across the work | *Tone & Diction* inappropriate for intended audience. Little or no inconsistency between *Delivery* and message |
| Argument | Focus | *Thesis or Main Point* is clear; Appropriate *Scope*; Maintains exceptional *Focus* on the topic | *Thesis or Main Point* is clear. Appropriate *Scope*; Maintains consistent *Focus* on the topic with few lapses | *Thesis or Main Point* is vague; *Scope* is too narrow/broad. Demonstrates inconsistent *Focus* on the topic with several lapses | *Thesis or Main Point* is not evident; *Scope* is too narrow/broad. Demonstrates little or no *Focus* on the topic |
| | Support | Provides ample, relevant *supporting details* w appropriate *documentation*; uses credible & authoritative *sources* | Provides adequate, relevant *supporting details* w appropriate *documentation*; uses credible & authoritative *sources* | Includes some *supporting details*; may include *extraneous or loosely related material*, and some inappropriate *documentation*; sources lack credibility | Includes inconsistent or few *details* which interfere with meaning of the text; inappropriate or no *documentation; sources lack credibility or absent* |
| | Logic | *Chain of Argument* from claim to evidence to conclusion is clear; *Outcome* ("conclusion") of the argument is creative, original. | *Chain of Argument from claim to evidence to conclusion is clear; Outcome ("conclusion") of the argument is persuasive.* | *Chain of Argument* from claim to evidence to conclusion is presents inconsistencies; Outcome ("conclusion") of the argument is questionable/wanting. | *Chain of Argument* from claim to evidence to conclusion is not evident; Outcome ("conclusion") of the argument is illogical, unfounded or absent. |
| Form | Coherence (structure as a vehicle for thinking) | Organizational structure is clearly and consistently observable; conveys completeness in thinking & understanding of content | Org. structure is clearly and consistently observable; conveys completeness in thinking & understanding of content with few lapses | Organization is attempted; conveys some evidence of thinking & understanding | Little evidence of organization; conveys little evidence of thinking & understanding |
| | Genre (choice of appropriate forms) | Figures, tables, & graphics are clearly provide appropriate context and necessary detail | Figures, tables, & graphics clearly provide appropriate context and necessary details with few lapses | Figures, tables, & graphics provide some context and details | Inappropriate or inconsistent use of figures, tables, & graphics |
| English Language Usage | Language conventions | Consistently follows the rules of Standard English | Generally follows the rules of Standard English | Generally does not follow the rules of Standard English | Does not follow the rules of Standard English |

**Figure 3:** In a discussion of the results, the team decided the rubric should solely focus on Written Communication skills (included the graphical elements used in writing) to clarify the performance criteria for evaluators. Oral Communication was removed from the rubric and terms were changed or clarified (highlighted in yellow).

# Appendix D: W Rubric V5

**Writing Assessment Rubric DRAFT v5.** Drafted MF/CG January 4, 2017 (revised)

**Writing Indicators:** Ability to communicate effectively in written, graphical and visual forms.

- Applies appropriate use of grammar, mechanics, and word choice. (ENGLISH LANGUAGE USAGE).
- Demonstrates effective language usage and tone for intended audience and purpose of the message. (STYLE)
- Demonstrates focus with clear connection to the main point or Thesis across the work. (SCOPE)
- Demonstrates logical/ causal links in written and visual arguments, from claim to conclusion. (ARGUMENT))
- Creates content that is researched, factually correct, supported with appropriate evidence. (SUPPORT)

