A.G. Hill Center post-occupancy evaluation completed as a collaboration between BWBR and NDSU Interior Design faculty and students.

Spring 2017
A growing awareness of how physical learning environments influence 21st century learning goals is encouraging exploration of why space matters to the quality and character of the undergraduate learning experience. A post-occupancy study was completed in the Spring of 2017 at the new STEM education building for North Dakota State University in Fargo, North Dakota. Utilizing staff and student surveys, focus groups, and observations, the study was aimed to gather qualitative feedback and explore ways in which the building and spaces are supporting learning and teaching experiences. The primary focus was aimed at measuring occupancy performance for serving the needs of the students and faculty involved in STEM education, specific to the active learning classrooms and the variety of informal student spaces.

Highlights include:

- Overall high satisfaction is found with faculty and students. The investment in STEM education is well-received as a sense of pride by faculty and as a desired study destination by students.
- The building is highly utilized throughout the week and most hours of the day. Students opt to use the building as an alternative to the student union and library due to the space options, views, and quietness.
- Active learning strategies are enhanced by the availability of active learning classrooms. Many faculty are still adjusting course pedagogies to incorporate active learning. Most students welcome more active participation during class as part of their learning experience.

Recommendations based on findings:

- Consider changing out or relocating several lounge chair and side table groupings on the second and third floors for table and chair groupings to accommodate students’ desire for this arrangement of furniture to support homework/study needs.
- Study rooms are popular, but there is frustration with lack of availability. Consider additional individual study rooms on more floors and/or adding this study space option in other buildings on campus.
- Consider more technology training and regular checks to ensure technology is in working order and that faculty understand how to use it to enhance instruction.

“The active learning classrooms have allowed me to fully implement my active learning pedagogies... the class is taught in a really exciting atmosphere. ...I have seen improvement in student grades and on surveys students indicate that they really learn a lot from each other. I think that this extra peer instruction has really helped the lower performing students.” - NDSU Faculty, STEM Programs
An online survey invitation was sent to all faculty who have taught a class in a classroom within the A.G. Hill Center since opening the facility. The survey, made available in April of 2017, was presented with multiple choice questions, Likert scales, and open-ended formats. Ninety-three faculty and 350 students completed the survey, with representation across all years.

Highlights include:

- Thirty-nine percent of faculty participants identified the active learning classroom (Rooms 130, 132, 300) that included multiple screens/monitors, white boards, large student tables, and mobile seating as moderately effective to most effective.

- Thirty-seven percent of all faculty participants found that mobile chairs served as an effective means for gaining student collaboration.

- Over 64% of those responding to the open-ended question responses found that the new layout enhanced their active learning experience at NDSU and engaged them in collaborative learning experiences.

- Sixty-one percent of the students identified the A.G. Hill Center’s convenient location as the primary reason they selected it as a point of destination over other spaces on campus and that it provided a quiet and peaceful setting.
NORTH DAKOTA STATE UNIVERSITY
A. GLENN HILL CENTER

FACULTY SURVEY
POST OCCUPANCY
An online survey invitation was sent to all faculty who have taught classes in the A.G. Hill Center since the opening of the facility in January 2016. The survey, made available in April of 2017, was presented with multiple choice questions, Likert scales, and open-ended formats.

Ninety-three faculty members participated in the survey.

Highlights include:
- 41% response rate from faculty teaching in the A.G. Hill Center
- Faculty participants teaching in the A. Glenn Hill Center have been at NDSU from less than a year to 30+ years
- Representation of all faculty ranks and years of experience are teaching at the A.G. Hill Center

Tenured/Tenured track faculty serve as the principal [primary] faculty of instruction for the A.G. Hill Center (37.23%), while the remaining faculty that have the opportunity to teach in the collaborative learning environments include Professors of Practice (11%), Lecturers (9%), Instructors (4.3%), and others (14%).

Faculty participants had been employed at NDSU less than a year to over 30 years, with the largest cohort of faculty represented by those in the 3- to 4-year range (20.26%). The next largest cohort group was found to be in faculty that had been teaching with NDSU for 10 to 14 years (15.22%). It was refreshing to see the range of years of experience in teaching engaged in a new classroom building.
Of the 93 faculty participants, faculty indicated experience teaching in a range of 1 to 9 different classroom types in the A.G. Hill Center. All classroom types are represented in the responses of the faculty.

Twenty-one percent of the faculty have taught in at least two different classroom types, with two percent of the faculty having taught in nine different room types. One of the faculty members that taught in nine different settings used all three different levels, including collaborative classrooms (130/132, 300) as well as labs and preparation areas on the second floor (208, 212, 214, 216, 218, 234), demonstrating the flexibility of teaching spaces A.G. Hill Center can provide for NDSU faculty.

Faculty participants most represented in this survey were found to be users of the collaborative classrooms located on the first floor — Room 130/132 (10%) and Room 300 (9%) located on the northeast corner of third floor. Both active learning classrooms (Room 130/132, 300) provide faculty with mobile chairs placed around large student tables, multiple screens/monitors, white boards that encircle the room, and centrally located podiums to engage students in collaborative learning activities.
Room layout (29%) and room size (28%) were found to be the most effective elements in supporting student collaboration in the classroom. Additional elements faculty identified included white boards (29%) and having the ability to project information through multiple screens (27%) enhanced their ability to engage student collaboration.

In looking across different faculty appointments and years in service, the only major difference appeared to be with tenured/tenure-track faculty that identified both white boards and multiple screens/monitors (18%) as the most effective tool in the classroom for student collaboration.

When combining moderately effective and most effective classroom elements for student collaboration, 37% of all faculty participants found that mobile chairs served as an effective means for encouraging student collaboration. The mixture of room layouts, vertical surfaces to engage students to write on, projection of imagery, and mobile furniture all serve to help faculty engage student collaboration.
Fifty-six percent of faculty identified that room size was moderately to most effective in contributing to supporting faculty-student interaction, while tenured/tenured-track faculty (36%) felt room size played a larger role in the contribution than lecturers/instructors/professor of practice (18%). Forty-nine percent of faculty identified the room layout moderately to most effectively in supporting faculty interaction in the classroom. Tenured/tenured-track faculty (16%) and those faculty that have been teaching for 10 more years (13%) identified room layouts as the most effective element in supporting student-faculty interaction.

When looking at other elements within the room, 20% of all faculty identified white boards as the most effective element to support student-faculty interaction in the classroom setting. Tenured/tenured-track faculty identified mobile tables as moderately effective (14%), while faculty with less than 10 years of service at NDSU rank the use of mobile tables slightly higher (15%). Twenty-six percent of the tenured/tenured-track faculty identified the use of multiple screens/monitors in the classroom as moderately to most effective in contributing to faculty-student interaction as compared with 24% of the faculty with less than 10 years of service at NDSU.
Thirty-nine percent of faculty participants identified the active learning classroom (Rooms 130, 132, 300) that included multiple screens/monitors, white boards, large student tables, and mobile seating as moderately effective to most effective. This response was consistent across length of service at NDSU and rank.

The second moderately effective to most effective (31%) classroom layout for faculty participants can be found in those active classrooms which include mobile seating with the attached arm (Rooms 326, 330). Again, the responses were fairly consistent across length of service and faculty rank.
When comparing faculty responses to student responses asking to rate the effectiveness of classroom layouts and features in supporting collaboration activities, some differences were realized. Students rated the tiered classroom higher in overall effectiveness while faculty rated the active learning classroom with mobile seating (with attached work surfaces) and central podium as more effective in supporting collaboration. Both students and faculty rated the large active learning classroom with multiple screens/monitors, large student tables, and mobile seating as very effective in supporting collaboration activities.
I love the ability to move furniture around to accommodate different groupings and types of learning activities. I wish the screens did not drop over top of the whiteboards because I would like to project task directions & prompts at the same time as students work on the whiteboards. Also, the podium in the center of the room gets in the way of full class discussion, so I wish they were off to the side like in room 126.

The table microphones continue to be problematic in that some work and others do not.

Room 110 is not a conducive setup for an English class, especially a First Year Writing course (English 120). While this may be an issue for the registrar when assigning classrooms, I feel this needs to be mentioned here. While this is a building meant more for the science and mathematics fields, other departments do end up having courses placed within it, and it would be helpful if some of the rooms were designed to be more generic so as to increase the ability of other types of courses to be helpful/productive experiences for students. I have also heard similar comments from the students I teach in that classroom.

The image just above with all the tables in the same direction is not effective, but allows alternate arrangements that are.

Love the two classrooms I teach in, but 300 offers the best learning environment I have had access to as a teacher in my 17 years at NDSU. Wish we could work on more spaces like this for collaboration.

I like best the option to have mobile chairs and tables, hand held marker boards, and also a lot of white boards.

This survey doesn’t really apply for the class I taught. It was a one-hour a week seminar in which we mostly had guest speakers. I didn’t use the white boards, move things around, etc. I very much disliked how spread out the room was and the way the console divided the room and blocked the view. I felt I had to shout and that I was miles from the students since they were spread horizontally across the broad stretch of the room. I would not teach in this room again by choice.

There seems to be a disconnect between potential facility need and actual assignment, i.e. basic lecture classes being assigned to ALC’s and rooms also being assigned because of video connectivity (distance connectivity in particular rm 126).)

It is terrible for trying to teach a writing class. It alienates the students from becoming engaged at all with the course.

Multiple microphones would be helpful
In 234 it was difficult to lead class discussions because sound did not travel well. Students had trouble hearing responses of other students.

What I like best about 112, despite its limitations as a fixed-seating auditorium, is the ability to video freeze the display and split the screens. I almost never use the white board, since the lighting is poor and the markers are faint.

I like it that there are two independent screens in 112. The lighting on the whiteboard is bad, though, since the screens cast a shadow below them. If there were lights under the screens pointing at the boards, that would help.

There should be white boards on all walls and not only hidden behind the drop down screens. Also, there should be more and better markers and erasers that work.

Student use of chairs of any form in a chemical laboratory is a safety violation.

I teach in Hill 112. The position of the clock behind the instructor is the least effective. It needs to be facing the instructor.

I don’t like the pull down cords from the ceiling. They are hard to reach and unattractive. I wish there were small white boards at the lab benches for student use, or at least available in the classroom.

I appreciated that the chemistry labs are connected to a central storeroom, which makes it easy for the TAs assisting with lab lessons to slip into the back room for supplies or to migrate from one classroom to another in order to better assist students.

The room that I’m in (300) really needs marker boards along the walls with windows. Otherwise students who use the tables at that side have a harder time getting to a nearby marker board. Also I would like it if tables were more visibly numbered (maybe just have signs hanging above from the ceiling) so that I could more quickly split students into different groups to keep mixing them up. I tend to dislike the placement of the instructor podium in the room (300) because it does mean I can’t look at the whole class at once time. Would probably be better to place it closer to the center of the long wall opposite the windows. Microphones at student tables seem finicky and therefore don’t get a lot of use. Also, room 300 really needs better lighting controls. There isn’t a good low-light mode so it’s either lights off or fully on which can be viewing anything on the projector screens difficult.

The pull down power cables in the lab classrooms are placed in horrible spots. When I plug in a lab table, the power cable off to the side so it close-lines people’s throats or trips them as they walk by. Which is a real hazard in a lab that sometimes uses chemicals. It would also be nice to have more than one instructor computer in the back of the classroom in addition to the computer at the front. Also a document camera at the front where the instructor lab table is would be nice to show demonstrations without having my back facing students. Even having document cameras above each lab group table would be nice to quickly show the whole class what one group found.

— END COMMENTS —
NORTH DAKOTA STATE UNIVERSITY
A. GLENN HILL CENTER

STUDENT SURVEY
POST OCCUPANCY
An estimated 4,000-5,000 students use A.G. Hill Center daily. Classrooms are available to students during the evening hours for study time, group activities, and club meetings. An online survey invitation was sent via the NDSU student listserv. Students invited to participate included those students taking classes in the A.G. Hill Center, or those students that use the building for studying and extracurricular activities.

The survey, made available in April of 2017, was presented with multiple choice questions, Likert scales, and open-ended formats. Three hundred and fifty students completed the survey, with representation across all years.
The learning environment was much more comfortable. The light in the rooms during the day, the collaborative organization of desks and chairs, and the technology in the rooms all make the A.G. Hill Center a positive and productive learning experience.

More about student’s with convent features like the chairs, and outlets on the desk. It contributes nicely to working as a group.

I like that they are quiet, with multiple plug ins for electronics and you are able to set the lighting. It’s new.

I’ve had a class in a computer lab and with the horse shoe type desks for lecture. I like the layout of both because we are not crammed next to each other. I think the lighting is very good as well, the bright lights and lots of them make easy to focus and see. by horse shoe I meant tiered classroom.

I like using the individual and group study rooms that are on the first floor.

Its classrooms are much closer to my home than other science buildings! Its lighting and architecture feel conducive to learning and really pushing each person to do better for him or herself.

It is very spacious, and as a student I don’t feel cramped

The classrooms are horrible

Not set up as normal classrooms or auditorium style

More areas to study, larger lecture halls with more leg room

Quiet

More screens, tables of nine rather than normal lecture halls

Smaller and more structured

I like the atmosphere of this building. It feels very friendly and open with all of the windows. I also like the layout of the classrooms.

More open and lots of white board space

Much improved learning atmosphere

New

Over 64% of those responding to the open-ended question responses found that the new layout enhanced their active learning experience at NDSU and engaged them in collaborative learning experiences. In addition, 25% of the students further remarked that technology (projectors, screens, access to equipment) makes A.G. Hill Center a positive and productive learning center.

