

How Does Stuff Happen?

This is one of those basic, fundamental questions that we need to deal with in life.

Have you ever really thought about this?

I asked my 15 year old son this question and his answer was, “Stuff just happens.” I asked, “Does it really just all happen by itself?” So he paused for a moment and said, “Well, you have to make it happen.” I told him to take a day and think this through. Here’s what he came up with:

- 1) I can make stuff happen,
- 2) Someone else can make stuff happen,
- 3) People can get together to make stuff happen,
- 4) Sometimes nature or accidents happen and cause other stuff to happen.
and...
- 5) Shit just happens.

If you’re one of those people who believe in fate, “everything has a reason for happening”.

There’s this theory called “Cause and Effect”.

Once someone does something to put stuff into motion, it’s called “cause”. As these things happen there is an “effect” that takes place on other stuff and you either react to it and create another cause or you ignore it and things unfold. There can be good results, bad results, or in some cases, nothing can happen.

In most cases, there needs to be an initial idea that starts things off. This can be applied to pretty much anything that can take place in our lives. Let’s start off simple. You wake up in the morning and you’re lying in bed. You open your eyes and look to see what time it is. You now have a basic decision to make: do I get up out of bed right now, or wait _____ number of minutes.

Once you decide to get up you need to figure out what to do next. Biologically, your bladder may say, “Empty me”, in which case you need to walk to the bathroom and pee. From this point you can have a number of different options: get dressed, brush your teeth, hair, have a shower/bath, go into the TV room and watch something (lots more choices). You can decide to go into the kitchen and get some breakfast (lots more choices). What do you make yourself to eat? What is in the cupboard? What are you hungry for? What do you know how to make?

For some people, you are on a schedule because of work or school. You must get up by a certain time in order to allow yourself enough time to do everything you want to do. This means that you need to plan ahead and allow enough time for each event to take place.

Reflecting back now, most of this “stuff” you’ve been doing for quite a while now. What if you wanted to make yourself something for breakfast that you’ve never made before? You’re going to have to learn how to make it. This may require some research such as reading a book or perhaps watching a video on YouTube. You’ll basically need to educate yourself on how to do it. You might even do a practice run on a Saturday morning when you don’t have a specific schedule to stick to. You’ll need to get all the ingredients and tools together which may require shopping and more planning.

So that's just getting up and eating breakfast. The steps were pretty basic:

- 1) Make a decision to get up,
- 2) Decide on the sequence of events required (what stuff you want to/have to do,
- 3) Do them.

Some of the stuff may require:

- 1) an idea,
- 2) a plan,
- 3) education,
- 4) a list of ingredients & tools
- 5) getting the ingredients & tools together,
- 6) practice
- 7) do it.

So, how does all this apply to you a student in animation?

There are two ways things can get started:

- 1) You have an idea or,
- 2) Someone else has an idea. This can either be your teacher giving you an assignment, or an employer giving you a job.

Over the next few years of your education in animation, you're going to have a lot of stuff to do.

Animation, character design, layout, storyboarding, life drawing, acting, computer studies - learning new programs such as Photoshop, ToonBoom, Flash, Maya, 3DStudio Max, not to mention all the GenEd courses you'll also have to take to become a "well rounded" student. Atsa lotta stuff.

Now I know I talked about this before, but I want to expand on the subject of:

Scheduling Your Time

You only have so many hours in a day. There are some things that are mandatory and other things that are optional. Let's break them down:

mandatory Things or "stuff you have to do cause you really have no choice"

These are basically biological functions that have to do with your body.

- 1) You need to sleep,
- 2) You need to eat,
- 3) You need to pee and poo,
- oh yeah, and as dumb as it sounds: 4) You need to breathe.

These can all be postponed for a short period of time and then your body rebels and tells you, "do it or else". The "or else" part usually results in physical pain and/or unconsciousness. I really don't need to elaborate on any of the details here.

Personal hygiene is also another one of those biologically mandatory things that can be delayed pretty much indefinitely and your body won't necessarily rebel as fast as another human being in your close vicinity. Postpone it too long and no one will come near you and by that time you'll probably be some form of walking disease.

Now in order for most people to function as normal humans you will need some money to provide you with the necessary shelter and accommodations to do these mandatory things. This money will come from one or any combination of three sources:

- 1) You have a job,
- 2) Your parents or another family member is paying for you,
- 3) You have some form of scholarship, bursary, funding, savings, or inheritance.

You need money for:

- A) Tuition/Books/Fees,
- B) Rent/Utilities,
- C) Food,
- D) Miscellaneous spending money.

There are a total of 168 hours in a week (that's 7 days x 24 hours).