| Performance Criteria | Exceeds Standard (3) | Meets Standard (2) | Progressing to Standard (1) | Below Standard (0) |
|---|---|---|---|---|
| English Language Usage | Consistently follows the rules of Standard English | Generally follows the rules of Standard English | Generally does not follow the rules of Standard English | Does not follow the rules of Standard English |
| Style | Uses effective, *engaging* language; creates appropriate tone for intended audiences & purpose; | Uses effective language; word choice creates appropriate tone for intended audiences & purpose; *Tone & Diction* appropriate for intended audience & purpose; | Uses limited & predictable vocabulary; tone may not be appropriate for intended audiences & purpose; *Tone & Diction* inconsistent with intended audience & purpose; | Limited, inconsistent or inappropriate vocabulary; tone not appropriate for the intended audiences & purpose; *Tone & Diction* inappropriate for intended audience. |
| Scope | *Thesis or Main Point* is clear; Appropriate *Scope*; Maintains exceptional *Focus* on the topic; conveys completeness in thinking & understanding of content; | *Thesis or Main Point* is clear. Appropriate *Scope*; Maintains consistent *Focus* on the topic with few lapses; conveys completeness in thinking & understanding of content with few lapses | *Thesis or Main Point* is vague; *Scope* is too narrow/broad. Demonstrates inconsistent *Focus* on the topic with several lapses; conveys some evidence of thinking & understanding | *Thesis or Main Point* is not evident; *Scope* is too narrow/broad. Demonstrates little or no *Focus* on the topic; conveys little evidence of thinking & understanding |
| Argument | *Chain of Argument* from claim to evidence to conclusion is clear; *Outcome* ("conclusion") of the argument is creative, original; Figures, tables, & graphics clearly provide appropriate context and necessary detail; Organizational structure is clearly and consistently observable | *Chain of Argument from claim to evidence to conclusion is clear; Outcome ("conclusion") of the argument is persuasive*; Figures, tables, & graphics clearly provide appropriate context and necessary details with few lapses; Org. structure is clearly and consistently observable | *Chain of Argument* from claim to evidence to conclusion is presents inconsistencies; Outcome ("conclusion") of the argument is questionable, wanting; Figures, tables, & graphics provide some context and details; Organization is attempted | *Chain of Argument* from claim to evidence to conclusion is not evident; Outcome ("conclusion") of the argument is illogical, unfounded or absent; Inappropriate or inconsistent use of figures, tables, & graphics; Little or no evidence of organization |
| Support | Provides ample, relevant *supporting details* w appropriate *documentation*; uses credible & authoritative *sources* | Provides adequate, relevant *supporting details* w appropriate *documentation*; uses credible & authoritative *sources* | Includes some *supporting details*; may include *extraneous or loosely related material*, and some inappropriate *documentation*; sources lack credibility | Includes inconsistent or few *details* which interfere with meaning of the text; inappropriate or no *documentation; sources lack credibility or absent* |

**Figure 4:** The final rubric was developed with a focus on simplifying the performance criteria and the indicators lagging in quality. Numerical values were applied to the evaluation categories (ex: Exceeds Standard 3, Meets Standard 3, Progressing to Standard 1, Below Standard 0).

# Appendix E: Stage 4 Data Sets and Analysis Results

## Marking scores

***Table 1:*** *15 students works (column Student) were marked by three raters (Rater) marking each work using the rubric listed in Appendix D. The overall* score *and the score for each indicator is listed in their respective columns. The values represent Below Standard (0), Progressing to Standard (1), Meets Standard (2), and Exceeds Standard (3).*