The flexibility for this plug-and-play contributes to the adaptability of technology in many of the classroom spaces. One particular student comments summarizes their experience in the A.G. Hill Center by stating “[t]he students who primarily use the building generate an energy which is conducive for my learning practices.”
student survey

In what ways are the learning experiences in the A.G. Hill Center classrooms unique compared to other classrooms on campus (continued)

Group work was much easier
The extra outlets
Single rooms for an individual or pair of students
There are so many more possibilities for collaboration and integrating learning/studying with technology
group seating
They have a much more open feel to them.
Lots of white boards and TV’s around the room so that no matter where you are sitting it is easy to see the powerpoints
Most classes are useful for class discussions
Teachers that I have had have not really adapted to the new environment. May take time however some do take advantage of the new technology and way the classroom is layed out.
The group tables and screens around the rooms are extremely conducive to learning.
More technology is preset and embraced in the classroom.
The systems in place for presenters is really nice, I’m glad most rooms have these systems. I also enjoy the table space and the angle of the floor in the large lecture rooms.
Very up to date technology and the classrooms are very nice!
they are more communal. you are always facing others and being more involved
Everything is newer and nicer. And the chairs are more comfortable.
Some chairs are actually comfortable, doesn’t smell like an old basement
Technology is better incorporated (monitors, computers, etc.) and high quality furniture.
Large screens and newer, more comfortable chairs and desks
Design
Up to date and spacious.
Very modern with good equipment.
Desks individual and can roll. Multiple projectors. Lots of white board space.
Being updated, I feel like I have everything I need in one building.
Its new and up to date
The moveable tables in some classrooms are very nice for forming groups and are a great alternative to single student desks. However, the rooms that use those tables are far too wide for all students to effectively see notes written the whiteboards. Secondly, the tiered classroom is very nice in that it students do not have their view of the whiteboard obstructed by those people sitting in front of them.
They are more spacious.
I find that the design lends itself to collaborative work, which other classrooms around campus do not.
The classrooms are big and bright and have many different options for studying or learning techniques.
I like the set up and new technology...last semester we had issues getting mics to work but now we are able to use them
more open, more modern
Tv’s
The white boards throughout classrooms are beneficial
Much easier to communicate as a group
The tables in most rooms of the stem building offer a unique learning experience which works very well in some classes... and not so well in others. Loosely structured, predominantly group activity based classes work best in these rooms. I also really enjoy the study rooms that are available for use by students, however I wish there were more, or perhaps some smaller rooms- very frustrating when you bring a group to study and all cells are taken by single students.

Open area rooms, less distractions compared to some lecture halls. Modern.
The classrooms seem to allow for more interaction than others on campus.
More electronics in each room and modernized for technology
Spacious
Allows for more hands-on activities and collaborative work.
Not very different
Lots of space. Not so close together
24 hours
large area, great projectors for presentations. Whiteboards and MARKERS for use in collaboration. Smart boards were also very neat

table/room arrangement
I like how there are movable chairs in some of the classrooms. It makes it a lot easier for group based classes and doesn’t make the classroom feel as stressful. I also like all the technology.
It is unique because there are eight other people at your table that are learning along with you and help each other understand the material.
The AGHC learning experience is unique because it is more focused on collective learning than individual learning.
In general, I find that these classrooms and the teaching in them is designed to get everyone to do well enough, rather than encouraging everyone to do his or her individual best.
Its different
My classroom is more interactive than just a lecture hall
The classrooms are very stylish and seem to be upgraded with the latest technology.
Much more open, brighter, very easy to move around
Extra study spaces
They are new, big and has new technology equipment.
Modern, advanced technology
I don’t
there are a lot more collaborative area’s that help engage students, and the acoustical sound control is better
Better classroom set ups with more/bigger lecture screens
The circle tables are great for collaborating with other students.
The different set up of the desks/tables
The chairs are much nicer, and the rooms are much more conducive to group work. The rooms are also a lot brighter, which I like, and they’re much easier to give class presentations in.
I feel like it is more welcoming for students to work together on problems.
360 degree classrooms
Better projectors
student survey
In what ways are the learning experiences in the A.G. Hill Center classrooms unique compared to other classrooms on campus (continued)

The learning is interactive which is something that isn’t like any other class I’ve had. Fresh and new
A lot of natural light! Classroom designs (swivel chairs and movable desks) help me stay focused, as do the multiple screens.
Different classroom layouts, different building feeling, more open space
The students who primarily use the building generate an energy which is conducive for my learning practices.
They are very clean and white. I can tell the building is fairly new.
The rooms are more interactive
Larger rooms with more natural lighting
Seating
much more open and usable
Use of new technology
It’s more interactive and with the high level of technology it makes learning more interesting and encourages attendance as well.
Most rooms allow for much more peer and instructor interaction as opposed to traditional lecture style rooms.
The added technology also allows for more interactive learning.
Nice use of technology
Tables in 132 instead of a lecture room
I like how bright all the rooms are, it makes paying attention much easier, and brings a happier atmosphere to the rooms.
The screens in the lecture rooms are easier to see. Also, the labs are set up much more convenient.
I find that it is a lot harder to learn since it does not have traditional classrooms, there is too much going on and it is distracting
The classrooms allow for a much for engaging learning environment wheh compared to other classes on NDSU campus.
Advanced technology
better.
They are collaborative and allow for a lot of opportunities to discuss with classmates and self teaching or peer teaching.
It’s really helpful that there are rooms with adjustable brightness and chairs that line the wall made out of windows.
round tables and screens everywhere are cool
The spaces are clean comfortable and bright spaces that allow you to learn freely.
I really like the setup of the classrooms and think they are useful because of how the tables are all around and the chairs have wheels. This makes the students more engaged in learning
The layout of the tables in the classrooms, all of the tv screens on the walls or hanging from the ceiling, and the lighting in the classrooms are great as well.
uniform and comfortable
The technology in the room is great
The large rooms and tables allow you to spread out and focus because you do not feel as if you’re crammed into the space.
In what ways are the learning experiences in the A.G. Hill Center classrooms unique compared to other classrooms on campus (continued)

I like the learning rooms with big group tables and tv's at many angles with lots of whiteboards.

It is nice, modern, and has a lot of technology.

Big screens, comfy chairs, nice tables, tables with plugs.

They allow for more collaboration between classmates and interaction with the professor.

More space, better options for study spaces, more outlets.

They are easy to manipulate for students (i.e. chairs roll and spin to allow better views/student interaction, multiple formats available to give presentations on) and professors (multiple formats for presentations, space to store specimens and equipment right in the classroom).

No matter the teaching style, the classrooms are just so much more comfortable.

Terrible. Before, we used to be able to go to labs in the ECE building, where we had access to our materials 24/7. When the lab was moved to the STEM building, the lab is locked except for when we have class, so we can't work on labs outside of class. Also, the seating is bad when everyone is facing a different direction.

I have my labs in this building and so they are different than lectures because they are more hands on.

The rooms with tables allowing groups is a different way of learning, and I find them to be more open.

Study rooms and whiteboards everywhere.

the large windows and awesome architectural building.

More interactive.

I only have a class in the large lecture hall so that class is not different than any of my other classes.

Very focused classrooms to what the class needs.

It is so much more conductive to learning!!

The availability of the large TV screens used in lecture powerpoints.

the space and technology.

More interactive with the whiteboards and the numerous large screens.

they have more interactive learning classrooms.

I appreciate the rooms with round tables. Much easier for group work. More engaging than other classrooms at NDSU.

The classrooms in the STEM building are unique due to the attempts at mobile collaboration of the work spaces.

Build around student interaction and learning.

I really like that there are plenty of study rooms set up.

A more modern atmosphere.

I particularly like the classrooms with the rolling desk chairs. The desks are actually large enough to use as a true desk and they allow for a dynamic classroom.

more interactive learning.

More open, at least in the classroom I’m in.

The rooms are very well laid out to be able to listen to the teacher no matter where you are.

The active learning classroom presents a different atmosphere for learning.

The interactive learning with the TVs and round tables allow students and teachers to communicate more effectively and stay engaged. The white boards on the main floor and the study rooms are also very useful for studying.
student survey
In what ways are the learning experiences in the A.G. Hill Center classrooms unique compared to other classrooms on campus (continued)

better technology
More roomy, lighter, better desks/tables and chairs, better view of materials with multiple screens
I find it very helpful to have such an open concept and the chemistry lab rooms are some of the nicest I have seen. The room 112 was used for my Psych 101 class and it was great due to the openness, large double screens, and lighting options which really helped with learning and being able to see all that was necessary.
I really like the double screens in the lecture hall.
It’s open concept. The center of the room is focus point
All the active learning classrooms.
A.G. Hill is clean and new with great technology compared to other classrooms
Everything
Technologically advanced
Conducive to group learning/classroom discussion
Some classrooms have chairs and tables on wheels, so they can easily be moved
The seats are a lot more mobile, making it easier to interact with classmates than in a traditional classroom setting.
Clocks with seconds.
Large cutting edge lab space
We get to work in small groups during labs, and have hands-on experience, which is the only time we get to do that. We are able to get up and move around during class as well.
Classes studying hanging out etc
You can engage in learning with others in a more hands in way.
There is more options to differentiate the classroom and move around.
It’s good. There is a lot of space for each person and power outlets everywhere!
Technology
There is more group discussions and work
Size of lecture hall is definitely better than other lecture halls on campus
There are a lot of screens to look at. It helps with the round tables because everywhere you look there is a screen to look at instead of it just being one screen and twisting your neck to see.
I like that the building is designed specifically for students’ needs. The study spots a
The classrooms with rolling tables are set up well for group work.
More modernized for the technical world today
The lab rooms are set up very nicely, and there are plenty of spaces to study whether individual or group.
Centrally located, good seating outside of classrooms for downtime (the couches and chairs)
The AG Hill center rooms have more resources, are better organized, and have a more conducive learning environment. Plus it helps that it is new and clean making students feel more efficient and motivated.
Groups of tables with many screens to look at
The active learning classrooms that incorporate a group-style setup.
I like the 130/132 classroom setup. Also the labs are in better shape than those in some other older buildings.
I like them much more!
In what ways are the learning experiences in the A.G. Hill Center classrooms unique compared to other classrooms on campus (continued)

Different set up, more features

I think the STEM building is a great resource for students to go study at any time. There are lots of spaces that promote studies.

The projection equipment has been extremely useful, especially the freeze frame option.

It is like the library but it is ok if I am loud.

No set seating structure allowing for easy change of groups without moving all your books, comp etc.

The technology incorporated into the teaching style.

I like the individual study spaces.

Love the couches in the hallway and clean look throughout.

They are more interactive and connected. The technology has really given professors more flexibility in how they teach.

Nice shape, cool chair and desks, great use of outlets at the desks.

They allow for group activities and more involvement.

They have both lecture rooms and interactive rooms.

There’s a lot more group work in general, and the study spaces are quite nice

very interactive and bright—keeps me awake

Well lit, clean, and typically the technology seems to work well. Seating and tables are functional and comfortable.

I feel like the rooms are clean.

The layout of the classrooms ranges from being able to move around for group projects to a lecture style classroom.

Large rooms while feeling small.

The A.G. Hill Center feels a lot more updated and more useful when compared to other classrooms. There are a lot more newer tech in them as well.

It is way better because of the technology, the way the classrooms are set up and the labs are so much better.

The classrooms are much better suited to collaboration with other students.

New technology, great table/desks and chairs, natural light and windows!!!

Many different classroom layouts

More space for students, easy to see computer presentations on the screens.

Different desk options (the moving chairs with attached desk).

It seems to be more functional than other buildings.

I find the class rooms are very comfortable compared to other classrooms. Makes it easier to concentrate.

The extra white boards and study rooms on the first floor are very helpful for studying.

The classroom was really big and the lighting was bright. We utilized those portable white boards which was a new feature.

They’re generally lit much brighter.

It is modern and is a great environment for learning with all the sitting areas and study rooms.

The layout of the rooms in the A.G. Hill Center is unique with more open space and more mobility for the potential for active learning.

Provides for easy group work and hands on learning.
In what ways are the learning experiences in the A.G. Hill Center classrooms unique compared to other classrooms on campus (continued)

Pretty difficult to work on hw in that building because there are couches everywhere and the tables are always taken. If I was an English Major and my most difficult task in college was reading books the couches would be amazing, but it’s nearly impossible to work on Differential Equations HW while sitting on a couch.

I think it is nice to have the screens all over the room and have groups of people together instead of independent desks.

there is technology incorporated into every classroom and there is more room.

I love the interactive classrooms where the professor is in the middle rather than the front.

Larger desk space
Lab setting
Different layouts, and newer technology
Way better. Cleaner. Brighter. I love it
Open, clean, and more technology integrated.

Some rooms have tables where teachers can have students discuss the material, these rooms seem to allow the teacher better access to the students when they have a question.

I like the individual study spaces and the non-traditional classrooms in the building.

The amount of screens is amazingly helpful
I like the round tables with screens everywhere, it makes you interact with other people which aids learning.

It is more interactive and isn’t as crowded.
They are large and easier to see the board.

Everything is very open and there is a lot of room to lay out what is needed for the lecture.

New
The classrooms allow for easier collaboration with classmates and teachers.

I like how the classrooms have some rolling chairs where we can easily collaborate with other students. It is also helpful to have over twenty screens to look at in STEM 130/132 so we can easily see the material.

I have found that the active learning experience really depend on the teacher and not the classroom but from the experiences I’ve had in the AG Hill center classroom setups make it easier for professors and learning assistants to get around and answer questions to help with the learning process.

There’s is a lot of area and small rooms that you can work anywhere quietly.

The learning experiences in the A. G. Hill Center are a lot more engaging than the other classrooms on campus. It is easier and honestly more fun to learn in this kind of environment.

Technology used in the building
They are interactive.

Whiteboards surround entire classrooms
The multiple screens for video presentations is unique. The ability to link computers to presentations is also unique along with the microphones on the tables. The round tables are conducive for group work and other lecture halls are also conducive to learning.

It has a lot of new technology and different classroom set ups that can’t be found anywhere else on campus.

Classrooms are not cramped
The updated building has a better setup for note taking and interacting with the instructor.

It’s designed soley for student education and use.