Most people sleep an average of 8 hours a night, that's 1/3 of your time or 56 hours. Don't forget, this is flexible, but the more you take away, the more it's going to hurt in the long-term. That leaves us with 112 hours.

Eating is a 3 times a day job and depending on how rich you are you can dine on anything from Kraft Dinner to steak & potatoes with some yummy vegetables tossed in. Cereal is probably the fastest food at about 5 minutes to make and consume all the way up to maybe 90 minutes to go all out on a really good dinner. So let's say in a day you might spend about 2 hours average on all 3 meals. That's 14 hours of eating. That leaves you with 98 hours.

Peeing and poeing is very individual. There are actually several websites out there devoted to the subject. I found www.poopreport.com to be the most thorough on the subject. While there is no consensus about the "average time" spent, I'll leave it up to you to fill in this blank of time. I will however, lump it in with the personal hygiene section which includes the poeing and peeing along with bathing/showering (again times will vary), teeth cleaning and oral hygiene, personal grooming - hair combing, nail clipping, nose blowing, deodorant application, etc.

A sub section here would have to include getting dressed in the morning as well.

Let's just say the average amount of time total spent on these areas is about 1 hour (give or take).

Shower/hairdry - 20 minutes
Oral hygiene - 10 minutes (morning & evening)
personal grooming - 15 minutes (morning & evening)
Bowels/bladder - 15 minutes

That's another 7 hours per week and leaves us with 91 hours. These are all the mandatory things that we have to do in order to survive 7 days a week. That 91 hours works out to 13 hours per day, leaving us with 11 hours to do the other "optional stuff".

School is stuff right? You're all going to be attending some animation program. That was your "option", but then once you were accepted into the program, showing up suddenly became "mandatory" if you want to pass all the individual courses. Along with showing up, you also have to complete

assignments and be graded to show whether or not you actually learned anything. All courses have what are called “Learning Outcomes”. These are the things that you must be able to demonstrate through your assignments that you are competent enough to do what you’ve been taught. Some of these Learning Outcomes are very general, such as: “able to work well in group situations” or “able to think independently”. Other Learning Outcomes are very specific to the course you are learning such as: “able to show the principle of squash and stretch”, or “able to depict appropriate timing for specific actions through their animation drawings”, or “demonstrates the proper use of perspective in their drawings”.

And so, school stuff now becomes a part of the mandatory category

If you’re in an average Animation program at a college or university, the total hours per week of classes is probably around 22, and you must factor in as a minimum the exact same number of hours for out of class work, so that’s 44 hours a week, leaving us now with 47 hours.

Again, this is flexible depending on your own personal ability in any given area. Later when I start breaking down individual drawings, I will use myself as the “speedometer”.

If you live in residence or have an apartment near the campus, your commute time is minimal. For those of you living at home, it could be a lot of time spent in transit. I’ve heard some students spending 2 hours one-way by bus to school. Let’s take it at half that time for an average: 2 hours per day, that’s 10 hours per week and now leaves us with 37 hours.

$37 \div 7$ is about 5 hrs and 15 min per day left over which seems like a lot huh? Don’t forget, I averaged it out over 7 days. Most people don’t have classes on the weekends so the real breakdown is really like this: Monday - Friday: 21 hrs 50 min per day spent doing stuff with 2 hrs 10 min of free time, Saturday and Sunday: 11 hrs per day spent doing stuff and 13 hrs of free time.

I’m not counting in the unfortunate students who need to have a part time job usually on the weekends in order to survive with money for day-to-day.

It’s amazing how this stuff can occupy our time isn’t it?

O.k. now, let’s get really specific here and talk about the school stuff.

I’ll assume that most of you are taking a program that involves drawing. Since this is what I am specifically teaching, I’ll focus on that: Layout/Production Art (at Humber College) and Animation (at Seneca College).

Two different courses but both requiring drawing. I’ll focus on each one individually.

Layout/Production Art

This course involves perspective drawing of environments and props used in an animated cartoon production. Part of the process requires a certain amount of time to research and think about what the assignment is going to look like before beginning the actual process of drawing. There are usually 3 phases to the actual drawing process:

- 1) the rough thumbnail sketch,
- 2) the rough drawing at full size, and
- 3) the final clean-up drawing.

Whenever I give out an assignment I always do it myself ahead of time to get a sense of how long it might take. Of course I've been doing this stuff professionally for over 30 years now so I've pretty much got it down to... not a "formula", so much as I know what I can do and how to do it efficiently and professionally. I'll get into this later as well.

I also like to do the assignments along with the students as they do them. I usually will do an initial demo along with my lecture on the topic that we'll be dealing with and then throughout the week, work on it on my own at home or sometimes during the classes that we have, if time permits. This way I can kind of pace the students and also show them what I'm capable of doing so they don't just think I'm "all talk and no action".