| | Student | Rater | Overall | ELU | Style | Scope...Focus | Argument | Support |
|---|---|---|---|---|---|---|---|---|
| 1 | A1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| 2 | A2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 |
| 3 | A3 | 1 | 1 | 2 | 1 | 1 | 1 | 0 |
| 4 | A4 | 1 | 1 | 2 | 1 | 1 | 0 | 0 |
| 5 | A5 | 1 | 1 | 2 | 2 | 1 | 1 | 0 |
| 6 | A6 | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| 7 | A7 | 1 | 2 | 2 | 1 | 0 | 0 | 0 |
| 8 | A8 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 9 | A9 | 1 | 1 | 2 | 1 | 1 | 1 | 0 |
| 10 | A10 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 11 | A6 | 2 | 2 | 2 | 1 | 2 | 1 | 2 |
| 12 | A7 | 2 | 1 | 2 | 1 | 1 | 0 | 1 |
| 13 | A8 | 2 | 0 | 1 | 0 | 0 | 0 | 1 |
| 14 | A9 | 2 | 1 | 2 | 1 | 1 | 1 | 0 |
| 15 | A10 | 2 | 1 | 2 | 1 | 1 | 1 | 0 |
| 16 | A11 | 2 | 1 | 2 | 1 | 1 | 1 | 1 |
| 17 | A12 | 2 | 1 | 2 | 2 | 1 | 1 | 1 |
| 18 | A13 | 2 | 1 | 2 | 1 | 1 | 1 | 1 |
| 19 | A14 | 2 | 1 | 2 | 1 | 1 | 1 | 1 |
| 20 | A15 | 2 | 0 | 2 | 0 | 1 | 0 | 0 |
| 21 | A11 | 3 | 1 | 2 | 1 | 1 | 1 | 1 |
| 22 | A12 | 3 | 2 | 2 | 1 | 2 | 1 | 2 |
| 23 | A13 | 3 | 1 | 1 | 1 | 0 | 1 | 1 |
| 24 | A14 | 3 | 1 | 2 | 1 | 1 | 1 | 1 |
| 25 | A15 | 3 | 1 | 1 | 1 | 0 | 0 | 1 |
| 26 | A1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 |
| 27 | A2 | 3 | 1 | 2 | 1 | 1 | 1 | 1 |
| 28 | A3 | 3 | 1 | 2 | 2 | 1 | 1 | 1 |
| 29 | A4 | 3 | 1 | 2 | 1 | 1 | 1 | 0 |
| 30 | A5 | 3 | 1 | 1 | 1 | 1 | 1 | 1 |

## Averaged Scores per Indicator

**Table 2:** Average values achieved by students works overall and for each indicator (based on Table 2).

| | ID | Overall | ELU | Style | ScoFo | Argument | Support |
|---|---|---|---|---|---|---|---|
| 1 | A1 | 1.0 | 1.5 | 1.0 | 1.0 | 1.0 | 1.0 |
| 2 | A2 | 1.0 | 2.0 | 1.5 | 1.0 | 1.0 | 1.0 |
| 3 | A3 | 1.0 | 2.0 | 1.5 | 1.0 | 1.0 | 0.5 |
| 4 | A4 | 1.0 | 2.0 | 1.0 | 1.0 | 0.5 | 0.0 |
| 5 | A5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | 0.5 |
| 6 | A6 | 1.5 | 2.0 | 1.5 | 2.0 | 1.5 | 2.0 |
| 7 | A7 | 1.5 | 2.0 | 1.0 | 0.5 | 0.0 | 0.5 |
| 8 | A8 | 0.0 | 1.0 | 0.5 | 0.0 | 0.0 | 0.5 |
| 9 | A9 | 1.0 | 2.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| 10 | A10 | 0.5 | 1.5 | 0.5 | 0.5 | 0.5 | 0.0 |
| 11 | A11 | 1.0 | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 12 | A12 | 1.5 | 2.0 | 1.5 | 1.5 | 1.0 | 1.5 |
| 13 | A13 | 1.0 | 1.5 | 1.0 | 0.5 | 1.0 | 1.0 |
| 14 | A14 | 1.0 | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 |