Comfortable and spacious.
In what ways are the learning experiences in the A.G. Hill Center classrooms unique compared to other classrooms on campus (continued)

I love the layouts and technology!
I don’t know why it isn’t solar powered
It is mostly the same. I do have one class in room 234 where the seating is configured differently. It is such that 4 people sit at a table, 2 on each side. While I can see how this would facilitate group activities, it is ineffective for the class I am taking. It makes it much harder to see the projection screens, have to be constantly twisted, very uncomfortable.

The technology in all the classrooms
It’s a lot nicer
The classroom set up makes it easier to learn and have enough space to take notes.
Just the layout of the class is different. The professors teaching methods haven’t changed. Just whiteboard lectures and PowerPoints.
It is really group based, allowing for more class discussions
There are a lot more different classroom types
The wide variety of uses that classrooms can have. And the smaller sizes are nice.
Classrooms are great and the building is very modern!
They are bigger and better technology
The space and different types of classrooms
The layout of the classrooms encourage more group collaboration
I love the roly-poly chairs and metal white shelves on the floors
While I just use it for studying, the building offers a cozy yet nice area to complete my work in quiet.

Unique classroom set up
Classrooms set up well
More technology
more open space, but also more echoes
its new
Lots of study spaces
Never had a class there

Much more open than most other buildings. Also it seems to be a little more student based, being that there are white boards in every classroom, some personal, some larger for students and teachers. Also I know that at least one of the classrooms has microphones at tables which allows for there to be a much larger ability for students to interact with the teacher and possible learn more effectively.

More plug ins
The interior space is much larger than other classrooms on campus. This makes the heating and cooling difficult to control.
It is a lot more technologically equipped
The expensive technology helps with learning and it has different labs for all types of classes. Also including study rooms and classrooms for studying.
Newer equipment, easier viewing of screens
There are no professional office spaces so it is very easy as a student to find a place to study.
Its easier working together with other students in some of the classrooms.
Tech enabled, better seating with more comfortable seating
New technology
It’s much easier to communicate with group members during active learning activities. It’s great!

You can actually study in the classrooms in stem because they actually have tables.

The classroom setup works well for professors who wish to use discussion as a method in their teaching.

Interactive versus solitary

Classroom layout is different

There is a lot more desk space. Better atmosphere.

More desk space. Easier to write

They’re so white & brightly lit

Like mind/df students, nice study areas, the scale up classroom is really useful

The brightness and the lighting aspect is unique, the layout of the bigger lecture halls, and the study spaces and quiet study rooms are all unique

It’s not falling apart like some buildings (cough LADD cough)

study rooms, microphones, lots of boards and screens to see everything

The tables in many rooms can move around, and the rooms allow for a variety of instructional settings/strategies.

Class room are unique

They are bright, comfortable rooms that make going to class easier.

Good lab facilities

classroom layout

The classrooms are huge. The screens are easy to view.

Very open for students to be involved. Not just normal lecture halls

They are very very nice compared to the other buildings. Easier to learn

Neater rooms, less distraction, flexible options

I like the interactive classrooms with the microphones and TVs around so you can see at every angle

Most comfortable. Atmosphere conducive to learning.

I like not having to go to class and sit at a tiny, old desk.

Class rooms are laid out much better for student teacher interaction

The rooms themselves are more dynamic which makes moving around and working in teams/groups a lot easier.

The chairs are more uncomfortable, there are more screens to see materials

Way more room, more comfortable, up to date, well designed

The learning environment is more enhanced than in other classes. Things such as the lighting, the classroom order and the boards make it easier to concentrate

The overall environment is a lot brighter than most lecture halls help me pay attention more.

Technology is more advanced in the stem building

All the screens and chairs are comfy

The rolling chairs and whiteboards.

Very open concept

The active style is a new twist on learning

The circular tables make it easier for group interactions and hands on activities.
The active learning classroom that provides multiple screens/monitors, white boards, mobile seating, and a teaching podium in the center of the room was preferred as the most effective classroom layout in the A.G. Hill Center by all student groups. Freshmen gave it the most effective rating (12%) as compared with seniors (3%). It appears that, while a popular choice across all student groups, the lower numbers may be a reflection of the actual sample size of the study and the classes that are typically scheduled in this type of classroom configuration.
student survey

Effectiveness of classroom layouts and furniture for supporting student collaboration activities in the classroom

When comparing faculty responses to student responses asking to rate the effectiveness of classroom layouts and features in supporting collaboration activities, some differences were realized. Students rated the tiered classroom higher in overall effectiveness while faculty rated the active learning classroom with mobile seating (with attached work surfaces) and central podium as more effective in supporting collaboration. Both students and faculty rated the large active learning classroom with multiple screens/monitors, large student tables, and mobile seating as very effective in supporting collaboration activities.
The classrooms have great lighting, and I like the high ceilings. It makes for nice group work.

In room 122 and the computer lab on the 2nd floor, I really like how the chairs have wheels AND there is carpet. When I study on the main floor where it is just cement the chairs roll way too much for me and I can’t get comfortable. The carpet allows me to easily move when I want to but allows the chair to be planted and not move when I don’t want to.

I like the mobile tables that allow us to work in a different setting every week. I have only had classes in the auditorium on the first floor, but these classrooms seem helpful in comparison with traditional-style small classroom setup.

I think it is stupid that there are TV’s in the hallways. I’ve never seen anyone utilizing them, probably because they are in inconvenient locations to even see but also people in the stem are always studying; we don’t need to constantly have TV’s around.

It is very hard to see the board/projector screens if a student is not sitting exactly in the middle section in the large lecture room. The pillars also inhibit some sections of the room from being able to see. Not a very good design for a lecture hall.

There is a classroom on the third floor. That has the mobile tables with the podium in the dead middle. Biggest complaint only the middle 4 front row seats see the white board clearly. Worst classroom design I have ever seen.

Many student fought over those seats to see the board. I recall the professor on the first day saying well “I don’t like this” directed towards the podium location as he would have to walk from the front where he was teaching to the podium to grab his next lecture note sheet. I believe the room was 322 but it’s the on in the far southeast corner on the third floor.

Room 130/132 is great! All classrooms should be set up like this!

I prefer the normal lecture style, but I may possibly just not have had an instructor that has a good/effective way to incorporate the other rooms.

Dual projection screens is distracting and hard for teachers to use. Most classes stay in one spot and watch a lecture, the moving furniture is a waste of space that belongs in an elementary school classroom.

I like the design of the active learning classrooms, but I have yet to use one for a class.
While giving tours, people are always impressed by the level of thought that went into the design, the aesthetic, but also they show appreciation for the collaborative elements and uniqueness of the classrooms.

I sometimes feel like teachers don’t use the rooms to their full potential, so I really liked the classroom with lots of monitors and tables and white boards because my teacher for that class knew exactly how to use the classroom.

I recently been having some TV screen issues....

I like the chairs where you are able to store your gear underneath.

I wish some classes (like BIOL 151) would be taught in a lecture hall - not in the clusters of tables.

Great classroom setup for active learning I can (literally) see myself in there!

They’re great!

I really like the classroom with multiple screens/monitors, white boards, large student tables, mobile seating.

The classrooms are significantly less influential than the teachers in my opinion. A good teacher/professor can maximize individual learning regardless of the setting, and a poor teacher/professor can’t regardless of the setting.

Overall, I think that in any of these rooms, the ability to maximize individual abilities, rather than the ability to “group learn” and hold high achievers down while raising low achievers up, must be encouraged, and it’s important to be clear that the classroom style doesn’t have to, and shouldn’t, change the idea of success.

Chairs feel like they could break. Like if a wheel goes out i feel like they are just going to be broken

some of the mobile seating is uncomfortable to taller individuals

I really like the round table classroom. I feel like I pay attention and learn a lot more.

I don’t like the chairs in the big room across form the big auditorium. They lean back way too much!

Even though i never got to experience them, the active learning room with the movable chairs and attached desks seem very unique. They allow students to stay organized with all of their materials while simultaneously allowing them to move around the room for lecture or discussion.

I liked the option for movable chairs; however the moving tables and tables pushed up against each other were highly ineffective and not conducive to learning. Also, a central podium is highly distracting and completely ineffective for professors (especially if they want to use the white board)

I noticed the energy.

The rooms were fairly cold even on the 3rd floors most days.

Have more Engineering courses in the STEM building.

It is far easier to learn in traditional classrooms and lecture halls

I really enjoy being in the classrooms where interaction and active learning are possible.

The microphones were a huge waste of money, they suck.

Align the photos in the hallway from there centers not there too edges. It’s just weird.

multi level seating is always better because it allows clear view of the board form anywhere in the room

I find that I prefer tables over individual desks because they provide more space and I am drawn to use rooms with those.

I really like the rooms with the pod-like tables. There are several resources in it.

It would be great if there were more left handed seats in the large lecture hall.
I sincerely look forward to any class I have in this building.

I use my tablet for note taking...and it has the option to use a USB for charging. The tables in the classroom have a 3-prong plug in available but not a USB hub for charging.

As someone with a hearing disability, depending on the layout of the room, the location of the podium can make my situation more difficult. It is hard for me to function when I’m sitting in a location, and the instructor is talking away from me because half of the class is behind them.

the first floor classroom table setting is much more effective than the tables and active learning classrooms for group work

The classes appear to encourage collaboration which can be good in some cases, but it can also lead the smart kid into doing all of the group work, and sometimes the smart kid doesn’t really want to work with anyone else so he or she doesn’t care that others contribute. Another thing is that while collaboration is encouraged, it appears that it is used to compensate for students not getting individualized attention from the instructor in class.

Active Learning Classroom - multiple screens/monitors, white boards, large student tables, mobile seating was very effective for me to learn.

Too wide of a layout for all to see board/projected material effectively. Additionally, with both projectors centralized, the outside groups are excluded from that portion, and the inside is excluded from the writing on the board. The projectors should be staggered every-other.

Board-----Projector-----Board-----Projector

They’re still in the early stages, so I think professors are having a hard time adjusting to just how much a STEM classroom can do.

The place is kind of bland and very sterile feeling which makes it unwelcoming.

I liked how versatile each room is so that you can change seating arrangements to each lecturer’s specific teaching style i.e. the way they like to have their students to be sitting.

It’s hard to take notes in the active classrooms because our teacher (Dr. Pruess in microbiology) refuses to use a microphone. When her head is facing your side of the classroom, you can hear. However, when her head is away from you, you can’t hear her.

I think that the multiple screen classrooms could be better. The instructor will point at one screen that every student may not be able to see.

Active Learning classrooms are by far the most helpful and adaptable to different needs.

I really enjoy these new classrooms!

I teach/have class in the labs. I understand the purpose of the hanging outlets, but I feel that it’s a waste of time since most people cannot get to them without dangerously climbing on objects. The tables rarely move (and are super heavy when moved), so it basically defeats the reason of why they did that in the first place.

If there was more room between the rows of tables in the tiered rooms, it would’ve been more effective, allowing the professor to reach all students.

Lab space works well

I know this isn’t for classrooms but it would be nice to have more tables out in the hallways and seating areas to work on homework, study, and easier to use laptops.

Very cool

Please paint them. The white everywhere makes it feel like a mental hospital. A stripe of green or something would not go amiss.

I love this place- should keep the classrooms open for longer and on weekends because they are fabulous study areas

Very much like wheels on chairs, less disruptive and easy to move on.

More outlets would be useful, some chargers do not fit in the ground outlets.

Fantastic facility conducive to learning. Great study nooks on the main floor and upstairs.
Love all the windows, openness, and natural light. The mobile chairs with the desks attached have too many moving parts. There’s no reason for the chair to rotate, since the unit already has wheels. Also, the mobile chairs with the reclining backs are uncomfortable. There is not enough stiffness in the back so they recline too easy. It makes it hard to sit up straight need more study rooms like there is on the first floor

Good job!
The class rooms are nicer than most others in campus. The class in the A. Glenn Hill Center are cleaner and have more space or at least feel more open than most other classrooms

The classrooms with the random setup of chairs with the professor in the middle is terrible. It’s difficult to see his work while taking notes. The classroom on the first floor with tables and row seating ascending higher is the most effective.

Classrooms are working very well for group learning!

They’re always FREEZING

The desk tops in the auditorium are too small.

I prefer the active learning room, compared to any of the other rooms I’ve had class in, because they are more interactive for the class.

The tiered classroom on first floor gets very warm with many students

Why the hell did we spend so much money on flat screen tvs when ndsu has to make budget cuts? I mean really there’s over 10 in the room on the main floor and the same in room 300. As tax payers of ND and students we don’t appreciate you blowing thousands of dollars on wasteful spending. This is not just myself saying this everyone thinks this. They do not help people learn more they are distracting. This kind of reckless spending is what pisses me off and steers me away from donating when i become an alumni

Multiple screens and monitors see helpful but are mostly overwhelming and somewhat distracting. Technical problems with screens and monitors delay classes semi-frequently

Having white boards and screens around the whole room and being interactive with small groups like in the third picture helps a lot with learning.

They help facilitate active learning and makes you pay attention in class

The microphones on tables is useful for questions and answers. White boards are extremely useful. The hdmi hook up is a great way for using technology for its benefits.

Classrooms with the teacher at the center of the room are actually not very effective in my perspective. Monitors block the view of the teacher or you have their back to you, which is not effective.

The computer lab needs to be accessible more often

The auditorium in the Stem building is the best one on Campus

No clocks in the room. My class was in a room of poor choice, it is ineffective to give presentations in a room where the podium in in the middle.

why cant they be solar powered

The chairs in 122 should be changed out with chairs that don’t promote slouching.

Professor podiums in the middle of the room facing one direction makes it really difficult to hear the professor at all time as many don’t use a mic

More color. The walls are pretty bare, kinda lifeless.

Classrooms are fine

Please make the classrooms brighter. Also please put more signs around. It would be helpful for students to navigate around.

