

Attention Span and Learning Experience in NU-Q

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Abstract

The paper aims to analyze the patterns of attention span students from Northwestern University in Qatar (NU-Q) show in a class, and look into the different factors that impact it. The paper examines the correlation between attention span and in-classroom variables like class size, lecture content, mode of lecture, and professor's teaching method alongside out-of-class factors like technology and how students' overall experience of the university translates into their in-class learning experience. The research involved a mixture of qualitative and quantitative methods to derive the desired results. We used quantitative surveys to collect data on variables that impact the learning experience. Qualitative data were extracted from interviews to figure out students' personal experiences. Later, the interviews were coded to provide quantitative data on shared student experiences and how it impacts students' learning.

Key Words

Attention span, Learning Experience, NU-Q, Technology, Focus, International Students, Class Size, Class Timings, Social Media, Distraction, Interview, Survey

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1 Introduction

1.1. Overview of the topic

Attention is the mental process, in which the mind prioritizes a particular piece of information in clear and vivid form out of several simultaneously possible objects or trains of thought (Lindsay, 2020). When not paying attention, there are problems in communication, a minor distraction can cause accidents, and careless reading may result in misunderstanding. (Posner & Peterson, 1990). As such, it is essential to maintain proper attention in the classroom to maximize the learning experience. However, it is impossible for an individual to be aware of and pay attention to everything simultaneously. It's even more difficult in school life, mainly when conscious learning occurs (Cicekci & Sadik, 2019). With the research, we look into factors that make it hard for students to focus in a classroom setting and how the attention span deviates, so class structures can be designed better to accommodate the needs of students.

1.2. Prior Research

According to Gestalt theory, attention is related to shape and ground. The shape is what attention is focused on. According to this theory, when the attention changes, the shape, and ground may change (Feldman, 1997). Therefore, attention is involved in many types of learning, and the individual must reach a level of arousal for any learning to occur. Prior research portrayed that the best measure to look into attention span is to sample up to 10 to 15 minutes (Barisa et. al, 1996). It was also found that research has been conducted from the perspective of teachers, who believed students' lack of learning has to do with their lack of interest in class matters (Cicekci & Sadik, 2019). Other research has also been conducted to map students' academic achievements with class activities. It was found that students who pay more attention

and take class work seriously often rank in the higher quartiles (Al'Omairi & Al Balushi, 2015). However, there needs to be more research regarding how the attention span of students deviates in a class setting and the variables that contribute to the different patterns of attention seen in classes.

The research is unique as it happens in a new geographical setting. There has yet to be prior research conducted in a MENA region school. However, it also means that the research is centered around Northwestern University in Qatar (NU-Q) and looks into the patterns of attention students demonstrate during their classes, the reasoning behind them, and the factors that make the learning process pleasant or unpleasant for the students.

1.3. Rationale behind the article

Students' attention span is not an absolute factor (Braus, 2018). The environment around them is vital in shaping their attention span and learning experience. Every student is different, and so is their learning style (Hakala, 2015). However, in a university setting, there are a lot of constants. Not only do the students share the same educational space, but many share similar class sizes, professors, and lectures. So, it is essential to realize that a handful of similar factors affect students, despite their differences in learning style.

Since the majority of a student's academic learning happens inside the classroom, it is a problem that most students need help to focus properly. The findings from the paper describe in detail the different factors that impact a student's learning process and experience, which can be a useful reference to any professor or administration in order to structure classes and lecture better. It is crucial to realize that while it might be difficult to adapt to every student's unique learning styles, it is a problem if the majority of students can not maintain focus during classes. It is more problematic, when we take into account that university students choose preferred classes

and take classes of interest. So, it is important to address the problem and create a better learning environment.

2 Literature Review

Attention span, defined as the ability to focus and sustain attention on a task or stimulus, is a critical cognitive skill for students to succeed in their academic endeavors. In today's digital age, where students are exposed to various distractions such as social media, notifications, and multitasking, attention span has become a topic of increasing concern among educators and researchers. This literature review aims to examine the existing literature on factors that impact attention span for students, effects of attention span and technology on academic achievements, with a specific focus on the Middle East region.

2.1. Factors Affecting Attention Span:

Attention span is influenced by a multitude of factors, including biological, psychological, and environmental factors. Several studies have identified certain biological factors that affect attention span in students. For instance, research has shown that sleep deprivation, which is prevalent among students, can impair attention span and cognitive performance (Fulda & Schulz, 2001). Additionally, nutrition and physical health have also been found to play a role in attention span, with poor nutrition and physical health being associated with reduced attention span (Taras, 2005).

Psychological factors, such as individual differences in cognitive abilities and personality traits, also impact attention span. For instance, students with higher working memory capacity, which refers to the ability to hold and manipulate information in mind, tend to have better attention span (Engle, 2002). Similarly, students with higher levels of self-control, impulse control, and emotional regulation tend to have longer attention spans (Barkley et al., 1980). On the other hand, students with attention deficit hyperactivity disorder (ADHD), a neurodevelopmental disorder characterized by difficulties in attention and impulse control, often

face challenges in sustaining attention (Barkley, 2015). Studies have shown that ADHD is prevalent among students in the Middle East region, with varying rates reported across different countries (Reaser et al., 2007).

Environmental factors, such as the learning environment, also impact attention span. Classroom factors such as class size, classroom design, and noise level can affect students' ability to sustain attention (Lan et al., 2009). Additionally, cultural factors, such as parental expectations and societal norms, may influence students' attention span. For example, in some cultures, there may be a high emphasis on academic achievement, which can create additional pressure for students and impact their attention span (Deb et al. 2015).

2.2. Effects of Attention Span and Technology on Academic Performance:

Research has consistently shown that attention span has a significant impact on students' academic performance. Students with longer attention spans tend to have better academic outcomes, including higher grades, improved test scores, and better overall academic achievement (Zhao et al., 2018). On the other hand, students with shorter attention spans may struggle to concentrate, retain information, and complete tasks, which can negatively impact their academic performance.

One area of research that has examined the impact of attention span on academic outcomes is the use of technology in the classroom. With the use of smartphones, tablets, and laptops, students are often exposed to digital distractions during class, which can adversely affect their attention span. Studies have shown that students who use electronic devices during lectures or while studying tend to have shorter attention spans, resulting in reduced comprehension and retention of information (Subramanian, 2018). Additionally, students who engage in

multitasking, such as checking social media or browsing the internet while studying, tend to have lower academic performance compared to those who focus solely on their academic tasks.

The use of social media has been found to have a negative impact on students' attention span and academic performance. Social media platforms are designed to be highly engaging, with notifications, likes, and comments constantly vying for users' attention. Studies have shown that frequent use of social media can lead to increased distractibility and decreased attention span among students, resulting in reduced academic performance (Kies, 2018).