15 A15 0.5 1.5 0.5 0.5 0.0 0.5

## Distributions of Scores per Indicator

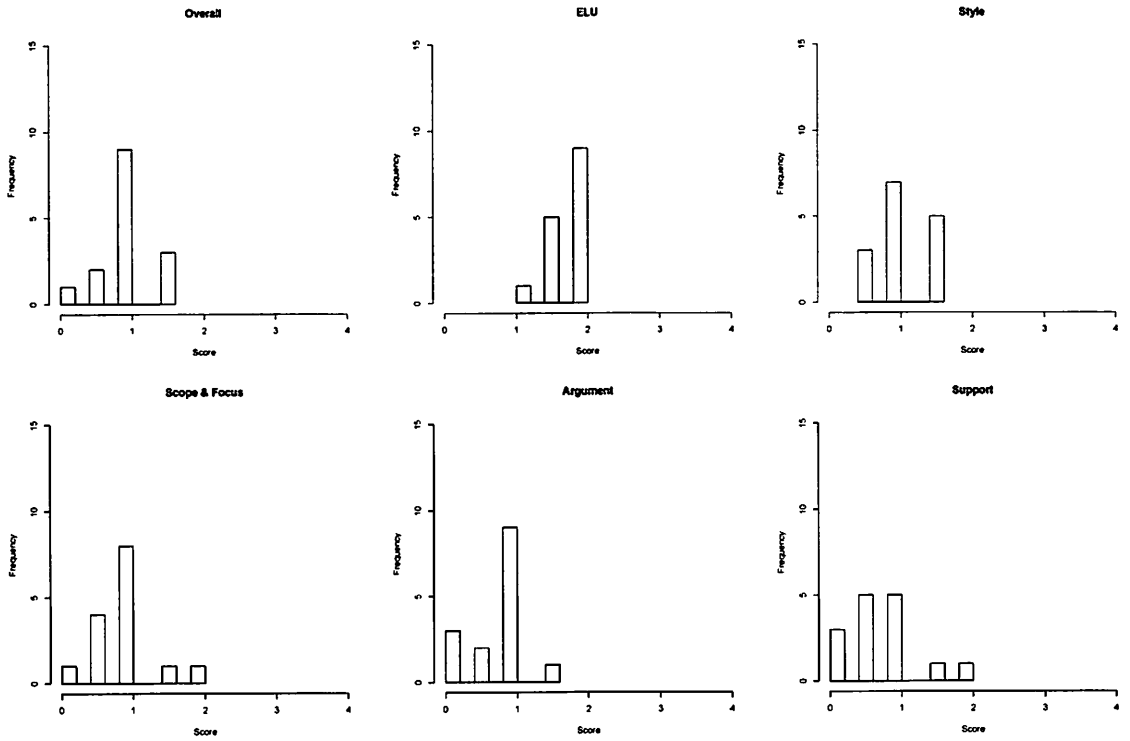


**Figure 5:** The distribution of average scores for students works based on Table 2.

## Descriptive Statistics

***Table 3:** The descriptive statistics of average scores of students works for the overall score and each indicator.*

| Overall | ELU | Style | ScoFo | Argument | Support |
|---|---|---|---|---|---|
| Min. :0.0000 | Min. :1.000 | Min. :0.500 | Min. :0.0 | Min. :0.0000 | Min. :0.0000 |
| 1st Qu.:1.0000 | 1st Qu.:1.500 | 1st Qu.:1.000 | 1st Qu.:0.5 | 1st Qu.:0.5000 | 1st Qu.:0.5000 |
| Median :1.0000 | Median :2.000 | Median :1.000 | Median :1.0 | Median :1.0000 | Median :0.5000 |
| Mean :0.9667 | Mean :1.767 | Mean :1.067 | Mean :0.9 | Mean :0.7667 | Mean :0.7333 |
| 3rd Qu.:1.0000 | 3rd Qu.:2.000 | 3rd Qu.:1.500 | 3rd Qu.:1.0 | 3rd Qu.:1.0000 | 3rd Qu.:1.0000 |
| Max. :1.5000 | Max. :2.000 | Max. :1.500 | Max. :2.0 | Max. :1.5000 | Max. :2.0000 |

## Inter-rater Statistics (Cohen's Kappas)

***Table 4:** An inter-rater statistics for the marking rubric based on Table 1.* Kappa represents a level of agreement *between two raters*: 0.21–0.40 as fair, 0.41– 0.60 as moderate, 0.61–0.80 as substantial, and 0.81–1.00 as almost perfect agreement. *The p-value represents a measure of certainty, with values below 0.05 considered to be statistically significant, i.e. with the results achieved by chance less than 5%.*

| Overall | ELU | Style | ScoFo | Argument | Support |
|---|---|---|---|---|---|
| Kappa :0.286 | Kappa :0.0741 | Kappa :0 | Kappa :0.444 | Kappa :0.595 | Kappa :0.5 |
| p-val :0.258 | p-val :0.077 | p-val :1 | p-val :0.03 | p-val :0.013 | p-val :0.041 |