More training for instructors to use the new technology in classrooms

I have only been exposed to the classroom with multiple screens and round tables and wish
I would have been a part of the other set ups because they seem like they would be just as effective

Wifi isn’t always the greatest

Most of the classrooms feel too large. You get lost.

The A. Glenn Hill Center is great, but very blank and white walls make it seem empty. If we had a few murals of engineering or somewhat to make the STEM building less blank

The mobile table classroom (with the white boards) is a room I currently have class in. I enjoy collaborating with other students, and the room is very functional in that regard, however sometimes it is difficult to see the board if you’re sitting in the back, or you have to awkwardly turn in a corner desk. With assigned seats, there’s little to do about the situation, but something I feel could be improved.

I have a class in the big lecture hall - love this space

I didn’t like that there was so many TVs, I felt like I was Buffalo Wild Wings and could not focus in class very well

These classrooms are best suited for students studying and what not, not for club meeting that can easily be held in other lecture halls on campus not where students study.

I like grouped spaces because it enables you to feel comfortable speaking to other students and your professor. It feels more like a learning environment and less like a flat lecture.

Some of the outlets on the desk don’t work. And it makes me sad.

The sinks in the 2nd floor labs need to be deeper. Water sprays all over the work benches anytime you turn them on

I love the building and its classrooms. Great investment by NDSU.

The acoustics in the two rooms I’ve been in are horrible. I had to move to the front of the class because I could never hear my instructor. The heating/cooling system is loud which makes it even more difficult to hear.

I hate the chairs in all the classrooms except the Tiered Classroom.

— END COMMENTS —
Sixty-nine percent (n=186) of those students responding to the open-ended question indicated that they use A.G. Hill Center as a destination for studying either alone or in groups (19%). This is supported by the data in subsequent questions that address collaboration group sizes and the length of time students stay, and for what purposes they come to the A.G. Hill Center. In addition computer services in the building (computer cluster, printing capabilities) enhance the student learning engagement and desire to identify A.G. Hill Center as the building that enhances their learning experiences at NDSU. Other themes consistent in the open-ended responses included engagement in extracurricular activities, access to white boards as a study tool, and the ability to have views out of doors to during study times.

To study (40+ qty)
Use Study Rooms (30+ qty)
Meetings/Group Meetings (20+ qty)
study and occasionally chat
I mostly come to the A. Glenn Hill Center to study because I don’t have many classes here. But it is a space that is very conducive to studying and allows me to focus without distraction.
To use a computer or grab a snack
Lab
Lab classes
Group work in the study rooms. I actually wish there were more of them around campus
computers
I enjoy using the white boards to perform calculations on.
Study for classes. The study rooms are very useful although very hard to find an open one because everyone is utilizing them. It is bright and quiet and open and comfortable and a nice place to hang out between classes or after hours to study/ get homework done
I use the study cubicles a lot with another peer. We like that there is a white board to work on and a space that is semi to ourselves and open.
To utilize the study rooms for group work
I enjoy using the study rooms on the weekend as they are quiet and the TV connections to my laptop are very helpful.
Study, computer lab use, use TVs
To use the study rooms for group projects or to get work done.
i would sit on the couches along the halls and study
Wait for the bus, or walk through the building if it is cold outside
The study areas with couches and chairs are comfortable places to work.
Use whiteboards, study rooms, monitors, or practice presentations in a decent environment.
Study rooms, printer, view on the 3rd floor
I use the STEM building as a place to study.
It is a peaceful place to study with lots of windows
I study there frequently.
I have had clubs hold meetings there. I also go there to study by myself or in groups.
I enjoy the individual study rooms that the building has. I wish we had more of those on campus.
To study in the various rooms
To study or meet with a group
I use the stem building to work on projects when applicable.
I come to use the computers sometimes.
Place to sit and do homework on 2nd/3rd floors
Using computer labs or studying
Since the EE building has our own study computer lab, I do not venture over other than for classes.
Printing, Studying, Homework
Printing
I sometimes sit upstairs next to the large windows between classes
Studying or computer use
Quite place to study
I only go there for class.
sit in the lounge area to study, and utilizing the niches with white boards. sometimes the study rooms if there is one available
I go to the computer lab and I use the white boards in the hall ways and open rooms
For printing, use computers for JMP and to work on homework
I have a Lions Club meeting there every week, and I will also study and/or read upstairs along the windows occasionally.
I uses the lounging chairs on the second and third floors to study or relax.
I like to work on group projects on the second and third levels in the chair over looking the field.
I use the lounges upstairs to study
Studying or meeting someone to study with.
Printing from computers, study rooms
Computer cluster use
To press buttons
I like the private and open study areas which are really nice providing for private or group study sessions
To study with peers
I sometimes use the STEM building as a group or individual study space.
This is my favorite place to meet with friends and do homework.
I use the study rooms located on the first floor so study by myself or in small groups.
I use the area the looks over University Drive to study. having some tables and chairs instead of just couches would be nice in that area.
To meet with groups to work on projects, but only rarely
To study in a quiet space or meet up with friends for a project.
student survey
Reasons for students using A.G. Hill Center when they do not have scheduled classes (continued)

Studying for math with friends
Study areas or to print
To use the study spaces and lounge spaces to study and work on homework with others
To use the computers and to study between classes I have in A. Glenn Hill at an open table (which can sometimes be hard to find).
I come to this building all the time, there’s a lot of really nice locations to work on homework, and the setup is great. The chairs are really comfortable, the views are great, there are whiteboards, and its overall a nice public setting where one can study. I also love the lab rooms on the third floor, really nice for higher up experiments.
I have had meetings in the large lecture hall room 112.
I use the study rooms. One concern is they are always taken which is frustrating to students. So maybe adding more study rooms if possible.
This building is a great resource for studying because of the whiteboards and isolated rooms that do not require a schedule like the library or ACE tutoring
To study between classes
To study/print/hang out by the large windows
I often go there to grade papers, do homework or lab work, or even just to clear my head. It is a beautiful place!
Studying, use of the computers and printers and the availability of the whiteboards/TVs in the study rooms. I do wish there were a few more study rooms available as I feel uncomfortable “in the open”. The study rooms offer a little more privacy and the availability to be able to talk without disturbing someone at the next desk
To use the study rooms and whiteboards
I love the study rooms, and the available white boards on the first floor.

Group studying
none, this building makes learning harder for me and many people, active learning like this is more of a burden than anything. It makes it very hard to learn when you are having to teach others or have others teach you instead of having a professor teach you like you paid for. It’s a burden.

Study rooms!
I come to the STEM building to study. Unfortunately, there often isn’t enough tabled work spaces and much of the space is taken up by an abundance of chairs and coffee tables. The STEM building only has ~16 tables for anytime access, however, many student (myself included) study individually meaning a lot of the time, only 16 students have access to a tabled work space outside of class.
I went there to work on group projects
I will go and read in the study areas along the east wall of windows. I only use this area later at night when I know it will be quiet and there will be no disruptions from classes getting out.
I use the study rooms or the computers.
To study with other people in the private rooms.
I use the white boards to study on the main floor to study, and use the classrooms to host study sessions with groups.
Use small study rooms or whiteboards
Meet with groups
I have club meetings and review sessions there
Studying location, extracurricular activities
Love the windows.
Helping students with organic chemistry
Organizational meetings.
To meet up with people to study for classes that we have in that building.
To study at the study areas/tables
I always go to the center to study. It is my favorite spot not only because it is well-equipped for studying, but the atmosphere is just flat out conducive to learning!
Printing homework off of my email. Honestly, I don’t study there. I prefer to study at home alone.
Review sessions for tests, and instructor/TA office hours
Meeting groups in or just working in the study rooms or killing time on the couches before or after class
Helping teach classes, organization meetings, excellent place to wait between classes or do light studying or homework.
To study or do homework in lounge areas
study rooms, club events
Printing, mainly, meeting with students to discuss studying for exams, computer analysis of data.
Not enough tables to work on outside classrooms. Had to study elsewhere.
To do homework or study.
I like to take my online quizzes either in the study rooms or on the third floor in the cut out area where there are tables.
To study or meet up with groups to work on projects.
To study in the study rooms and meet with groups to study
To chill upstairs on the sofas, do homework. 3rd floor is usually pretty dead. Also Video Game Club rents out one of the rooms each week
Sometimes I spend time there to study on a bench between classes.
Studying and Printing
There are several quiet study spaces, it is nice to study with a big window for some natural light.
It has nice computer clusters as well as being well lit and typically pretty quiet, so I can study in peace.
To study, the study rooms are a big help and there should be more tables on the other floors for studying rather than the chairs with little table things.
Studying and hanging out in chairs upstairs
To use the study spaces
To study upstairs, to print
To study in on the second and third floor where there is comfy seating and natural light
Study in the study nooks with the marker boards
For the study rooms, and it is closer to where I can park than the Library is.
Studying for exams.
Studying and sometimes printing
Org meetings, printing, studying, group collaboration
I usually study between classes in the study rooms
Study or do homework
Study, but tables by whiteboards are too small when trying to work with others. The space is really conducive to learning, it’s easy to focus in this building.

Attend or put on study sessions and to study on my own

Group meetings

Use computers or study rooms

Printing or studying

for club meetings and studying rooms or in one of the study areas downstairs

Study, use white boards

Individual study rooms and large rooms with HDMI tables

To work on group projects

I come and study or do homework on the second or third floors on the green chairs. It’s really nice to be able to see outside and get a lot of natural light from all of the windows.

I come to the AG hill center to study and use the study rooms but finding an open study room is a challenge and all of the seething on the east side of the building consist of chairs and coffee tables that are inefficient to study at. Actual tables and chair would be much more effective!

Study with friends

It’s nice to just go to A. Glenn Hill Center to study Biology or just sit in lounge areas on the second and third floor.

Computer cluster, study rooms, chairs to sit and do homework

Studying. The independent study rooms are really beneficial. Also, the more secluded public study areas are also great because they feel more private.

Computer lab

Another lounge area of sorts? or maybe outside seating for when its nice.

Its my favorite on campus to study

Waiting for a class or to use one of the study rooms.

to see if its solar powered yet in the face of global warming

I occasionally come there to study before and after classes. It is common though to not be able to find a study room as there are only 6 in the entire building. Studying outside the enclosed tons is often not practical as they building is very loud, sound sends to echo and reverberate up and down the main hallway

I come to study and print out worksheets

To use the computers to print stuff

To study or work on homework

To study with others.

To study on the big white boards

I study in the study rooms. Especially when I have a group project to work on

To work on homework in the lounge area with the large windows

Studying, all couches should be replaced with tables and chairs

Printing and studying/meeting groups

different place to study

study rooms... PS STEM NEEDS MORE THEY’RE ALWAYS FULL

Study, use whiteboards, mtgs
student survey
Reasons for students using A.G. Hill Center when they do not have scheduled classes (continued)

Studying. Love the areas with the whiteboards and couches on the main floor and the areas by the big windows on 2nd and 3rd floor. Also been in assorted classrooms for student org meetings.

Study, work on homework/group projects.
I’m planning to bring a group of friends there to collaborate, but parking is so fucked it’s not worth the hassle.

I come to work with classmates on homework in the study spaces.

For studying with classmates and using the technology available

Printing in the main area, studying, and meetings.

Studying or using the computer clusters
To study. I would LOVE more study rooms

To study or work on projects both by myself or with groups of people. I also use it as a location to wait between classes.

Study every night.

Its calm and not too quiet like the library, and the chairs are comfy.

Occasionally to study but there aren’t enough tables available to do as much, usually they are full when I go to study there during the day.

Study, work on projects, or do homework

A meeting place that everyone knows where it is, Chi Alpha Worship

To study and to print

To use the whiteboards and group study with people from my class

I have gone there to use the study rooms.

study rooms, lots of chair space

Using the computer labs late at night and on weekends.

To study individually and with groups and use the computer lab

To work on homework

Study rooms and group projects

To work on group projects

Presentations/meetings

I like to study here, since they have a variety of rooms

To study. There are not enough study spaces!

To study. Love that there are chairs & tables, couches, and study rooms are available.

I utilize the study rooms for personal and group work

I don’t because the study rooms are always being used anyway

To study. Great study space and a nice environment. If only there was a coffee shop!

I study upstairs by the windows.

Study or do homework in the study rooms

To use the white boards to study

Study rooms and organization meetings

Study, use the classrooms that have whiteboards for studying
Fifty-five percent of the students (177) indicated that they typically collaborated in groups of two or three people when studying or working on group projects at the A.G. Hill Center. This is further supported through the behavioral observations that will be discussed later in this report and written comments provided by the students. The open study areas, enclosed study rooms during daytime hours as well the availability of open classrooms during the evening hours are populated with groups of student as they collaborate on assignments or work on projects. The ease of access to spaces that support these types of activities is made possible through room layouts, furnishings, and readily available technology.
Forty-one percent of the students that spent time in the A.G. Hill Center are in the building for 2-3 hours and are typically studying (77%). This is consistent across all class levels in how long they use the space and for what purposes. In addition, students come to A.G. Hill Center because it is a quiet space (53%) and to complete group projects (51%).
Sixty-one percent of the students identified the A.G. Hill Center’s convenient location as the primary reason they selected it as a point of destination over other spaces on campus and that it provided a quiet and peaceful setting (61%).

The easy access to white boards (45%), whether in hallways, niches, or study rooms, continue to contribute to students selecting A.G. Hill Center as a destination to study or collaborate on group activities. These three elements were consistent across the freshmen, sophomore, and junior classes.

Seniors preferred large areas for collaboration over white boards and graduate students identified free Wi-Fi over all elements previously identified. It is necessary to keep in mind that the graduate student population is relatively small in comparison to the other classes represented in the building.