However, it is worth noting that attention span is not solely determined by external factors such as technology, but also by individual differences and developmental factors. Some students naturally have shorter attention spans compared to others due to their inherent cognitive abilities and temperament. Additionally, attention span tends to vary across different age groups, gender, and lifestyle choices. (Cowan et al., 1999). Therefore, it is important to consider the complex interplay of various factors that influence attention span and academic outcomes.

2.3. The attention span reflected on NUQ students:

The nature of NUQ has provided us with more specific research requirements, as it is an American style media university based in the Middle East region. The gender composition plays a significant role for the attention span during the class. For example, some traditional families in the Middle East teach their children to show reverence to teachers, which closes them to their tutors and lowers the level of engagement in class compared to the US system where students are encouraged to ask questions and engage in critical thinking, which positively impacts their attention in class. (Akkari, 2004) The unbalanced major and gender ratio alongside the unique positioning of NUQ impacts the overall classroom environment, including the dynamics of classroom discussions, group work, and interactions with the teacher. This could potentially

affect students' attention span, as they may be more or less engaged depending on their personal traits when having classes with more female students than male students.

Professors' bias and stereotypes might also affect students' attention span. Teachers may unintentionally treat students differently based on their gender, leading to differences in attention and engagement during lectures. For example, racial stereotypes surrounding the Arab population might cause discomfort to students which could impact the attention and participation of other students. The conservative setting of Qatar also means that traces of patriarchy exist in every institution at every level (Cole & Ahmadi, 2010). Research has shown that male students tend to be more interactive and engaging, whereas professors are "forced" to pay more attention to them. With more interactions during the class, the attention span would be increased.(Sutton, 2016).

3 Methodology

3.1. Research Strategy:

The initial strategy for the research was to statistically map out the trend of attention spans in the classroom and then look into factors that impact the data. However, attention span is a subjective matter depending on a person to person basis. So, we expanded the research into finding common factors both inside and outside the classroom that impact a student's learning experience. Certain experiences such as class size, class time, content of lecture, timings of class are similar for most students. As such, quantitative research was done through a survey to collect data to figure out preference and how students focus in such similar settings. To go further, we decided to do a qualitative study through an interview to figure out external factors and how the student's overall experience in the university translated into their classroom learning. The interviews were later transcribed, coded, and quantified to understand the results in an easier manner. The research is a mix of both qualitative and quantitative methods.

3.2. Primary Methods:

3.2.1. Survey:

Survey was the first quantitative research method. For the survey (n=62), the age distribution was 79% for 21 to 23 and 21% for 18 to 20 year old students. The gender distribution ratio was 55% male and 45% female, which is a representative sample because NU-Q's student body is mostly composed of female students. We had an equal 25% of respondents from every class year, and as for major the survey had 74% MIT major respondents and 26% journalism students, which is a proper depiction of the campus's major distribution as MIT to Journalism distribution is close to 10:3 in the university. In terms of residence, we had

30.6% international students who are Qatari residents (born and raised in Qatar), 29% Qatari citizens, and 40.3% international students.

The main goal of the survey was to map patterns students show in terms of selection of classes, their preferences in class selection, and how it translates into their focus in classes.

3.2.2. Interview:

Interview was a qualitative research method. As for the interview (n=20), the age distribution was 70% 21 to 23 year old students and 30% for 18 to 20 year students. The gender distribution was 42.9% female and 57.1% male. We had 25% students from every class year. As for the major distribution, 36.8% interviewees were Journalism and 63.2 were MIT majors. Since it was a controlled sample, i.e interviewees were hand picked, the residential demography was distributed equally, 50% each, between locals (Qatari citizens and residents) and international students.

The main purpose of the interview was to see if there are certain external factors in the university that commonly affect students. Since every student's perception and learning process are unique, we decided to go for an interview to get the most authentic information possible and to ensure every student's voices were heard properly.

3.2.3. Observation Study:

Observation study was conducted over a month. Since members of teams had access to classrooms as they were teaching assistants, we did not have access problems. Observation studies were conducted to use as a reference point to see how accurate the survey and interview results were by observing students in their natural environment. The studies were only conducted in freshman classes, however. The studies were done in four different class timings, 8:30 AM,

10:00 AM, 2:30 PM, and 4:00 PM, and in different class sizes. However the diversity in terms of class years is lacking in the studies.

3.3. Secondary:

3.3.1. Literature Review:

Previous literature was used in the research for three main purposes. Firstly to see if there are similar researches and what is the discussion going on about the research. Secondly, to collect context and data on how students are performing in classes. Lastly, to collect expert scientific opinion on the working of mind to explain how and why students are losing focus in class. Since, our research discusses a certain way a human brain works, it was important to have scientific backing to our claims, which is why literature was used, as we had time constraints and lack of expertise to conduct our own scientific research.

4 Findings:

The initial survey results demonstrated that 45 students took 2:30 PM classes, making it the most popular class timing, as demonstrated in figure 1. 8: 30 AM and 11:30 AM classes were the second most popular and third most popular class choices with 32 and 25 classes respectively.

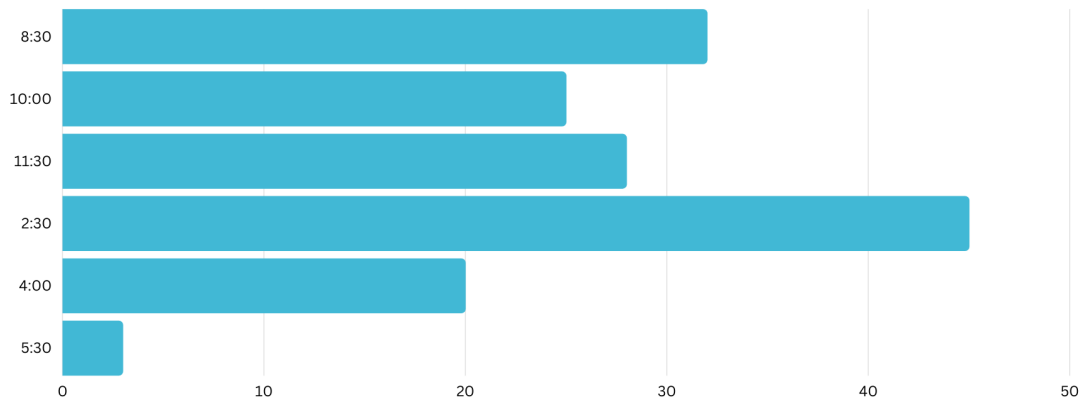


Fig 1: Timings for student classes

However, the data above did not account for the mandatory classes. So, while the data is an accurate representation of classes taken, it isn't a proper depiction of classes taken by choice. All the Freshmen (n=16), in our survey had to take two mandatory 2:30 PM classes, and a portion of the sophomores (n=16) also had to take a mandatory 11:30 AM class. As such we performed a mathematical calculation to correct the data.