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MEMORANDUM

**ATTENTION: Thecla Schiphorst, Director, School of Interactive Arts and Technology** | **TEL**

**FROM: Glynn Nicholls, Director, Academic Planning and Quality Assurance**

**RE: External Review Mid-Cycle Report for the School of Interactive Arts and Technology**

**DATE: June 12, 2017** | **TIME**

As per Senate guidelines, the School of Interactive Arts and Technology is to report on progress being made in the implementation of the Action Plan that resulted from its external review in March 2014. This report will be presented to SCUP and Senate for information. The Director will be asked to attend the SCUP meeting to provide comment and answer any questions about the update on the Action Plan. The Dean may choose to attend the meeting at her discretion.

In addition, as per the agreement with Senate, mid-cycle reports in 2017, following the requirement to develop Educational Goals for programs in the School of Interactive Arts and Technology, are expected to have conducted an assessment of those goals/outcomes. Please include as part of this mid-cycle report submission a 2- to 4-page narrative description articulating the assessment process undertaken by the academic unit, and any changes or adjustments to the established educational goals, the assessment process, and/or the program curriculum that may have arisen as a result of the findings of the assessment. Should you require any assistance in preparing this part of your report, please contact your Educational Consultant from TLC.

Please submit your progress report, using the attached template, by Thursday, November 30, 2017 to Bal Basi at bbasi@sfu.ca. Also attached, for ease of reference, is the Action Plan that was approved by Senate on April 13, 2015.

Please contact me at 2-6702, glynn_nicholls@sfu.ca, or Bal Basi at 2-7676, bbasi@sfu.ca, if you have any questions or concerns regarding the external review update process.

Thank you.

Attach.

cc: A. Mac Namara, Dean, Faculty of Communication, Art and Technology

# 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 |
|---|---|
|  | February 13, 2015 |
| Marek Hatala, Professor and Director | |

## 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 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

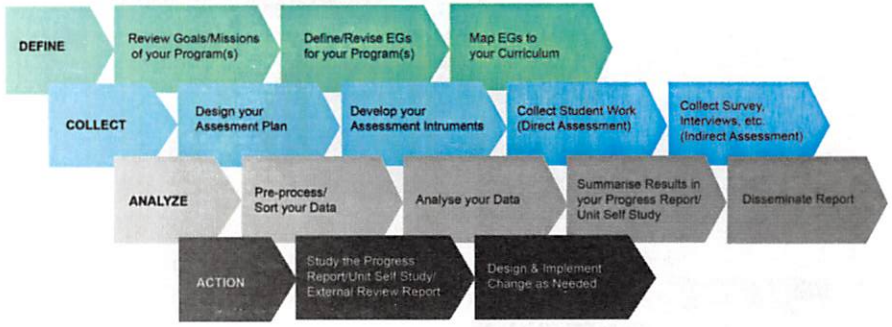
In our distribution of the 9 Educational Goals across three years, we were careful to ensure that each of the 3 assessment cycles contained a mix of General Educational Goals alongside Discipline Specific Educational Goals.