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<thead>
<tr>
<th>Reasons for Selecting Space(s) for Intended Purpose</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenient Location</td>
<td>215</td>
</tr>
<tr>
<td>Quiet/Peaceful</td>
<td>212</td>
</tr>
<tr>
<td>White Boards</td>
<td>157</td>
</tr>
<tr>
<td>Large Area to Collaborate</td>
<td>138</td>
</tr>
<tr>
<td>Free Wi-Fi</td>
<td>131</td>
</tr>
<tr>
<td>Views</td>
<td>105</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
</tr>
</tbody>
</table>
Student survey
Frequency of use for informal student spaces

Study rooms are in high demand, with 47% of the participants using the space 1 to 4 times a week. Lounge seating along the perimeter of the north and south corridors of the 2nd floor create collaboration areas that are used by students at least 1 to 2 times a week (46%) as well as lounge seating (47%) located on 2nd and 3rd floors on the east side of the building facing Churchill Field. Much of the desire for the seating on the east side of the building, regardless of level, can be attributed to the views out of doors. This is supported by the open-ended responses and behavioral observations.

<table>
<thead>
<tr>
<th>Space Type</th>
<th>Never</th>
<th>1 or 2 Times/Week</th>
<th>3 or 4 Times/Week</th>
<th>5 + Times/Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corridor Collaboration Areas</td>
<td>39%</td>
<td>48%</td>
<td>11%</td>
<td>2%</td>
</tr>
<tr>
<td>Central Corridor on First Floor</td>
<td>49%</td>
<td>44%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Study Alcove with Whiteboards</td>
<td>57%</td>
<td>37%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Study Rooms</td>
<td>50%</td>
<td>38%</td>
<td>8%</td>
<td>3%</td>
</tr>
<tr>
<td>Study Tables</td>
<td>60%</td>
<td>33%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Lounge Seating</td>
<td>40%</td>
<td>44%</td>
<td>11%</td>
<td>4%</td>
</tr>
</tbody>
</table>
When small groups of 2 to 3 students come to engage in informal learning at the A.G. Hill Center, the areas they will typically use include the central corridor area (33%), study alcoves with white boards (29%), and study rooms (27%). Those students who prefer to work alone will select a lounge area within the building (39%) or locate a study table (25%) to pursue their educational endeavors.
Thirty percent of the opened-ended comments focused on students requesting additional tables for the informal student spaces. As one student commented “[t]he space is very nice, but in a building for STEM students, the couches and lounge areas are pointless. There should be way more tables in place of lounge chairs to more effectively help students study. A couple of couches would be fine but they are not conducive to the type of homework most STEM students are doing.” The demand for tables is supported by the behavior observations as well. Students often became so bold as to move tables from side hallways to the east side of the building to enjoy the views of Churchill Field while completing collaborative projects. In addition, 25% percent of the students indicated that the informal spaces accommodated group study activities whether completed in the enclosed study rooms or informal student spaces provided throughout the building. As one student noted, “I really appreciate all the building has to offer.”

I wish there were more tables and chairs
I use multiple spaces in the building individually and with small groups of 2-3 often.
I like the comfort of the seating but some kind of pulldown shade for the windows would be nice because when that sun shines in it is blinding and also the glare on my laptop screen makes it almost impossible to see what I am working on
Wish there were more study rooms and tables throughout the building.
Signage as room location could be better maybe more attention grabbing I remember the first time inside looking for a classroom to discover the number plate was hidden by an open door. Not to mention the contrast between the plate and wall is not high so you can easily miss the signs. Doesn’t make sense that the most used elevator area only has one elevator (one that goes to the tunnel by the union). Awkward door entry on the southwest corner with how the double set of doors is set up.
I use the closed off space most because it’s more private.
I wish there were more study rooms available and on each floor. The tables in the lounge seating are too low and uncomfortable
There are quite a few different locations to study in at this building which is appreciated.
I think it is a complete waste of money to change the name of the building. At least STEM made sense for what the building was meant for, now they had to remake all of the signs and maps with the new name. To me it will always be the STEM building, and the QBB will always be the IACC.
They’re great!! The best part of campus.
Love the addition of white boards in the study rooms.
The lounge areas on the east side of the second and third floors should have tables with chairs like the study alcoves on the first floor. The study alcoves of the first floor should all have tables and chairs in them. The tables in the study alcoves should be larger.
I love the rolling chairs, it’s a small thing, but being able to move around while studying is so nice. I also love the bright colors incorporated into the building.
The lounge seating by the big windows on the 2nd and 3rd floors is my favorite place to go to relax and get stuff done.

I haven’t had a class there in a long time but I did use a lot of the hallway chairs when I was there.

I believe the study rooms should have a minimum requirement of two students, so they are not taken up by single students.

Remove the couches on second and third floor and put table in. Couches with table that are 2ft off the ground are not good for doing homework/studying for STEM students. STEM students need tables like the study room tables to do their work on.

They layouts are great, I think if there were more than three closed off work areas, and if the lounge work areas had a work table that could be used as a regular writing desk, I think the areas could be better utilized

More study rooms! They are always occupied

I think it would be nice to see some plants in the building somewhere. It is a green themed building, has tons of windows, and it would be a “homey” or more relaxed feel to the buildings atmosphere.

I bring my own markers

Comfortable seating

The carpets in the lounge are not attractive and the white walls need some artwork

Coffee shop would make a ton of money in the STEM building

I really like the building. In the future, more individual study rooms would be nice.

I dislike the lounge seating the most because of the shortness of the tables. Students have to slouch or bend over uncomfortably in order to write anything on the end tables (or in the case of the corridor lounge chairs - there is no desk/table). Students need comfortable chairs, but they need to be designed to sit up to (and have available) a full height table.

There should be more study spaces in the building

Sometimes it is hard to get a spot

The lounge seating should have some tables and chair. It is very difficult to do math and science homework on a couch. A lot of students use this area because of the view, but it can be very difficult to do STEM based homework, which is what the building is for.

They are too noisy and busy to be useful for studying

I really enjoy being in the individual study rooms because they are even spacious enough to have some friends come with and they have a nice, quiet, and comfortable setting to do homework.

They are great and more buildings should hold study space like that in them for collaboration and individual study.

I really appreciate how much variety the building has to offer.

BIGGER TABLES! TALLER TABLES!!! The tables by the couches are way too low to work effectively. The tables can be bigger as well, we can barely fit 3 laptops comfortably on the tables while studying

The rooms are more convenient because I feel like I can talk without feeling like I’m interrupting someone’s studying

Nothing bad to say, it’s a great building

I think they are really good places to study, I just have not had the opportunity to use them.

I would find the area better if there were more study rooms made available than the few on the first floor

Thank you so much for this building.
We need more tables

The white board areas are usually busy when I stop by, preventing me from using them.

I think this building is the most conducive for learning.

I would definitely use the study rooms more, but none of them are ever open!

Full lighting is on it seems at even late hours. They should be motion-controlled at certain times of the day to avoid the excessive waste of taxpayer dollars (we are in a significant budget cut cycle).

I would use the study rooms if they were open, but they always seem to be occupied.

They’re super comfy and really easy to just hang out in

Comfy

The labs do not have deionized water (or distilled) directly available from a tap, this makes lab work more difficult than it should be.

I think the challenge with having such a great building with awesome classrooms, is some professors don’t know how to teach in those spaces in the style it’s designed for, or some professors refuse to do so.

Again very white and sterile. makes me feel like I am in jail.

Will the building update its technology to the universal USB-C in the future? And in the event that remodeling is in question, would it be possible to get more individualized study spots similar to the closed room study spots. A appeal is that it provides a sound-proofed quiet and secluded place to study.

We need more couches to nap on between classes. There aren’t enough couches in here.

I would probably use the space a lot more, but a lot of times (especially the study rooms) they are full.

On the 3rd floor there is a table on the south side of the building. Please NEVER remove that table.

Need more tables can write on paper and have laptop avail conveniently.

I wish there were more tables available, especially on the second or third floor. Since most of the tables are normally being used and it is easier to do homework on tables than chairs or couches.

Great

Add some color. It’s all white everywhere. It’s blinding. Some of those spots from Inside Out would look cool, but just color would be nice.

More tables and not coffee tables. I like the windows and the lighting it provides but i don’t like bending over on the little tables. Make it more convenient for studying and lounging

Great

More tables for studying on and less lounge chairs

Great place to study individually or with friends. I wish this facility would have been here earlier in my studies, I would have used it much more.

I don’t use the informal space, so I don’t have any comments on it. The library is closer for me.

The hard back chairs with wheels that are in the Study Rooms hurt my back, they are very uncomfortable. Most of the other furniture is comfortable though.

Need more tables and chairs. Get rid of the couches, or more them to where art majors study.

Larger tables, not big enough to work even with a small group. Really nice to use but hard to have multiple laptops or notebooks out and use the tables.

The space is great, I love being able to work in an area with ample natural lighting and space.

It would be nice to have more table space in the lounge areas.
Add more 24/7 computers for people to use
I wish there was more individualized space—especially study rooms. They are always busy, and most people are looking for individual study space.
More white boards!!!!!!
Keep the classrooms unlocked all night we just put books in the doors anyway so we can study longer
I marked never for using study tables because they are rarely available
They promote studying
More computer clusters and USB plug ins
There is a nice computer lab that is not available even though I’m supposed to have access to it.
The second and third floor lounge spaces should be converted to more study spaces to some degree.
The second and third floors should have more tables. Smaller ones for individual study on the east ends and corridors would be nice.
i don’t think they are solar
FOR THE LOVE OF GOD please hear this out. This campus has enough lounge space!!! Any one who frequently uses this building knows that there isn’t enough study space! The lounge spaces are nice but they are not what students need. Students need more study table like on the 3rd floor, and less lounge chairs with small coffee tables. These are not conducive for learning or studying and anyone who goes to NDSU knows that there is enough lounge space on campus. More large study tables would be MUCH APPRECIATED
I think more tables would be very beneficial. It is very hard to work on engineering and math homework without a table. Most of the time all of the tables are full, which makes it hard to get my homework done. It is also hard to collaborate with others and share explanations without a table. Some bigger tables would also be nice. Adding tables would be great, and they don’t have to be the fancy ones with the plugins in them.
It might be interesting to add sensor in the study room spaces and then hook up to a screen/mobile app to see which room is available so we don’t have to run around and look for rooms.
I enjoy the lounge seating but i sometimes find the small tables provided are low to the ground and difficult to work on when sitting in the furniture.
The space is very nice, but in a building for stem students, the couches and lounge areas are pointless. There should be way more tables in place of lounge chairs to more effectively help students study. A couple couches would be fine but they are not conducive to the type of homework most stem students are doing.
There are many echoes, this is the primary reason why I don’t study in the STEM building.
study rooms good.. lounges bad
2nd floor could use more seating
It’s nice to have them, but there’s so much wasted space in the building.
I know you are trying to go for the white paint means fresh and sciencey but the building could use some color. Maybe some bright colors or paintings on those huge white walls that are throughout the STEM building.
It would be nice if there were more study rooms available and a floor completely dedicated to study areas. Like windows all the way around with seating like there is on the east side of the second and third floor. In addition, to lots of study rooms of various sizes on the interior of the floor.
Add more tables and less chair set ups. Hard to do homework without a table. Open class rooms on weekends for students to study too.
It would be nice to have a better way to write in the green chairs.

Nothing seems very study friendly with the couches because there aren't tables to sit down and do homework, like the rolling chairs. So it just feels like a space to relax mainly, but that's not a bad thing either.

Lounge seating should have better table options so that it is feasible to be efficient at doing homework. Doing stuff on your lap is not reasonable. I suggest walking of the lounges to make them quieter. These could be foldout walls such that people could use it when needed.

Need more individual study tables

There aren't enough tables to work on and too many chairs without tables. Not enough study rooms.

Love them! Keep it up

There needs to be way more private study rooms.

Wish there were more study rooms! I prefer quiet to better my concentration and often I have to wait.

This area would benefit greatly being a 24-hour building like the IACC.

— END COMMENTS —
Two student focus groups and two faculty focus groups were held on-site on March 24, 2017. Eight (8) students and six (6) faculty participated in the focus group sessions. The sessions were held in the ThinkTank room utilizing the GroupSystems software for focus group facilitation.

Primary themes identified in both student and faculty focus groups:

- The A.G. Hill Center has increased active learning capacity for STEM education.
- Change can be challenging to adapt to new space and/or pedagogies, but when faculty are open to change, the results are more successful for students and faculty.
- Frustration develops when technology is not working or equipment is not available when desired.
- Students actively seek spaces that are conducive for group work as well as individual study.
- Mobility within the classrooms, via chairs and table arrangements, increases student participation in learning activities.
Five (5) themes emerged from the faculty and student focus groups. The following comments are excerpts from the faculty and student focus groups that support these themes.

THEME 1: THE A.G. HILL CENTER HAS INCREASED ACTIVE LEARNING CAPACITY FOR STEM EDUCATION.
Interactive classrooms have allowed an impressive change in pedagogy. There used to be a “delivery” approach in fixed seating classrooms. Now we have the capacity to have students much more richly involved in demonstrating their learning on the spot during instruction.

Increased active-learning capacity of NDSU, along with other initiatives.

Much more access to the students. We can now physically get to every student where we may have only had access to 10% before. Students have said they “can’t hide” anymore.

Have used problem-based learning for 30 years, but the Center allows this to happen much more effectively and efficiently than before. It is the first time to actually have a classroom with this type of teaching in mind.

Round tables are great for groups to interact with each other.

In the fixed seating, if the instructor is not able to see the work of each student as they are working, that would be an impediment. We have lots of those already on campus!

I think that NDSU’s approach to STEM education is evolving from a very teacher-centered approach to a learner-centered approach. When I came to NDSU 8 years ago, very few faculty knew about active learning pedagogies and learner-centered approaches, and now many classes are implementing these approaches, and there seems to be more conversations going on around campus about these approaches.

One of the main influences of the STEM building is that it has provided a space where instructors can effectively and easily implement active learning approaches, and it has provided a place where others can witness active learning in action.

The active learning classrooms have allowed me to fully implement my active learning pedagogies. ...As the class is being taught, it is in a really exciting atmosphere. With this classroom, I have seen improvement in student grades and on surveys students indicate that they really learn a lot from each other. I think that this extra peer instruction has really helped the lower performing students, and we are currently analyzing data to measure this.