Since 26% of our survey respondents were Journalism majors, we calculated the number of journalism sophomores by solving for, 26% of 16, and reduced the number to our initial total of students who took 11:30 classes. Similarly the number of freshmen students were doubled and

reduced from the 2:30 classes to calculate how many students took the classes out of their own will. The corrected results are presented in figure 2.

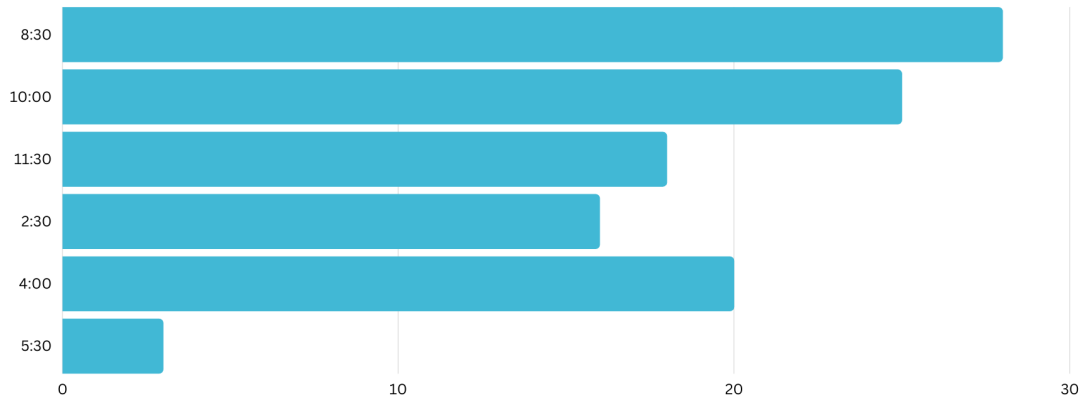


Fig 2: Timings for student classes after removing mandatory classes

As shown in figure, morning classes that begin at 8:30 AM and 10:00 AM are the classes that most students prefer with a total of 28 and 15 students picking the timings respectively. As demonstrative, in both figure 1 and 2, 5:30 classes were the least popular classes with only 3 people selecting the classes. The findings were even backed up by the interviewees. Of the people who took part in the interview (n=20), 70% of the students said that they preferred having their classes in the morning. An interviewee from class of 25’ quoted, “It is nice to have early morning classes because it opens up the rest of the day to do assignments and relax.” Other student quotes for prioritizing morning classes were, “[...] I get restless during evening classes because that is social time. So, I prefer to be done with my classes early on.”; “[...] coming from a military background, it makes sense to have morning classes. My day starts really early. So, the gap will be too long if I take classes later.”, “[...] it is hard to do anything in the morning, but if

you have classes, you wake up. So now I have the rest of the day to perform activities. Otherwise, I would spend my early morning sleeping and not do anything productive throughout the day.”

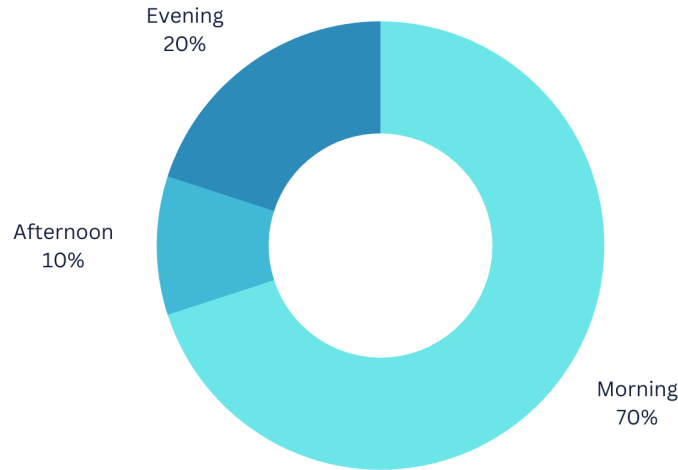


Fig 3: Timings students prefer for classes

After analyzing the preference of class timings, the research showed that most students can not focus throughout the class. An interview quote, “For me it is near impossible to stay attentive throughout the classes because it is hard to focus for that long.” The survey demonstrates that, seen in figure 4, a majority of students have trouble focusing in the classroom. When asked if students lose focus during class, 75.8% of students agreed that they lose focus in class.

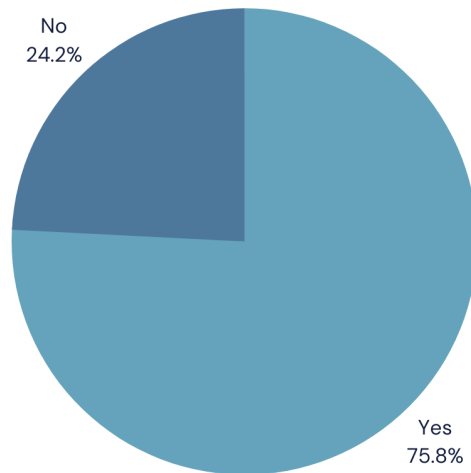


Fig 4: Do you lose focus in classes

Beyond just losing focus, students demonstrate a specific pattern in which their attention span varies throughout the class period, as seen in figure 5.

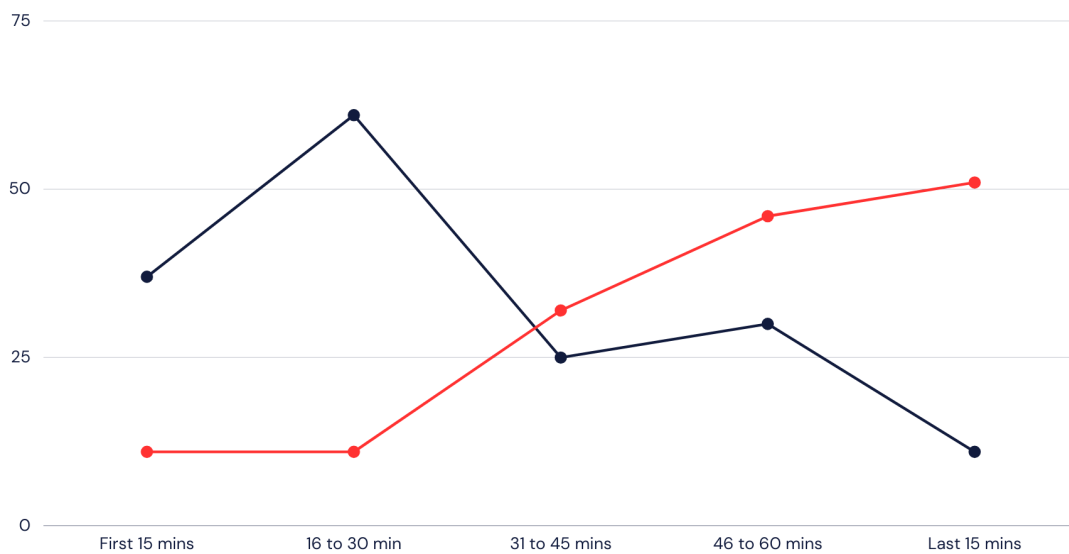


Fig 5: Patterns of focus in class

The blue lines demonstrate the point of classes when students chose they are more focused during, and the red lines represent the number of students who chose the point of time