Now, I'd like to think that I'm pretty fast at drawing, and most students will say that when they see me drawing in class, but I'm not really. What I am is "efficient in the time that I use when I draw". I don't waste time between my lines. Let me explain this.

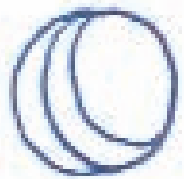
Every drawing you will ever do will be made up from a series of lines that you draw with a pencil. Each and every line, when placed in it's proper position in relationship to all the other lines will create a visual illusion that to the viewer will represent something that they can easily identify from their own memories and mental visualization.



I can use a single line and use my pencil to draw a circle on paper and someone looking at it will immediately say, "That's a circle".



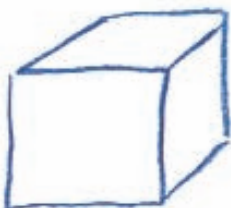
If I add maybe two or three lines to the inside of the circle, the person might then say, "It's a ball". The way I place those two lines inside the circle can cause the person to say either, "It's a beach ball" or



"It's a rubber ball".



I can draw 4 straight lines and someone would say, "A square".



By adding another 5 lines I can make them say, "It's a box".

The length of the lines can also determine size and proportion and even depth on a flat paper surface. It's quite amazing what you can do with a collection of well placed lines. Conversely though, misplaced lines can create optical illusions that are confusing and in some cases misunderstood. The resulting comments could also be, "Uhhh... I don't really know what that is."



A very primary set of 3 lines can be used to draw an image, or more appropriately an "icon" that represents a chair. But it will tell us very little about the size, age, style, or condition of the chair. That would require quite a few additional lines to show volume, structure, and line quality.

This now brings us to the topic of:

Pencil Mileage

This is all about the length of the lines and how long it takes to draw them, both individually as well as all together to complete the final image. In both Layout and Animation there are three basic steps to getting the job done: thinking, rough drawing and clean-up. Thinking requires no actual drawing although thumbnailing could be lumped into this portion. Sometimes I'll do a thumbnail and other times I won't it all depends on how clearly I can see the image or action in my mind. I find the more I think about the project, the less time I need to spend drawing. There's less trial and error involved.

The physical process of drawing involves placing your pencil onto the paper and then moving your hand and fingers in a way that creates the appropriate line. I know this is overly obvious but some people do draw differently depending on what it is they're drawing. Some people will "sketch" by moving their hand back and forth several times to loosely place the lines down. You're sort of "zeroing in" on the placement of the line. It takes 4 or 5 lines placed quite closely together before the proper placement is decided on.