I really like how the whiteboards run across the whole room so every group has a chance to show their work.

It’s a lot more energetic and alive. It is not just your average learning facility it really does push towards students completing their goals.

STEM Center allows us to collaborate with other classmates from the way the classrooms are set up, and so everyone gets more of a hands on experience.

We sit at a table of 9, which could make the class less intimidating for some people. It also makes it easier to work with other people, when we have in-class activities.

THEME 2: CHANGE CAN BE CHALLENGING TO ADAPT TO NEW SPACE AND/OR PEDAGOGIES, BUT WHEN FACULTY ARE OPEN TO CHANGE, THE RESULTS ARE MORE SUCCESSFUL FOR STUDENTS AND FACULTY.
They took some getting used to. I use powerpoint presentations for my classes and the layout was sometimes difficult for me to make eye contact with all of the students when I wanted to discuss the material.
focus groups
Themes and summary
(continued)

I have found no difficulties in the scaleup room. I went in wanting change and ran with it. The first semester I tried many different approaches.

I prefer the traditional classroom. I feel that it is easier to present material to the students.

It has a very conducive environment which boosts willingness to learn.

I have always enjoyed science courses, but the A.G. Hill building makes it a lot easier to learn and work together with my peers, making class less strenuous and more enjoyable.

I think the layout of the classroom really helps with student-faculty interactions because the instructors in the middle of our class so she can see which students need help.

THEME 3: FRUSTRATION DEVELOPS WHEN TECHNOLOGY IS NOT WORKING OR EQUIPMENT IS NOT AVAILABLE WHEN DESIRED.
I have taught in 2 different rooms. One had pod chairs and was great. We were able to use flexible groups in many different ways. Problem is that on 3 of the walls, there are no places for students to share their work. Screens had to be put up to use the white boards. Need to either rotate the projectors or add more screens. The other is the larger scaleup room. I have stated that I will not teach in another classroom after being there. The white boards are what we need. I can make do without the projectors but the white boards have made huge improvements.

The use of microphones for Tegrity recording and, at the same time, using them for loud speakers in the room has been difficult.

The only thing I have found lacking was no microphones for the students to use during class discussions, keeps the teacher moving; perhaps that is positive!

My one issue has been that there are no extra chairs in the classroom. I often have waitlisted students attend class, in case they eventually make it in -- but there’s no space for them to sit. Similarly, if I have someone observe the class (as part of a teaching evaluation, e.g.), they have no chair to sit in. A few extra chairs might be useful.

If there is a TA or LA in the course, they don’t have a space to put things. We pile our bags and coats in the lost and found box.

Sometimes the projectors don’t work or the document camera doesn’t focus.

THEME 4: STUDENTS ACTIVELY SEEK SPACES THAT ARE CONDUCIVE FOR GROUP WORK AS WELL AS INDIVIDUAL STUDY.
It is a great environment for studying, I see many students working hard on the white boards and it interests me. I would like to learn what they are learning because it is something that I think is great.

I honestly love the study rooms, but the fact that they are so limited makes it almost impossible to get one. I think study rooms on each floor would be nice.

Come here to study with peers and go over projects because I personally think that it’s a lot more open and has more freedom than the library.

I usually go there to meet our research group members and discuss.
I go to Glenn Hill in my free time because its very quiet and I like the people around me because most of them are in my classes.

For our study group, we usually meet in the lounge, and then move to the study room from there. As for the study rooms, I have used those to work on homework.

**THEME 5: MOBILITY WITHIN THE CLASSROOMS, VIA CHAIRS AND TABLE ARRANGEMENTS, INCREASES STUDENT PARTICIPATION IN LEARNING ACTIVITIES.**

As long as there are spaces for the students to move AND make their learning visible we are going in the right direction.

The move from stationary (sometimes bolted-on-rails) chairs to movable chairs and tables had been great for teaching problem-based/student group work-based courses.

What it takes for students to move around. It’s easier in some classrooms, but we make it work in all classrooms using the floor, turning around in fixed seating, etc.

The moveable seats and desktops at the same level (for every two rows) in 122 make group work much easier. I have not incorporated this in a lecture-type room before.

I use many more small group activities as the students can move to groups readily.

The moveable tables with different possible setups for teams of different sizes. The fact of not being designed for the teacher to be at the center of activity.

The white boards on the walls... Can have a group work on the board and then a different group comes and adds to the model/diagram, etc.

I now try to design as many problems as possible that have the students go to the whiteboards. In addition, I will now hand out different versions of a problem to different groups throughout the room. After the groups finish their own problems, they then go to a neighboring groups problem and critique and correct it. This really allows students the opportunity to think about and internalize the material in multiple ways.

The arrangement of the chairs and tables makes it easier for my classmates to fall into groups and work as a team.

They provide a better environment to work with other students, whether that’s sitting at a table and comparing ideas with them or using the white boards or other screens to express your ideas.

The tables in the large classrooms instead of seats in a lecture hall make it easier for students to work together. The whiteboards and screens make it easier for instructors to communicate information to the students.

I love that chairs are movable because it allows us to better connect and makes it easier to move around and share ideas.
ThinkTank Session #131:

Faculty 1 NDSU A Glenn Hill Center POE

Session Start: Mar 24, 2017 1:45 PM
Session End: Mar 24, 2017 1:45 PM

Agenda
1. Warm up and opening questions
2. Classrooms
3. Labs
Warm up and opening questions

1.1. What is your ideal vacation?
   1.1. Somewhere with water!
   1.2. Ocean, ideally, for me.
   2.2. Fargo during the spring flood??
   2.3. A vacation. Any vacation.
   3.3. beach, beer, book
   1.1. Any special beach?
   2.2. What kind of beer?
   3.3. island beach
   4.4. Railroad tour of Alaska
   5.5. Sun amd water

2. Please briefly describe your role and tenure with NDSU.
   1.1. Professor, 20 years
   2.2. Faculty member. 26 years in various levels.
   3.3. Associate professor in dept. of communication; at NDSU since 2008
   4.4. Professor, 47 years
   5.5. Visiting Professor in the Electrical and Computer Engineering Department - 2nd semester. Instructor for 3 years before this appointment.

3. Please describe NDSU’s approach to STEM education.
   1.1. Generally pretty good. NDSU offers a wide variety of classes that target different skill levels.
   2.2. Increasing focus on STEM education. Focus on both academic careers and industry careers.
   3.3. Basis is land-grant university. This is difficult to put down briefly.
   4.4. I believe it is emerged with an evidence-based pedagogy in recent years. Previously it was interpreted as teaching courses in a STEM content area.
   5.5. Good point -- there has been a distinct emphasis on student-centric/evidence-based teaching in STEM, including resources (OTL, etc.)

4. In what ways has the A. Glenn Hill Center influenced STEM Education at NDSU.
   1.1. It has provided more space for labs. This has freed up space for graduate students.
   1.2. do you meant that this has allowed more space in other buildings for graduate students to pursue research outside of Hill building?
   1.3. That is correct.
   2.2. Increased active-learning capacity of NDSU, along with other initiatives.
   3.3. It has given STEM visibility; It has given STEM teachers state of the art facilities for engaging students in their discipline.
   4.4. I currently teach a non-STEM class in the building, so this may be of limited usefulness. But: the move from stationary (sometimes bolted-on-rails) chairs to movable chairs and tables has been great for teaching problems-based/student group work-based courses.
   1.1. As long as there are spaces for the students to move AND make their thinking visible we are going in the right direction. The small white boards are of great use in places where the white boards are limited to behind the screens. That is a major design flaw!
   5.5. Interactive classrooms have allowed an impressive change in pedagogy. There used to be a “delivery” approach in fixed seating classrooms. Now we have the capacity to have students much more richly involved in demonstrating their learning on the spot during instruction.
   1.1. Agree
Classrooms

1.1. Please describe your initial impressions specific to the active learning classrooms in the A. Glenn Hill Center.

1.1. I have not taught in the scale-up rooms, yet, but they look functional.

2.2. Airy. Bright. LOTS of whiteboard space, both behind me and on small whiteboards for students. Flexible configuration. And this may be a minor point, but multiple doors to go in/out of classroom somehow create a more relaxed ‘feel’.

1.1. I agree, they are all inviting, bright, and airy.

3.3. My impressions are very positive. These classrooms provide the best teaching facilities experienced.

1.1. There’s definitely that difficult-to-measure morale boost for faculty when we get to walk into state-of-the-art classrooms. Very different from some of the other spaces on campus, that have the opposite effect.

4.4. They took some getting used to. I use powerpoint presentations for my classes and the layout was sometimes difficult for me to make eye contact with all of the students when I wanted to discuss the material.

1.1. What have you done to address the challenge of teaching with powerpoint and making eye contact with students?

1.      1.1. I don’t think the interactive rooms were designed to just use powerpoints. I think there were designed to be interactive where the instructor is not the focal point. At least that is my impression.

2.      1.2. I did alot of walking around.

2.2. The courses I taught are Engineering Ethics. This almost always requires some kind of presentation so that the students could see the concepts that were being discussed. The example would be how are accidents categorized?

5.5. I have taught in 2 different rooms. One had pod chairs and was great. We were able to use flexible groups in many different ways. Problem is that on 3 of the walls, there are no places for students to show their work. Screens had to be put up to use the whiteboards. Need to either rotate the projectors or add more screens. The other is the larger scaleup room. I have stated I will not teach in another classroom after being there. The white boards are what we need. I can make do without the projectors but the white boards have made huge improvements.

6.6. What about the layout was difficult? Location of screen? Location of instructor station?

1.1. I have found no difficulties in the scaleup room. I went in wanting change and ran with it. The first semester I tried many different approaches. I wish the instructor station were not in the center of the room. A corner would have been fine.

2.2. The only thing I have found lacking was no microphones for students to use during class discussions, keeps the teacher moving; perhaps that is positive!

3.3. The use of microphones for Tegrity recording and, at the same time, using them for loud speakers in the room has been difficult.

7.7. The use of microphones for Tegrity recording and, at the same time, using them for loud speakers in the room has been difficult.

1.1. Some of the microphones in scaleup rooms are “tempermental” and don’t always function. That seems like an easy fix.

8.8. This is specific to the halls. We need to get something besides institutional white. Murals for the different disciplines. Allow the rooms to be filled with artwork if they are lab specific.

9.9. What are the criteria for scheduling into an active learning classroom? It appears as though some are used for “traditional” lecture while there are courses wanting to get into active learning spaces. Maybe a refresh of the criteria are needed.

2.2. Please indicate which classrooms you have had instruction experience with in the A. Glenn Hill Center.

1.1. 122
2.2. 126
3.3. 234
4.4. 330
5.5. 130/132
6.6. 206
7.7. 126, 122, 300, 326

131: Faculty 1 NDSU A Glenn Hill Center POE
3.3. A previous Office of Teaching and Learning (OTL) faculty survey for the active learning classrooms indicated a variety of activities and technologies are utilized by faculty. Which learning activities and provided technologies are you using in the active learning classrooms?

1. The projector for Power Point presentations and DVDs
2. Students use the white boards every day.
3. Technologies: clickers, white boards, projector
Activities: group-based case study work/discussion
4. For the multiple screens, multiple sources from lap top and document camera can be used simultaneously.
   1. Should have added that to mine too. Use both screens for different input (though rarely, since it puts some students too far from screen)
   2. I think that may be room dependent?
   1. 2.1. Likely is, yes.
5. Group work, Tegrity, Response system
6. Have not yet had students plug in and control their own screens, but they do use the microphones daily as well.
7. Groups of 3 are used

4. Please describe how you determine the most appropriate form(s) of instruction for a course?

1. Course content and learning objectives
   1. Yes, these drive my instruction as well.
2. Experience; discussing with other faculty who have a strong pedagogy background; attending workshops/luncheons that discuss course types similar to mine.
3. Most of my courses I use a lecture format. I try and get students to participate, but that can be very difficult sometimes.
4. Many factors including how the discipline works in the real world, experiences of the students, comfort of teacher, course objectives, student outcomes...
5. Course goals set the stage. What we want students to know/be able to do is set from the goals.
Instructional activities to best demonstrate that doing is what determines the day-to-day lessons and use in the classrooms.

5.5. Which, if any, building features do you take into consideration when planning course activities and instruction?

1. What it takes for students to move around. It's easier is some classrooms, but we make it work in all classrooms using the floor, turning around in fixed seating, etc.
2. I try not to make activities/instruction dependent on building features, because it's learning goals/outcomes that should drive activities. I can use clickers, group work, etc. even in the worst classroom. That said, some of these activities are significantly facilitated by building features like large whiteboards, movable chairs, etc.
3. Can students get together to have a discussion - can they move around easily?
4. Many features, including flexibility of seating arrangements, technology available in assigned room, size of room
5. I won’t teach in a room without white boards ever again.
6. I consider the availability and size of the white boards. Also I want to make sure that the computer and projector are functional.

6. Please describe a change, or changes, in your instruction technique for a course you have taught previously in a classroom other than those in A. Glenn Hill Center and are now teaching in a classroom located in A. Glenn Hill Center.

1. Not applicable. I have only taught Engineering Ethics in the A. Glenn Hill Center.
2. Much more access to students. We can now physically get to every student where we may have only had access to 10% before. Students have said they "can't hide" anymore.
3. Same answer as last question -- I try to keep instruction activities consistent, because I don't always get scheduled in A Glen Hill. But I notice that some of the activities are more successful in the right space; e.g., when students can face each other around a table, or when I can freely move between groups and engage with them.
4. The moveable seats and desktops at the same level (for every two rows) in 122 make group work much easier. I have not incorporated this in a lecture-type room before.
   1. Haven't been in that room yet so glad to hear it works well.
5. I use many more small group activities as the students can move to groups readily. If large fixed seating...
auditorium it was large groups where all many not have had to participate.
6.6. Have used problem-based learning for 30 years, but the Center allows this to happen much more
effectively and efficiently than before. It is the first time to actually have a classroom with this type of teaching
in mind.
1.1. I'm so glad this was the impetus going in to the design rather that a retro-fit after.