when they are least focused. There seems to be an increase in attentiveness of students between the first 30 minutes, with most students being focused between the 16 to 30 minutes. After that most students start losing focus, and we can see a spike in the red line showing that more students tend to lose focus as the classes progress forward, with the last 15 minutes of class being the time when students are the least attentive.

The two main reasons on why the attention span deviates in the class has to do with the class sizes and the material that is being discussed in the classroom. As seen in figure 6, all the students find a class size between 1 to 40 desirable, with 90.3% students finding a class size between 1 to 20 desirable. In the context of NU-Q, most classes have between 1 to 20 students, since it is a small campus. However, mandatory classes, often in freshman year, cross the 40 student mark, which is where most students start to lose focus. Classes with 60 and higher students turn out to be the class where students are least focused, as 51.5% students said they lose their focus in classes with 60 or more students.

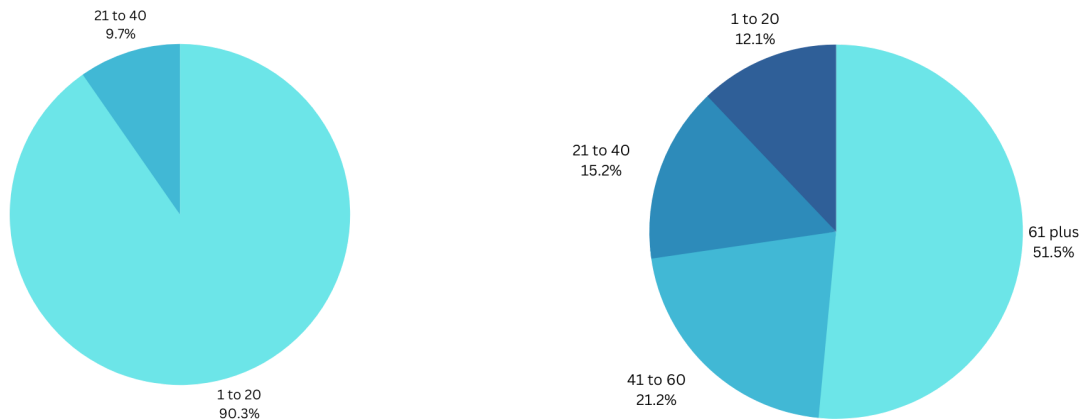


Fig 6: Easy to focus class sizes (left) & easiest to lose focus class sizes (right)

The content of discussion also seems to have a significant impact on a student's focus span. The data portrays that theory based classes, with more lectures, and liberal arts classes are

the classes where students are least focused. According to figure 7, 36 students said they are the least focused during Liberal Arts classes. The data was backed by the interviews, when only 5% of the respondents said that they prefer theoretical classes.

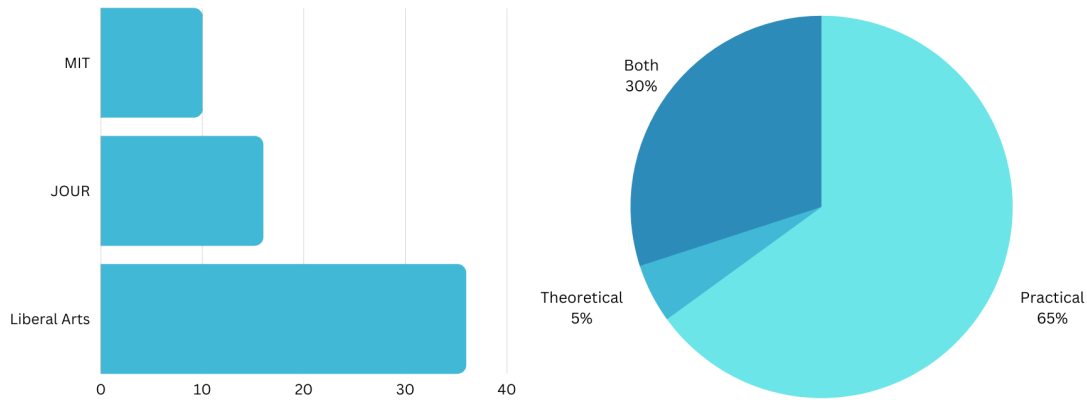


Fig 7: Easy to lose focus classes(left) & preferred method of teaching (right)

Alongside the class type, students also heavily emphasized the importance of teaching methods and class content. 75.8% of the survey respondents agreed that they are more focused in classes where they found the subject matter interesting, and 10% respondents said that they can not focus in a class at all if the subject matter is not of interest to them. In the interview, as demonstrated in fig 8, every student pointed out that they are more attentive in classes if the professor is funny. Aside from humor, 15 students said that they prefer classes if there is constant discussion rather than monotonous lectures, and 14 students said they prefer professors who are passionate about the subject they're teaching. A senior interviewee added, "Over my years, I have seen that passionate professors have the best classes. They bring a great positive energy to the class, which makes the class more enjoyable and engaging."

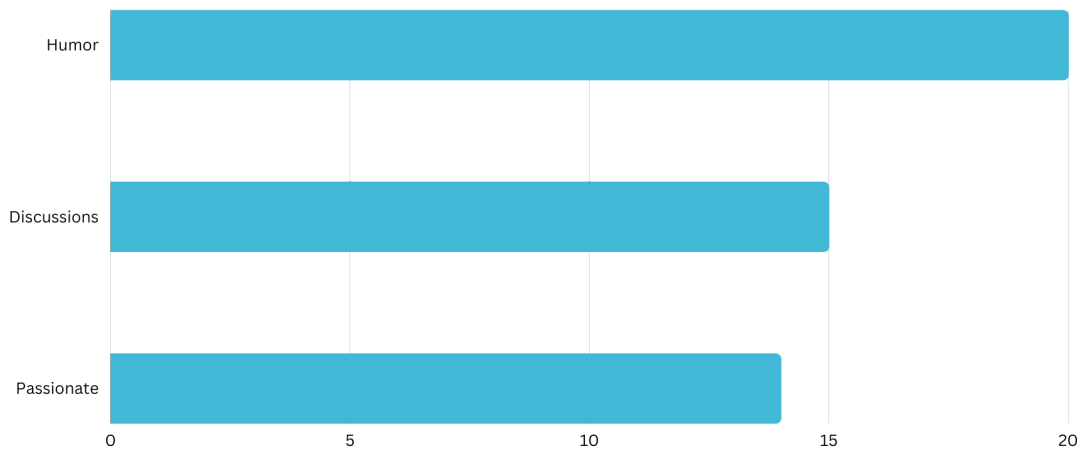


Fig 8: Qualities students prefer in professor

Technology is a crucial part of the learning process in NU-Q. Every survey respondent and interviewee used either laptop or tablets in their classes. When proposing the question on what impact it has on their attention span, 15% responded that it actually helps them focus more in the class, 40% said that they find it neither helpful nor distracting, and 45% respondents said that having technology was distracting to them.