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




Year 1 Sep 2015 - Aug 2016

Written + Oral Communication | Programming Proficiency | Practices of Making

Data Gathering

Data Analysis

Year 2 Sep 2016 – Aug 2017

Critical Thinking | Design Proficiency | Media Proficiency

Data Gathering

Data Analysis

Year 3 Sep 2017 – Aug 2018

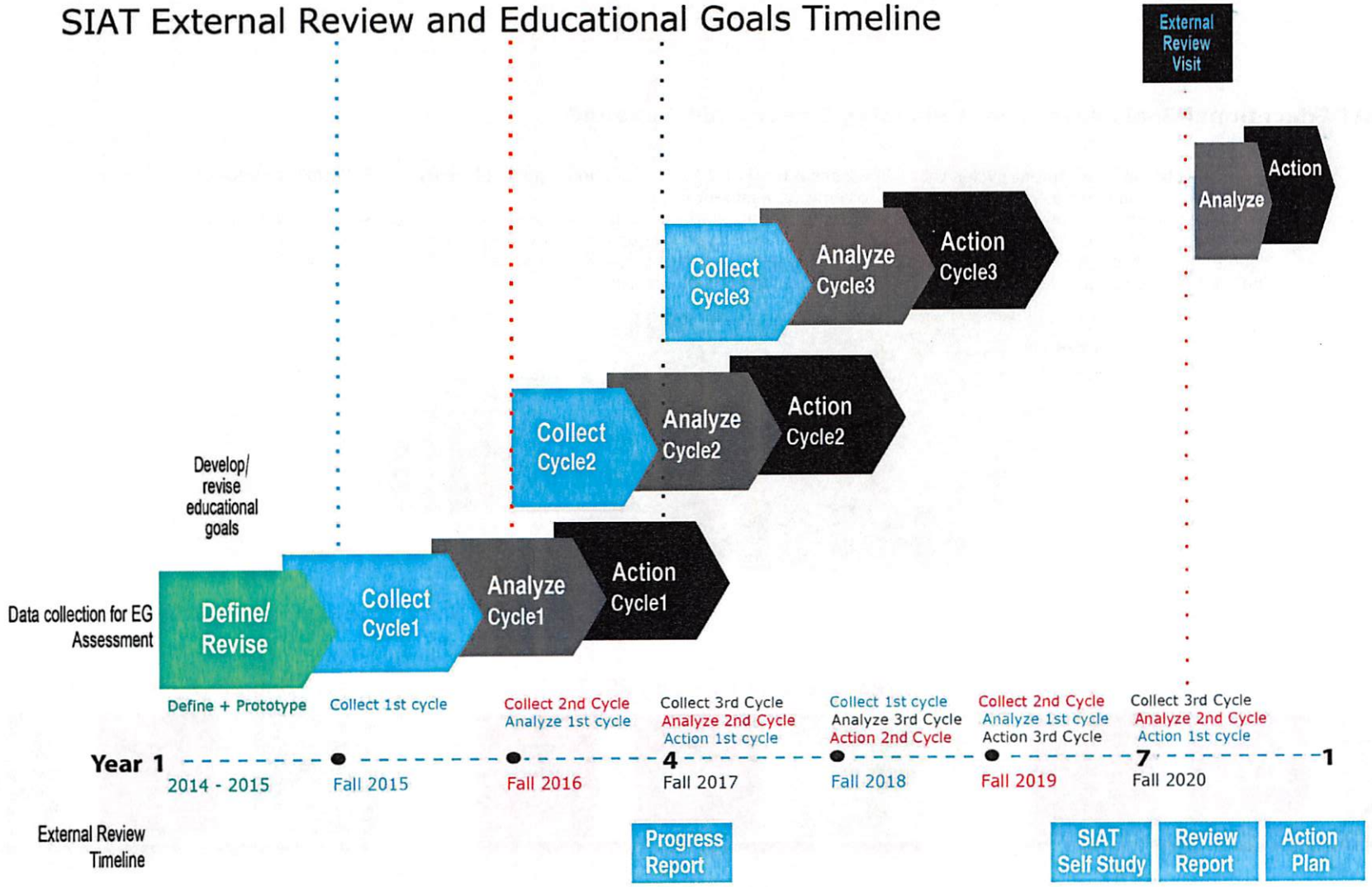
Team Work | Technological Literacy | Ethics + Professionalism

Data Gathering

Data Analysis

Action - Implementation

# SIAT External Review and Educational Goals Timeline

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