7.7. Which physical features of the classrooms, if any, are supporting collaborative learning?
1.1. The round tables and the moveable chairs.
   1.1. Each allows a different structure to be used.
2.2. I have not used any collaborative learning methods.
3.3. Movable tables, moveable chairs, fact that students face each other (less of a classroom/stare at teacher
   feel/expectation).
   1.1. Yes!
4.4. In 122, the movable chairs and distance between rows make movement very easy for students.
5.5. The movable tables with different possible setups for teams of different sizes. The fact of not being
designed for the teacher to be the center of activity.
6.6. the white boards on walls also. Can have a group work on the board and then a different group comes
and adds to the model/diagram, etc
1.1. I have seen an engineering faculty display the small white boards on the doc camera for whole class to
   see

8.8. Which physical features of the classrooms, if any, are impeding collaborative learning?
1.1. None that I have experienced.
2.2. Nothing comes to mind.
3.3. None that I have experienced
4.4. I cannot think of any.
5.5. Can't really think of any.

9.9. Which types of furniture arrangements best support the learning outcomes for your class?
1.1. Small tables (4-6 seats), flexible arrangement.
2.2. I prefer the traditional classroom. I feel that it is easier to present the material to the students.
   1.1. Can you describe what you mean by traditional classroom?
   1.1. Similar to how this room is arranged.
3.3. It depends upon the objective for the day. In the moveable chairs, we used pods of three, arranged for
class debate along each wall, had group members randomly move. All are now possible.
4.4. The arrangement in 234, and perhaps others. The flexibility to accommodate teams of different sizes.
5.5. I like the arrangement - lecture with movable chairs - for my lecture class. I am looking forward to have a
discussion based class in a scaleup room.
6.6. Round tables are great for groups to interact with each other

10. 10. In what ways are active learning classrooms supporting student-faculty interactions? - In what ways are
active learning classrooms/any classroom in the building supporting student-faculty interactions?
1.1. Hard to think of how they are not. The instructor can easily get to every student.
2.2. Faculty can circulate between tables more freely. As somebody mentioned in an earlier comment,
   students can't hide -- which (I hope) makes them feel more engaged.
3.3. I do not feel that they provide any more support then a traditional classroom.
4.4. IN the fixed seating, if the instructor is not able to see the work of each student as they are working, that
   would be an impediment. We have lots of those already on campus!
5.5. More time for interaction with individual students. The prof seems more approachable than just the center
   of attention in a large lecture hall. The less deep, wide small lectures rooms also put the instructor closer to
   the student.
6.6. They support interactions by teams working together with space for teachers to walk and interact.
Labs

1. Please describe your initial impressions specific to the labs in the A. Glenn Hill Center.
   1.1. I have not used or been in any of the labs.
   2.2. I have not taught in the lab rooms, only the active learning rooms
   3.3. They look impressive, but I have not taught in them
   4.4. I teach in 206. The tables are heavy to move to allow students to make a smaller work surface where we try to separate them. There are ample power sources. Maybe too many! It would have been nice for the projector to be turned 90 degrees to not be on top of the white boards. That will be a request I continue to make!

2. Does your lab course have a group or team component?
   1.1. we work in groups of 2 and 4
   2.2. n/a (no lab course)
   3.3. The students are broken into groups of 3.
   4.2.1. If yes, which physical features of the lab, if any, are supporting collaboration for these teams?
      1.1. the groups of 4 face each other and the groups of 2 are side by side
   5.2.2. If yes, which physical features of the lab, if any, are impeding collaboration for these teams?

3. How has the non-departmental designation of the labs supported (or deterred) STEM faculty goals?
   1.1. It makes it hard. We've had "lecture" courses in the lab room. Taking down and putting up lab materials on a daily basis is not feasible. There are chemicals/specimens that should not be accessible outside the specific courses.
   2.2. There has some problems with equipment being damaged or misplaced.
   3.3. yes, we've had things go missing or be moved to unknown locations!

4. Any additional comments specific to the classrooms or labs?
   1.1. Nothing comes to mind.
   2.2. My one issue has been that there are no extra chairs in the classroom. In the first two weeks, I often have waitlisted students attend class, in case they eventually make it in -- but there's no space for them to sit. Similarly, if I have someone observe the class (as part of a teaching evaluation, e.g.), they have no chair to sit in. A few extra chairs along the walls might be useful. [This is for room 126 -- I'm not sure if it applies to other rooms]
   3.3. agreed! THis isn't just for lab rooms, it is also for the other rooms as well. And if there is a TA or LA in the course, they don't have a space to put things. We pile our bags and coats in the lost and found box.
ThinkTank Session #132:

Faculty 2 NDSU A Glenn Hill Center POE

Session Start: Mar 24, 2017 1:45 PM
Session End: Mar 24, 2017 1:45 PM

Agenda
1. Warm up and opening questions
2. Classrooms
3. Labs
Warm up and opening questions

1.1. What is your ideal vacation?
2.2. Please briefly describe your role and tenure with NDSU.
   1.1. I am an Associate Professor of Practice in the Department of Biological Sciences.
3.3. Please describe NDSU's approach to STEM education.
   1.1. I think that NDSU's approach to STEM education is evolving from a very teacher centered approach to a learner centered approach. When I came to NDSU 8 years ago, very few faculty new about active learning pedagogies and learner centered approaches, and now many classes are implementing these approaches, and there seems to be more conversations going on around campus about these approaches.
4.4. In what ways has the A. Glenn Hill Center influenced STEM Education at NDSU.
   1.1. I think one of the main influences of the STEM Building are that it has provided a space where instructors can effectively and easily implement active learning approaches, and it has provided a place where others can witness active learning in action. In addition, the new lab facilities have greatly increased the students experience in the lab courses.
Classrooms

1.1. Please describe your initial impressions specific to the active learning classrooms in the A. Glenn Hill Center.

1.1. The active learning classrooms have allowed me to fully implement my active learning pedagogies. I teach General Biology I in the large SCALE-UP classroom (130/132) and the students experience in this classroom has been drastically improved from what it was in Gate City Auditorium. Students have the opportunity to talk about Biology with each other and they have the opportunity to work through problems on the white board. As the class is being taught it is a really exciting atmosphere. With this classroom, I have seen improvement in student grades and on surveys students indicate that they really learn a lot from each other. I think that this extra peer instruction has really helped the lower performing students, and we are currently analyzing data to measure this.

2.2. Please indicate which classrooms you have had instruction experience with in the A. Glenn Hill Center.

1.1. AG Hill 130/132, 208, 214, 216, and I manage the Biology Prep Room in Room 212

3.3. A previous Office of Teaching and Learning (OTL) faculty survey for the classrooms indicated a variety of activities and technologies are utilized by faculty. Which learning activities and provided technologies are you using in the active learning classrooms?

1.1. The most important thing that I use in 130/132 is the white boards. I often have all 135 students in this course all up at the white boards at the same time working on problems. It is really exciting to witness. A survey that I conducted of 270 of my students indicated that only about 60% of them had a computer that had the type of connection that could plug into the tables, so we have not used the technology provided at the individual tables.

4.4. Please describe how you determine the most appropriate form(s) of instruction for a course?

1.1. I use Backward Design. I decide on my course objectives and goals before the class begins, and then I determine what I need to do in class, each class period, in order for my students to meet those goals and objectives. The actual class time intersperses short lectures with active problems that the students work on.

2.2. I try to design as many activities as possible that require the students to go to the white boards and work on problems. This makes their thinking visible to me and my learning assistants and we have immediate formative feedback about how well they are meeting the learning objectives.

5.5. Which, if any, building features do you take into consideration when planning course activities and instruction?

6.6. Please describe a change, or changes, in your instruction technique for a course you have taught previously in a classroom other than those in A. Glenn Hill Center and are now teaching in a classroom located in A. Glenn Hill Center.

7.7. Which physical features of the classrooms, if any, are supporting collaborative learning?

1.1. I have already mentioned the use of the white boards in my previous answers. I now try to design as many problems as possible that have the students go to the whiteboards. In addition, I will now hand out different versions of a problem to different groups throughout the room. After the groups finish their own problems, they then go to a neighboring groups problem and critique and correct it. This really allows students the opportunity to think about and internalize the material in multiple ways.

8.8. Which physical features of the classrooms, if any, are impeding collaborative learning?

9.9. Which types of furniture arrangements best support the learning outcomes for your class?

10. In what ways are active supporting student-faculty interactions?
Labs

1.1. Please describe your initial impressions specific to the labs in the A. Glenn Hill Center.

2.2. Does your lab course have a group or team component?

1.1. The labs are spacious and provide ample bench space. They really allow the students to be able to move around the lab efficiently and increase the safety of the lab. Students love these very open, light filled spaces.

2.2. Yes, students often work in teams.

3.1. If yes, which physical features of the lab, if any, are supporting collaboration for these teams?

1.1. The students sit at tables with four students. This allows for more collaboration then sitting at a long lab bench. Also, there is a lot of bench space around the perimeter, so materials can be placed on the benches and students can easily get the materials that they will need for their investigation and bring them back to their table.

4.2. If yes, which physical features of the lab, if any, are impeding collaboration for these teams?

1.1. I can’t think of anything that impedes collaboration in the lab rooms.

3.3. How has the non-departmental designation of the labs supported (or deterred) STEM faculty goals?

1.1. The way the building is being used, there is no cross-departmental use of the labs that are utilized by Biology.

4.4. Any additional comments specific to the classrooms or labs?

1.1. We have 3 sinks in all of our labs and no paper towel dispensaries. As a result we have a basket of paper towels at each sink that is constantly getting water splashed on it. Students need to wash their hands and we have never received a good answer as to why we can’t have paper towel dispensers. This is also true in the prep room.

2.2. The air flow in AG HILL 130/132 is very poor. When that classroom is full with 132 students, 15 TVs turned on and 6 LED projectors, it begins to smell like a locker room. If you teach in that room after someone who has kept the doors closed, it can be really stifling. On the other hand, you usually cannot keep the doors open because that main atrium hallway is too loud. The air handling system in that room really needs to be investigated.
ThinkTank Session #133:

Student 1 NDSU A Glenn Hill Center POE

Session Start: Mar 24, 2017 3:30 PM
Session End: Mar 24, 2017 3:30 PM

Agenda
1. Warm up and opening questions
2. Classrooms
3. Informal Spaces
4. Labs
Warm up and opening questions

1.1. What is your ideal vacation?
   1.1. someplace warm and sunny
   1. I agree my ideal vacation should be warm and sunny
   2.2. :) 
2.2. Beach 
   1.1. any special beach? 
   3.3. Traveling around Europe 
   1.1. Europe sounds great!
   4.4. Laying somewhere on a beach with water
   5.5. sunshine
   6.6. A place that has a lot of fun activities and beatuful scenery that differ from home
   1.1. What kind of activities?
   2.2. its always nice to be away from home and see new things
2.2. Please describe your enrollment status (full/part-time), major, years as a student at NDSU.
   1.1. Full-time, first year, majoring in Pre-Pharmacy
   2.2. Full time, Freshman of Civil Engineering
   3.3. I am a full time student, major is BioChem, I am a Freshman, first year
   4.4. Full, Civil and Environmental Engineering, Grad Student, Second year
   5.5. Full time, first year, deciding between accounting and marketing
3.3. In what ways has the A. Glenn Hill Center influenced your opinion of STEM classes and/or STEM programs?
   1.1. it has a very condsusive environment which boosts willingness to learn
   1. Really does help and makes it a lot easier to try to learn
   2.2. I have always enjoyed science courses, but using the AGHill building makes it a lot easier to learn and 
   work together with my peers, making class less strenuous and more enjoyable
   3.3. yes
   4.4. It is a great environment for studying, I see many students working hard on the white boards and it 
   interests me. I would like to learn what they are learning because it is something that I think is great.
   5.5. Glenn Hill Center provides state-of-the-art facilities for the Fluids lab that I am TA in.
   6.6. Its is very open and student focused and that always impacts students performances
   1.1. yes it does
   2.2. I agree if students see one another working hard in stem they will themself work hard too
Classrooms

1.1. In what ways do you find the learning experience in the active learning classrooms unique compared to other classrooms on the NDSU campus? - In what ways do you find the learning experience in the active learning classrooms/classrooms unique compared to other classrooms on the NDSU campus?

   1. The arrangement of the chairs and tables makes it easier for my classmates to fall into groups and work as a team.
   2. I think it is very technological than the other classes which makes it easier to communicate, and learn things the instructors throw at you.
   3. They provide a better environment to work with other students, whether that’s sitting at a table and comparing ideas with them or using the white boards or other screens to express your ideas.
   4. It’s a lot more energetic and alive. It is not just your average learning facility it really does push towards students completing their goals.
   5. The labs are really nice, very spacious.

2.2. Which physical features of the classrooms, if any, are supporting collaborative learning?

   1. The columns of the chairs are arranged in twos, with each rows consisting of two individuals. This makes it easier for students to fall in as a team.
   2. Particularly in the labs, enough space has been provided to demonstrate and show different apparatus and use them.
   3. The microphones on the desks are a nice touch and the TVs all around the rooms make it easier for people to follow along to what the instructor has to say. I really like how the whiteboards run across the whole room so every group has a chance to show their work.
   4. The lighting and openness that is everywhere really stands out and helps. Also, study tables that are set up in different corners are very nice as well.
   5. The tables in the large classrooms instead of seats in a lecture hall make it easier for students to work together. The whiteboards and screens make it easier for instructors to communicate information to the students.