Among the students who found the presence of laptops helpful, their primary reasoning was that it allows them to take notes and engages them more in the class. The students who were neutral had a belief that the use of technology is controllable and that they could control to not use their devices for non-class related purposes. However, the observation studies showed that otherwise. During the observation study, it was noted that students were always on the laptop even when there was no need for using a laptop in the class like when there were presentations. Students also frequently used laptops to perform activities that were not related to class at all. So, it can be deduced that most of the students, while they believe that they can limit their use, are

failing to do so. Further literature review also showed that external factors like use of social media also reduces the production level of students in the classroom.

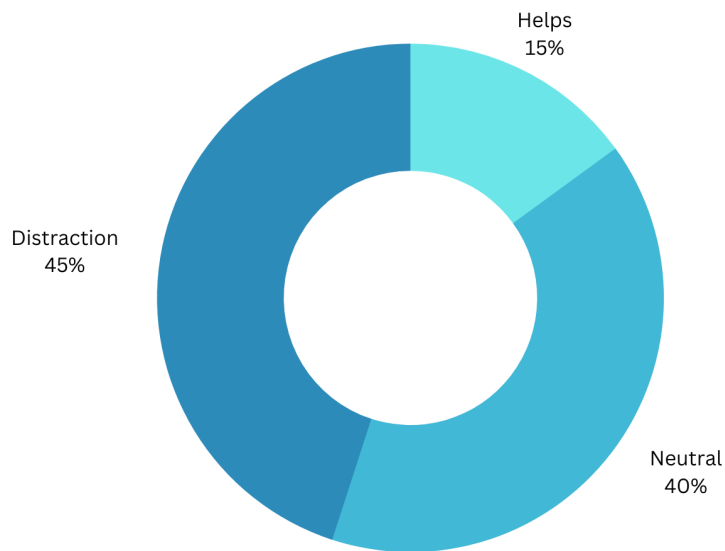


Fig 9: Students view towards use of technology in class

The broader scope of the research was to figure out how the experience of students was in the university and how it translated inside the classroom. Of the survey respondents, as seen in figure 10, 30 students said their learning experience in NU-Q is unpleasant and 12 students said their experience is extremely unpleasant. Only 9 students had an overall positive experience, and 11 students are neutral about their learning experience on campus.

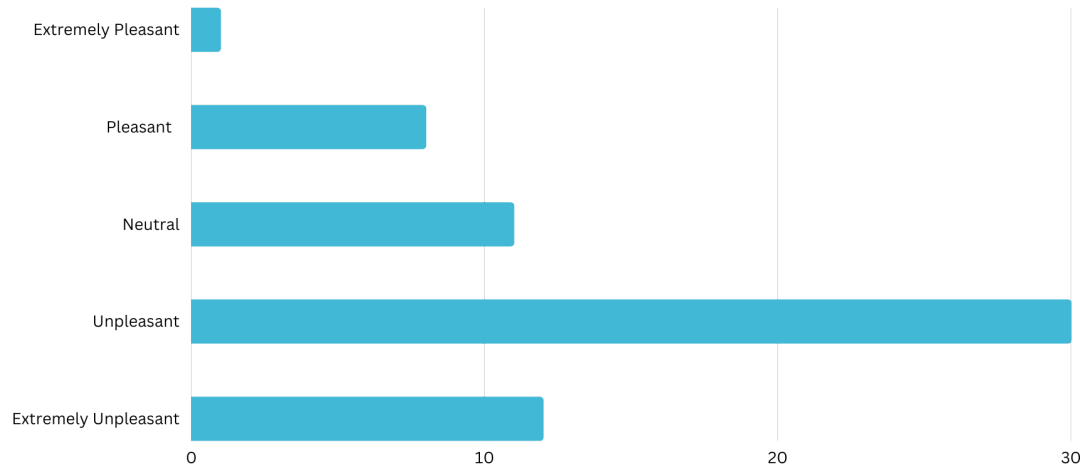


Fig 10: Students' learning experience in NU-Q

When looking into external factors that make the learning experience unpleasant, the research demonstrated that students who had a positive view towards university had a better experience in their classes compared to students who had a negative experience in the university. These views, however, were not formed from initial biases of students, but rather manufactured because of the policies in the university that impacted student life. There was a clear contrast between local students and international students when it came to their view of the university. As seen in figure 11, 20% of local students said that they had a positive experience on campus and 80% said they were neutral. However, 100% international students said that they had a negative experience at the university.

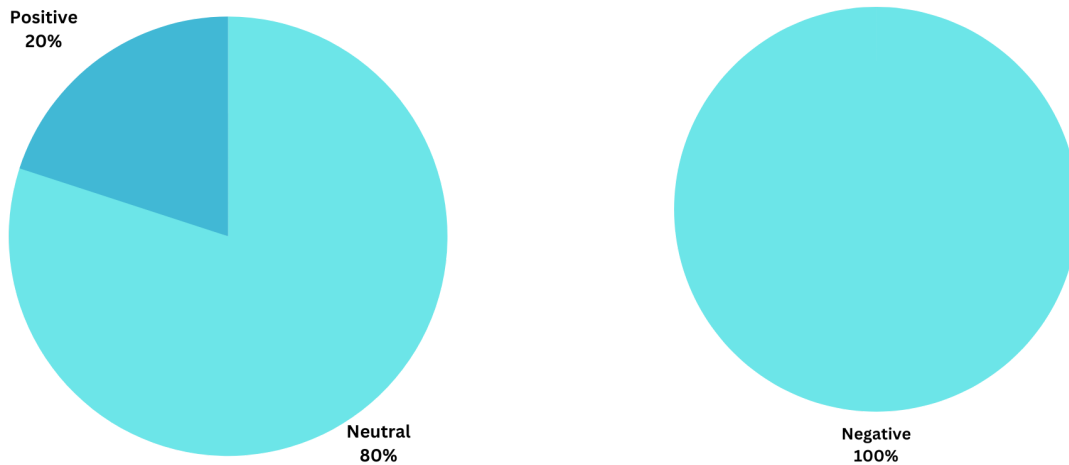


Fig 11: Local students view towards university (left) & International students view of university (right)

The perception of university seems to have a direct impact on the classes because 100% of the local students said that external policies normally do not impact their classroom performance. In contrast every international student said that their classroom performance is impacted by external factors. A junior from Qatar said, “It should be harder for international students to like the university because the policy changes, specially financial ones, make it difficult for them to afford basic necessities. However, since I have my parents to care for me, I am not as bothered by the constant policy changes.” The financial policies bothered 100% of international students.

The policies that bother the students are administrative decisions and there seems to be a huge communication gap between the administration and the student body. 80% of interviews said that they disliked the administration. An international sophomore told us, “I feel unheard and alienated. The administration makes policy changes that impact my well being in a negative manner, and I have no channel to communicate my frustration.” The inability to communicate

effectively bothers a lot of international students as 40% of interviewees said they have applied for transfer universities and do not want to return back to NU-Q.

Another external administrative factor that seems to create problems due to communication gaps are the mandatory classes. Every student who took part in the interview said that they do not know why they are taking the classes, and 80% of students said that they dislike mandatory classes because it stops them from taking their preferred classes, as seen in figure 12.



Fig 12: Students view on mandatory classes

5 Analysis

Attention is a major component of learning. It has been suggested that attention aids the learning process because attending to lessons has a huge impact on students' immediate response (Kruschke, 2000). Attention, as defined in the cognitive literature, refers to the idea that students have a finite amount of cognitive resources available at any given moment to devote to a particular stimuli from their sensory environment. To that end, students' attention is constantly shuttling between what they are experiencing externally and internally (Hakala, 2015). Selective attention is said to be the most significant aspect in learning because it helps students to focus only on what is important (Kruschke, 2000). However, students may be faced with many distractions that prevent them from learning effectively, such as class size, timings, method of teaching, technology, and even external factors that impact their well being outside of class, which can translate into the classroom. As figure 4 demonstrates, the problem in NU-Q is evident with more than 75% of the students having problems focusing on the class.

Majority of the students preferred morning classes. The main reasoning behind the rationale, as per the interviewees, was that having a morning routine is better as it provides them with free evenings to perform activities of their choice. According to an interviewee, “ Early classes give me a reason to wake up in the morning, and since I am already up, I can structure my day in a productive manner.” Even beyond, evening times are when people often engage in social activities, especially in a country as hot as Qatar, it makes sense for most social acts to be scheduled during the end of day. Another interviewee puts it as, “My friends and family are almost always doing something during the evening. So, if I have evening classes, I get anxious and want to leave.” 40% of interviewees responded that NU-Q has limited evening classes and the campus gets empty after 4:00 PM. So, they don't prefer to be around campus after that time.

While a majority of students prefer morning classes, 30% of students prefer afternoon and evening classes. For the students the main reason for choosing later classes is that they all feel more productive during night time, and to keep with school work and sleep schedule, students preferred evening classes. Learning experience is just a part of education, factors like nutrition and sleep play a huge role in a student's productivity (Al'Omairi & Al Balushi, 2015). Of the students interviewed, all 20 of them agreed that they need a proper breakfast and adequate sleep if they want to focus properly during class. 30% of respondents said that they take power naps to make up for lost sleep, as seen in figure 13. Beyond, the mode of classes, theory or practical, also impacts the attention span of a student.

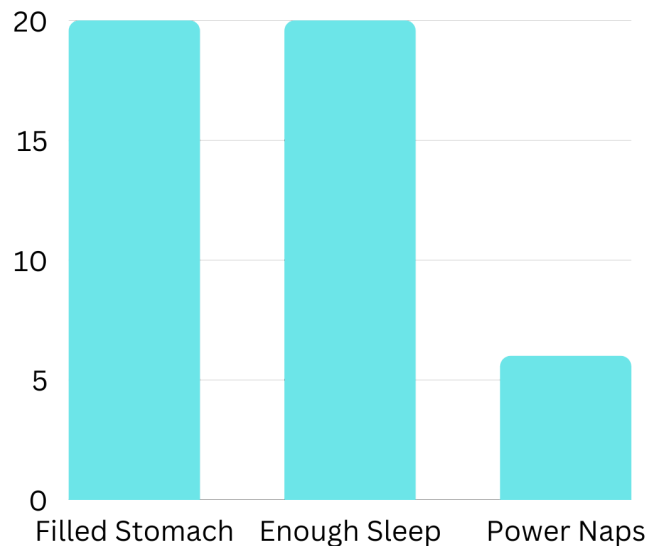


Fig 13: Factors necessary for proper attention

When a student gathers their attention on a particular stimulus, s/he realizes the purpose of learning easily, and the necessity to pay attention to is placed in the consciousness (Posner & Peterson, 1990). As such, it is crucial for students to find a purpose fit in their classroom, so they

don't deviate their mind during classes, which is why there is a distinction between practical and theoretical classes. The major reason why students choose practical classes as easier to focus is because they are engaging in new techniques every other minute, which constantly fills their mind with a sense of learning and growth. "Practical classes in NU-Q often expose you to technology you have no prior experience with. So, it is more engaging as I am always learning new techniques.", an interviewee said. However 30% of students did prefer a mix of practical and theoretical classes. As per a student, "A career is never just theory or practical. When I look into my future, I feel I need knowledge in all ends to expand my career options." The intentions were shared by all 30% of students who felt that a mix of both classes is important.

The subject matter being discussed in the class matters a lot too. According to Posner & Peterson, attention is a state of mental alertness and a focusing activity (1990). Thus, it becomes easier to choose and learn the information, if the mind does not engage in unnecessary details (Prakash, 2015), which is why students finding the content interesting is valuable. Survey demonstrated (fig 14), that 75.8% of students' attention span in class was directly related to the material being discussed in the class. Focus isn't always about brain regions or networks that are active, instead about mechanisms that are necessary to reproduce the essential functions and activity patterns in an attentive system, which mostly has to do with personal interests (Tsotsos, 2019). As such, students who find the content interesting will be attentive for prolonged periods.

It is crucial to yet realize that the subject matter isn't an absolute factor which solely creates interests in students. According to research of the Toronto psychologist Suzanne Hidi, educators can predictably develop interest in anyone about anything before and as we teach them (Braus, 2018). So, interest can be manufactured amongst students depending on the mannerisms of a professor and structure of a class. The data extracted from the interviews demonstrated that

the best way to manufacture attention span amongst students is using humor in class, making the classes more discussion based, and professors who are extremely passionate about their subject matter make up for more engaging classes (fig 8).