3.3. Which physical features of the classrooms, if any, are impeding collaborative learning?

   1. None
   2. None
   3. None that I can think of.
   4. I think in the chemistry labs there should be sections for materials because students like to misplace instruments and it makes it hard to start our experiment.
   5. As a TA for Fluids Lab (room 114), I can tell that the abnormal noise created by air conditioner is really annoying for students.

4.4. Which types of furniture arrangements best support the learning outcomes for your class?

   1. Tables with nine movable chairs
   2. movable chairs
      1. How about the tables? Fixed round or movable rectangle?
         1. I prefer the fixed round tables
         2. Movable tables are ideal too, I think!
         3. Round because more people tend to connect better since there’s more space
   3. I love that chairs that are movable because it allows us to better connect and makes it easier to move around and share ideas.
   4. I like the large round tables with the moveable chairs because its much easier to communicate with the whole group.
   5. A round table consisting of about 8 to 10 students supports my learning outcome better and I personally like this arrangement pattern as one can be able to see each other students faces and discuss class topics easily with them.

5.5. In what ways are classrooms supporting student-faculty interactions?

   1. The TA’s are located at the middle end of the class rooms, and this arrangement makes them not only...
closer to the boards for explanations but also makes them easily accessible for any questions that students might have.

2.2. I think the layout of the classroom really helps with student faculty interactions because the instructors in the middle of our class so she can see which students need help

3.3. In the classroom I’m in, there are many LAs available for students to ask questions. The openness of the classroom allows students to freely raise their hands and ask the instructors questions. The openness also allows the instructor to move around the classroom during the lecture to better see the students and communicate with them

   1.1. Can you define LAs

   1. Learning assistants, basically the same as a teaching assistant
   2. Typically undergraduates
   3. Is a learning assistant, someone who assists the instructor in questions.

4.4. Labs are very spacious which allows movements to be easier especially if the instructor is walking around or supervising. Also the classrooms are nice since the teacher is in the middle

5.5. Also the instructor has complete control of the classrooms technology so he or she can show the content they want quickly.

6.6. There are computers for completing goals and assignments and working together in team as with these computers help students to discuss, find their strengths and weaknesses. I as an example, am not really a computer literate so this pattern helps.

6.6. Any additional comments specific to the classrooms?

   1.1. Great environment, love the technology it helps very much in learning.

2.2. I feel that students should be urged more to clean up after experiments. Some students put in great effort to make sure the place is tidy after experiments but others don't really care and just leave the work to the rest of the team members

3.3. They are honestly great. Beautifully designed and structured and and awesome technology everywhere.

4.4. The technology available and increased ability to communicate with my peers has due to the ways the classrooms are set up has enhanced my learning in those classes

5.5. I think Fluids Lab provides a great opportunity for students to get familiar to fluids dynamics; however, it needs more shelves and cabinets and noise problem need to be fixed!

6.6. Suggestion 2 also helps for prolonged usage and longitivity of these facilities
Informal Spaces

1.1. For what purpose(s), if any, do you come to the A. Glenn Hill Center when you do not have scheduled classes?

1.1. I use the study rooms there to study with classmates

1.1.1. I usually use rooms 116, 118, 120, 136, 138, or 140 depending on which is available

2.2. I honestly love the study rooms, but the fact that they are so limited makes it almost impossible to get one. I think study rooms on each floor would be nice. I also see people just sitting and watching movies in these rooms which is not really fair to the people that want to get work done and study.

2.2. to read, because it is very quiet. To relax and reflect as i personally enjoy the view and the serene from especially from the 3rd floor.

3.3. Come here sometimes to study with peers and go over projects because I personally thing that it's a lot more open and has more freedom than the library.

4.4. Free wifi

5.5. I go to Glenn Hill in my free time because its very quiet and I like the people around me because most of them are in my classes. I also the third floor as a study space when I am studying for either Chem or Bio.

6.6. I usually go there to meet our research group members and discuss.

6.6.1. is there a particular place you meet...refer to floor plan provided

1.1. Study rooms are very good places to meet.

2.2. 3rd floor because lot more private and not as many people walking in and out

7.7. plus the scenery is really nice (when snow isn't everywhere)

7.7. to admire its great construction

2.2. In what ways have you have utilized the informal student spaces, such as the lounges and collaboration rooms?

1. 2.1. How many people?

1.1. i usually study solo

2.2. usually 2-4

3.3. Usually between 2 and 4

4.4. 3-4

5.5. I usually do solo studying, but when I have projects like in Stats I invite my group members (3-5) and we try to get a study room if possible (Highly unlikely).

6.6. Is it highly unlikely because the rooms are unavailable or because the students are not available to meet you?

1.1. Never so many options that we will always find a nice place to get work done

2.2. Usually its the rooms that are not available, but we just adapt and try to find any other space that we can occupy like the 2nd and 3rd floor lounges.

3.3. rooms are often unavailable. It would be nice if there were more study rooms

4.4. Although rooms can be unavailable sometimes, one could still find quiet study rooms. Its a question of the patience to search for one

7.7. i feel informal study rooms are always available. its always a question of patience to search

2.2. What was the desired purpose?

1.1. projects and upcoming tests

2.2. a quiet place without distractions to get tests, assignments, or projects completed

3.3. To catch up on school work

4.4. We just go to get our work done asap and just study for upcoming exams.

3. 2.3. How long did you use the space?

1.1. usually an hour or two

2.2. anywhere from 1-3 hours depending on what we're working on

3.3. an hour

4.4. 2 hours tops

5.5. If I have a class in Glenn Hill I usually stay for 2-4 hours because i get comfortable and don't wanna get
4. **Why did you choose that space over another space in the building or on campus?**
   1.1. It gives us more freedom and we don't feel so contained plus less noise around
   2.2. less distractions versus an open space where people usually walk from time to time
   3.3. and we don't feel so contained plus less noise around
   4.4. suitable environment for studying
   5.5. I live in Dinan Hall which is just south of the AG Hill building. It's closer than many other buildings on campus, it's quiet, and there are very few distractions.
   6.6. It is nice and we are used to it now.

3. **Any additional comments specific to the informal spaces?**
   1.1. It would be nice if there were more study rooms, maybe a couple on each floor
   2.2. Other than study rooms everything seems to be awesome
Labs

1. Please describe your initial impressions specific to the labs in the A. Glenn Hill Center.
   1.1. Ooh my goodness. It's a Masterpiece
   2.2. Very spacious and well put together
   3.3. The labs are nice. They are pretty spacious which makes moving around much easier
   4.4. Opportunities to learn new things
   5.5. I thought the chem lab spaces were super cool because it looks like an actual lab with the filtration devices and the long lab tables.
   6.6. Its one of the very many buildings whose construction just stands out
   7.7. I could come here every day of my life

2. Does your lab course have a group or team component?
   1.1. Yes, we do
   2.2. yes
   3.3. Yes, we do
   4.4. We don't really have any features in labs other than the long lab tables.
   1.1. do you do any type of group or team work?
   1.1. Yes we are paired into groups of four and the tables suit our groups nicely.

5. If yes, which physical features of the lab, if any, are supporting collaboration for these teams?
   1.1. the computers.
   2.2. yes the long tables help us work together and comunicate better as a group
   3.3. The shelves
   4.4. The lab tables make it easy to work in groups of 2, 4, or larger. Because the lab is open and spacious, it's easy for the lab instructor to move around and answer questions the students may have. Students are also able to move around easily which makes working together easier
   5.5. The long lab tables are really nice we are usually put into groups of four two sit on one side and the other two on the other side.

6. If yes, which physical features of the lab, if any, are impeding collaboration for these teams?
   1.1. none
   2.2. no
   3.3. No
   4.4. No

3. Any additional comments specific to the labs, classrooms, or informal spaces?
   1.1. I like the spaces for our backpacks
ThinkTank Session #134:

Student 2 NDSU A Glenn Hill Center POE

Session Start: Mar 24, 2017 3:30 PM
Session End: Mar 24, 2017 3:30 PM

Agenda
1. Warm up and opening questions
2. Classrooms
3. Informal Spaces
4. Labs
Warm up and opening questions

1.1. What is your ideal vacation?
   1.1. going to bora bora
      1.1. I would love to go there too!
   2.1. my ideal vacation would be at any beach!
   1.1. true

2.2. Please describe your enrollment status (full/part-time), major, years as a student at NDSU.
   1.1. full time, biology major(pre Med), freshman
   2.2. full time, social work, and my second year.

3.3. In what ways has the A. Glenn Hill Center influenced your opinion of STEM classes and/or STEM programs?
   1.1. Made me have a better idea of STEM! since my major isn't in that field of studies.
   2.2. stem center allows us to collaborate with other classmates from the way the classrooms are set up, and so everyone gets more of a hands on experience.
Classrooms

1.1. In what ways do you find the learning experience in the active learning classrooms unique compared to other classrooms on the NDSU campus?

1.1. We sit at a table of 9, which could make the class less intimidating for some people. It also, makes it easier to work with other people, when we have in class activities.

2.2. To me is the size of the classrooms, and the way some of the classrooms are designed, like the tables.

1.1. Could you elaborate on the size of the classrooms? What about that helps with the learning?

1.1. They’re usually a little bit smaller than other lecture halls, and has a feel of a small class due to the circular tables

2.2. It helps to communicate easier with each other,

3.1. and get help if needed from one another

2.2. Which physical features of the classrooms, if any, are supporting collaborative learning?

1.1. The smaller tables, the microphones and the projectors across the room

2.2. The tables, which make it easier for students to communicate with each other

3.3. Which physical features of the classrooms, if any, are impeding collaborative learning?

1.1. Some times the projectors don’t work or the document camera doesn’t focus. It would also be better if the classrooms were even smaller.

2.2. I've only had two classes, and I never saw or had an problems in there.

4.4. Which types of furniture arrangements best support the learning outcomes for your class?

1.1. The comfort of the setting, like the chairs in some of them.

2.2. Support the back, and also comfortable to sit on, but also up right to pay attention

5.5. In what ways are classrooms supporting student-faculty interactions?

1.1. The instructor is in the middle of the classroom, so it makes it easier to ask them questions, and it also makes it easier for them to see you when you have a question or need help.

1.1. I agree with that

2.2. The tools of high tech they have in the classrooms.

6.6. Any additional comments specific to the classrooms?

1.1. I think more classrooms at NDSU should be set up that way
Informal Spaces

1.1. For what purpose(s), if any, do you come to the A. Glenn Hill Center when you do not have scheduled classes?

   1.1. I like the natural lighting in the building, and because there are study rooms and white boards available
   2.2. To study with other students, I like how they have tables and white boards in the hallways

2.2. In what ways have you have utilized the informal student spaces, such as the lounges and collaboration rooms?

   1.1. For our study group we usually meet in the lounge, and then move to the study room from there. As for study rooms, I have used those to work on homework
   2.2. Only used it there once to meet with a group for a class project. But it’s good to know we have them there

3.  2.1. How many people?

   1.1. 10
   2.2. 4

4.  2.2. What was the desired purpose?

   1.1. Chemistry class study session
   2.2. Class project

5.  2.3. How long did you use the space?

   1.1. Probably 15 minutes
   2.2. 40 minutes to an hour

6.  2.4. Why did you choose that space over another space in the building or on campus?

   1.1. Because it’s in the same building that we have our study classroom in later on, and it’s the building we have our chemistry lecture in
   2.2. Because it’s where we have the class

3.  3. Any additional comments specific to the informal spaces?

   1.1. The natural lighting of the building is definitely something that attracts people to go, and the location (next to Memorial union)
Labs

1. Please describe your initial impressions specific to the labs in the A. Glenn Hill Center.
   1.1. I like the labs, since they're designed to hold about 24 students only
   2.2. I didn't take lab in that building.

2. Does your lab course have a group or team component?
   1.1. Yes we do
   2.2. I didn't take lab in that building.

3. Any additional comments specific to the labs, classrooms, or informal spaces?
   1.1. No
OBSERVATIONS SUMMARY

POST OCCUPANCY

Thirty (30) hours of observations were completed over two weeks in late March to mid-April 2017. An observation template was utilized by students (qty 5) and faculty (qty 1) observers to document occupant behaviors and usage of informal student spaces.
Findings

- The majority of collaboration spaces are used throughout the day. Areas most used are enclosed study rooms on first floor, table and chairs at the node by the auditorium on the first floor, and the lounge spaces on second and third floors.

- Only a few collaboration spaces in the building are not used or seldom used (e.g., a small lounge area on the first floor between two major entrances and on a circulation route).

- Study rooms are used most hours of the day and all days of the week, mostly for individual study.

- Students took ownership of the spaces by rearranging furniture to meet their needs. Examples included moving tables out of classrooms to the lounge space or moving lounge chairs closer to outlets (for use with a laptop). There appears to be a desire for more functional table surfaces (to spread out materials and use a laptop) with a view (such as the view provided in the lounge areas on second and third floor).

- The main path of travel on first floor is between the south entry and west entry. Tours with perspective students were often observed.

- The lounges on second and third floors are frequently used for studying or taking a break between classes. Small study groups utilize the lounge spaces to meet as well as individuals looking for a quiet place to study.

- The building is used by students seeking study space as an alternate to the student union or library. The weekends were busier than expected, and often had spaces “claimed” by students for long durations using personal items.

- Some students opt to use unoccupied classrooms as group study space, occasionally using the monitors and/or white boards.

- First-floor study alcoves located along the central corridor with white boards were frequently used by small groups.
observations
Utilization of informal spaces

OBSERVED UTILIZATION
- Highest Utilization
- Moderate Utilization
- Less Frequent Utilization
- Minimal Utilization
obsessions
Utilization of informal spaces

OBSERVED UTILIZATION

- Highest Utilization
- Moderate Utilization
- Less Frequent Utilization
- Minimal Utilization
observations
Utilization of informal spaces

OBSERVED UTILIZATION

- Highest Utilization
- Moderate Utilization
- Less Frequent Utilization
- Minimal Utilization

THIRD FLOOR
NOT TO SCALE
Study completed by BWBR with approval and participation of North Dakota State University. For questions, please contact:

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