When talking about learning in a modern day, technology is a factor that can not be left out. Modern day learning is heavily transitioning into a technology-oriented learning experience, which is why every participant involved in the research said they used either their laptops or their tablets in the classroom. The research demonstrated that the use of technology has an overall negative impact on the learning process because of excessive use of technology during class. While 40% of students said that they are neutral towards the use of technology, when the number was compared to our observation study, there was a contrast. A majority of students used technology for non-class related purposes. One of the neutral interviewees said, “ I can use the technology for my benefit. So, in class, I use it for class purposes unless I really feel like checking something else.” But in reality, most students fall victim to misuse of technology in classes.

An external technological factor that translates into classroom learning is the use of social media. All of the participants in the research used social media on a daily basis. Social media has taken over our attention spans through quick and instant gratification, affecting our brains' ability to focus on anything else we feel is less interesting (Caloia, 2022). In classes that are structured 75 minutes long, it is hard to get instant gratification, and the attention span declines. Social media also prioritizes shorter content which in general hurts a person's ability to consume larger forms of information (Caloia, 2022).

The crucial part of technology in the classroom is to realize that active use of technology to disengage from the class is not something that students can control voluntarily. According to

Vrabie & Archive, attention depends on dopamine, which is produced by the brain in random bursts in a non-persistent manner (2013). So, since dopamine is not a constant hormone, students' attention will also be scattered in random time spans, unless they try extremely hard to maintain focus. Beyond, humans have been genetically programmed, through evolution, to multitask on a subconscious level. (Vrabie & Archive, 2013). So, the subconscious desire to perform multiple actions is genetically embedded in us. An interviewee said, "When the laptop is in front of me, I can't help myself but use it, and it happens every time." Of the 45% students who answered that technology is distracting, everyone had similar problems. All of the respondents said that they felt a sense of visual distraction with a laptop in front of them. So, even if students want to focus entirely on class, there are external factors which make it difficult to maintain focus throughout.

It is not necessarily a negative thing that students do not maintain a steady focus. According to Pillay, the brain operates optimally when it toggles between focus and unfocus, allowing you to develop resilience, enhance creativity, and make better decisions to (2017). Of the 15% students who said that technology is helpful, their primary reasoning was it provides them a channel to refresh their mind during classes. When students try to excessively focus, it exhausts their mind, and makes it harder for them to keep up with the class (Pillay, 2017). So, technology is a tricky component of the learning process as it has certain benefits, but students mostly use it for non-class related purposes making it a distraction. A major problem is that while most students believe they can control the use of technology, prior research and observation study demonstrate that the control students have in the manner is little to none.

In the case of NU-Q, technology isn't the only external factor that impacts students' learning experience. Administrative policy and quality of student life bothers a lot of students as 63% of survey respondents find their learning experience on campus either unpleasant or

extremely unpleasant. “University experience transcends beyond learning. So if your academic performance impacts your actions outside class, the vice versa is also true”, an interviewee noted. There seems to be a distinction between local and international students when it comes to their perception towards university, specifically due to financial and social circumstances. Since local students reside in Qatar, they have an active social life outside university boundaries and do not need to worry about basic necessities such as food, housing, and basic amenities. For international students, student events and university employment and stipends directly impact these basic factors, which is why administrative policies have a larger impact on them.

Of the local students interviewed, 80% said they were not bothered by external factors, but all international students said that external factors directly impacted their learning experience. 70% of students responded that the quality of student life decreases every semester. International students also responded that they often feel homesick and a 100% of international students said that the constant financial changes impact their mental well-being. An interviewee said, “When I am in class, I am always bothered by the changes and constantly think about it.” The scale of the issue is massive too. 40% of students are so bothered by the problem that they are considering not returning to campus at all. It is difficult to control the thoughts and behavior of individuals in situations where anxiety level is high (Gündoğdu, 2013). Such heightened levels of anxiety, in NU-Q’s case, is a result of administration not considering students well being before implementing policies.

The data from research demonstrates a huge communication gap between the administration and policy communication amongst students. The biggest concern international students demonstrated was that the administration is oblivious in regards to how the policy changes impact the students, which in turn makes them feel alienated. As such students feel

heightened levels of anxiety because of the feeling of being left out. Even in terms of mandatory classes, the majority of students are unsure as to why they are expected to take those classes. The gap between administration and students in NU-Q is a significant one and it is negatively affecting the educational pursuits of students. However, the administration has not established an effective mode of communication for students to directly vocalize their concerns to concerned bodies, which has worsened the quality of student life and students' overall experience in the university. As such, 70% of the students believe that the school is degrading in terms of quality every semester and the stress that comes from the miscommunication is directly making it hard for students to focus on their classes and academic work.

6 Limitations

The biggest limitation we faced during our research was the limited number of literature because of the unique nature of the research. Since the scope of the research was limited to only one school in the Middle Eastern region, we couldn't find prior research relevant to the geographical setting of our paper. Balancing the ethnographic composition in both survey and interview to properly represent the student body of composition of the campus was also a tough task. Since a huge number of juniors from campus are doing Journalism Residency outside of Qatar, we had to do interviews online and personally ask them to fill surveys as it was hard to reach them spontaneously.

7 Conclusion

In conclusion, this research aimed to investigate the attention span pattern and overall learning experience of students at NU-Q. Through an extensive process of interviewing, surveying, observing students in the classroom, and reviewing literature that already existed, several relevant findings emerged. The first one was that when disregarding mandatory classes, students tend to prefer 8:30 A.M. classes over those later in the day. Secondly, students' focus on a lecture is heavily dependent on external factors, such as if they had breakfast or got enough sleep. Thirdly, the most shocking number was that students are more likely to focus on a lecture in the first 30 minutes of class but are the least focused on the last 30 minutes. Lastly, surprisingly the research showed that generally speaking, students have a neutral or positive attitude towards technology in the classroom, saying that it is good for taking notes and returning their attention to the lecture.

These findings contribute to the existing knowledge on the topic by diving deeper into the topic while exploring Northwestern University in Qatar's community and its need. Given the results, it also highlights the need for a more accommodating administration at the university. Since students' attention spans are constantly getting shorter, factors that help students engage in a lecture must be taken into consideration. The university must help professors understand the needs of their students by helping them develop classes that englobe what students at NU-Q said to be a must: humor and discussions. However, it is important to acknowledge some limitations of this research, such as our inability to include faculty and administration in our study.

The findings of this research, if applied in NU-Q, could have significant implications for students by optimizing their learning experiences, therefore resulting in an even better

educational experience. The research results suggested that smaller class sizes and more practical lectures will result in an optimal learning outcome, with students actively engaging with their learning and feeling closely connected to the professors. Additional research could help further understand how to make mandatory classes that have to be lecture-based more interesting for students and thus more meaningful to their learning.

In conclusion, this research underscores the importance of modern education to meet the needs of contemporary students. Further research on this topic, with the support of the university and implementation of classes following these suggestions can contribute to the development of the research topic, producing evidence to support students' claims. With the growing exposure of students to social media and other technologies, professors find themselves in an unfair dispute for students' attention, so the institution must support professors in adapting their teaching methods to suit students of the XXI century.

8 Recommendations

1. The university should aim to have more morning classes as a majority of the students prefer them. Classes beyond 5:30 can be removed as minimum students showed interest in the classes.
2. Class sizes for mandatory classes are above 60 students, and these classes are an important reference point for freshmen to decide on their future. As such, the class sizes need to be decreased by increasing the number of faculty because students are least attentive in larger class sizes.
3. Professors should include questions every fifteen minutes to provide students with a sense of instant gratification so they can stay more engaged during the lectures.
4. Professors should use humor as a tool more frequently to ensure that they don't lose their students.
5. Use of technology can be both beneficial and harmful. Teachers should not be so strict that the students can not refresh themselves, but should be strict enough so students get completely lost in technology.
6. The administration needs to close the gap between students so students can feel more heard and represented. Students should be able to directly communicate with members of the administrative body.
7. There needs to be more efforts to create better student efforts and policies need to be communicated in a better manner so the students do not feel alienated. Considering changes with NU-Q Student Government before implementing policies can be a better start.

8. Students should be told about the value of mandatory classes during orientation. So, they do not feel lost and frustrated while taking mandatory classes.

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Appendix A

Survey Questionnaire

Age:

- Under 18
- 18 to 20
- 21 to 23
- 24 to 26
- 27 and above

Gender:

- Male
- Female
- Non-Binary
- Prefer not to say

Nationality:

- Qatari citizen
- Qatari resident
- International student

Class:

- Class of 23
- Class of 24
- Class of 25

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- Class of 26

Major:

- Journalism
- Communications

How many classes are you taking this semester?

- 1
- 2
- 3
- 4
- 5 and above

Do you have any neurodivergent conditions like ADHD, which may impact your attention in the classroom?

- Yes
- No

What time are your classes?

- 8:30
- 10:00
- 11:30
- 2:30
- 4:00
- 5:30

Do you usually lose focus during a class?

- Yes
- No

What timings of classes are you most focused during?

- Morning (8:30 and 10:00 AM classes)
- Mid-day (11:30 AM classes)
- Afternoon (2:30 and 4:00 PM classes)
- Evening (5:30 PM classes)

What timings of classes are you least focused during?

- Morning (8:30 and 10:00 AM classes)
- Mid-day (11:30 AM classes)
- Afternoon (2:30 and 4:00 PM classes)
- Evening (5:30 PM classes)

What kind of classes do you feel is the easiest to lose focus on?

- MIT classes
- Journalism classes
- Liberal Arts

What kind of classes are you more focused during?

- Theory based classes and lectures
- Production based and practical classes
- Both

What class size helps you focus the most?

- 1 to 20 students

- 21 to 40 students
- 41 to 60 students
- 61 students and above

What class size will make you the least focused?

- 1 to 20 students
- 21 to 40 students
- 41 to 60 students
- 61 students and above

What point of classes are you the most focused during?

- First 15 minutes
- 15 to 30 mins
- 31 to 45 mins
- 46 to 60 mins
- Last 15 mins

What point of classes are you the least focused during?

- First 15 minutes
- 15 to 30 mins
- 31 to 45 mins
- 46 to 60 mins
- Last 15 mins

Do you think 75 minutes is long for a class time?

- It is fine for an undergrad class

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- It is too long for an undergrad class
- It is too short for an undergrad class

Does the subject matter being discussed in the class impact your attention span?

- Yes, I am more focused if I am interested in the class matter
- No, I am focused in class irrespective of the class matter
- I find it hard to focus in a class irrespective of the class matter

How would you rate your learning experience in NUQ so far on a scale of 1 to 5?

Extremely Pleasant 1 2 3 4 5 Extremely Unpleasant

If you would want to further support the research by providing an interview, please provide your email or WhatsApp.

Appendix B

Interview Questions

1. At what point of the day do you focus more during lectures?
 - a. Why do you think that is?
 - b. Do you have a morning routine that you have to do, that you can't do which might hurt your day?
 - c. Do you think a filled stomach and breakfast or proper lunch impact your attention span on campus?
2. What point of class are you most focused on?
 - a. Why is that point easy to focus on?
 - b. At What point do you usually start losing focus?
 - c. Why do you lose focus at those points?
 - d. How would you explain your attention span throughout the whole class?
3. Do you think technology like laptops, helps or hinders your attention in class? How does it distract or help you focus in class?
4. When are you more focused, theoretical or practical, and why?
 - a. Do you think there are enough classes for you to only take classes of your preference?

- b. Do you think it is fair that if you're only interested in theoretical classes, you must take practical ones too?
 - c. Do you feel that taking classes that you're not interested in also impacts your experience in other classes? (Like you have to take a lecture class which is mandatory and it drains your energy and now you don't focus in the other classes)
5. What is your view of the campus?
- a. What shapes this positive or negative view? Administration, policies, or personal experience?
 - b. Do you think these views translate to class, if you're annoyed by a policy you tend to not stay focused on class, or if you're coming from an event you enjoy the class more?
6. Do you feel being a Qatari/international student impacts your learning experience on campus?
- a. What kind of things do you normally face as a.....?
 - b. How does it translate to the classroom?
 - c. Do you feel your opinions or viewpoints are unheard or misunderstood or undervalued in a classroom depending on your nationality?
 - d. If international, do you feel homesick?
 - e. Does feeling homesick impact your studies?

- f. Is there anything you feel the uni can do to help cope with these things?
 - g. Do you think there is a certain language barrier in your classrooms when it comes to understanding the material and engaging with your peers or professors?
7. What kind of lifestyle would you say you have as a student, party-driven, purely academic, athletic, etc?
- a. Do you think it hurts or compliments your classroom activities?
 - b. How do you manage your time properly to incorporate your lifestyle and academics?
8. What are your thoughts on mandatory classes in NU-Q?
- a. What does your attention span in these mandatory classes look like?
 - b. Would you take any of the mandatory classes if they were optional?
 - c. Do you feel the mandatory classes are important given your major and what you plan for the future?
9. Given your academic year, how do you see your experience in the classroom for the coming years? If you're a senior, what would you say your major hurdles in the classroom were in the past?
10. Anything else you would like to add.