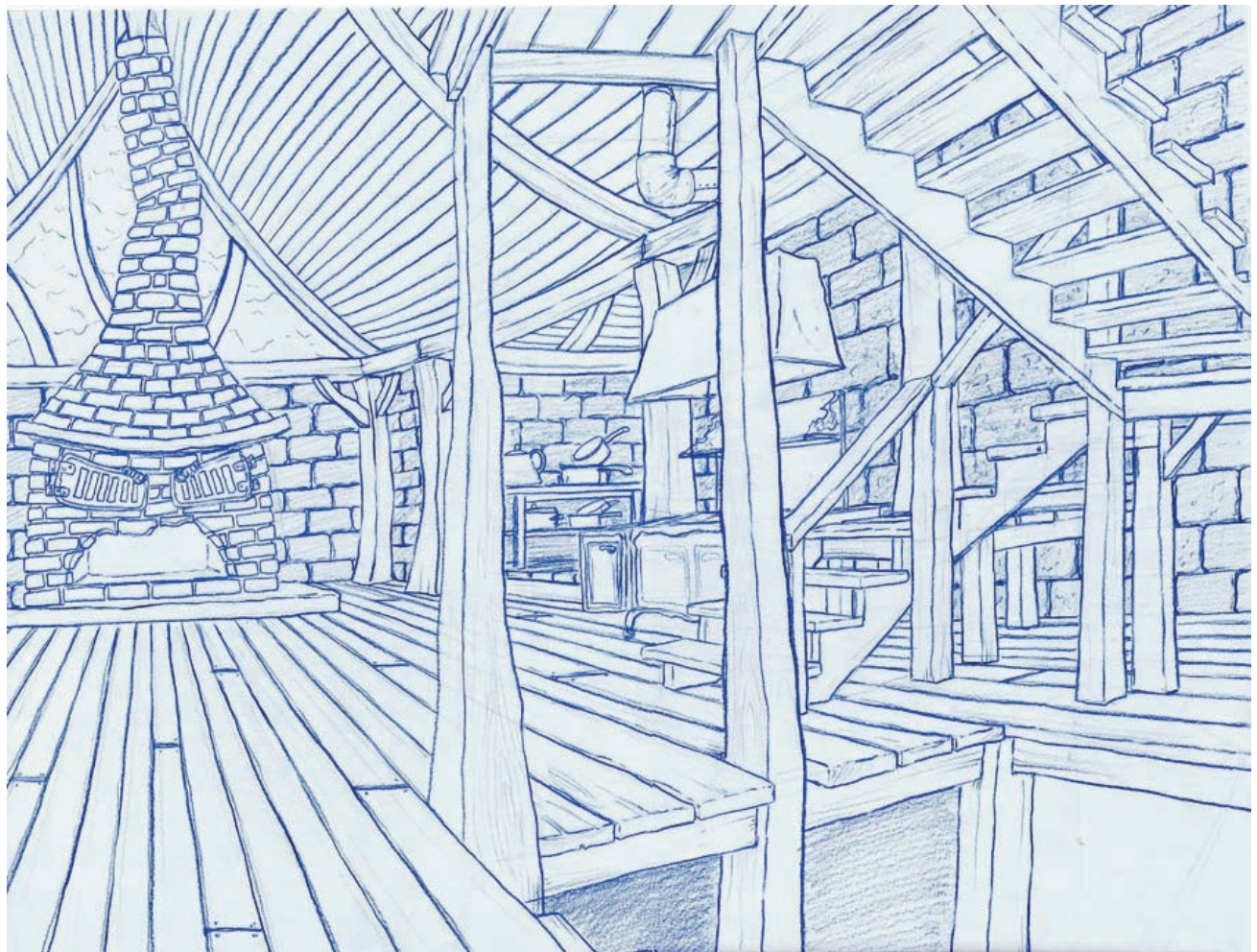
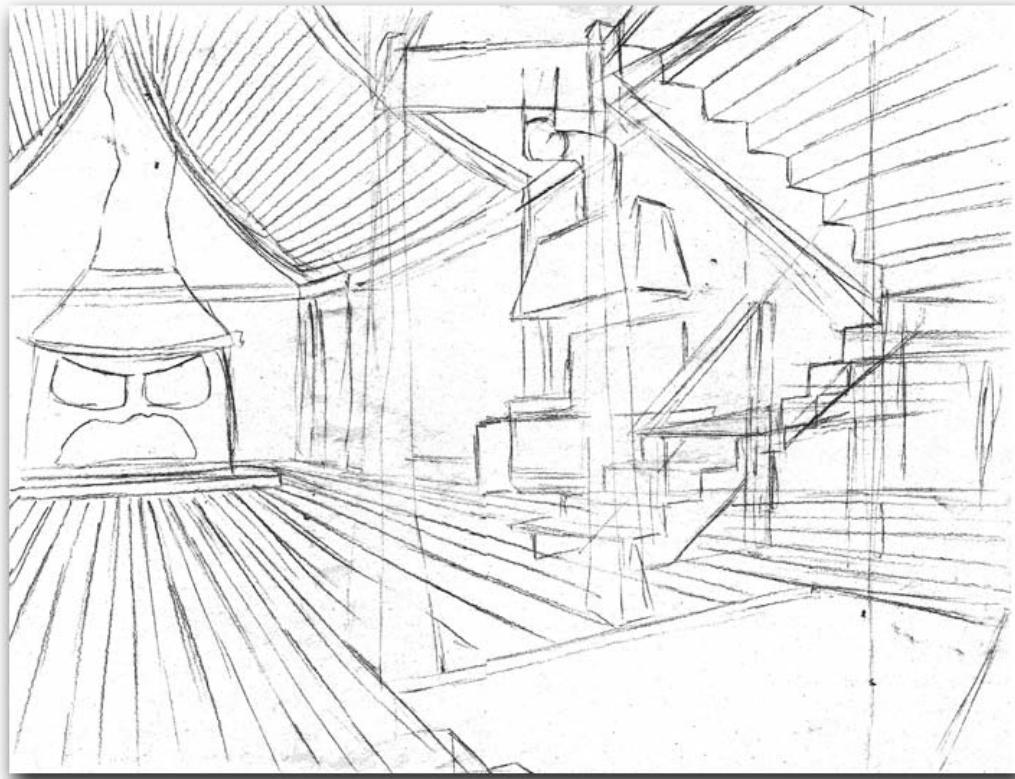
Some people will draw the basic structure first. A circle for a head shape and then the center line and eye line. The lines that define the head shape down to the neck, then the jawline.

If it's perspective drawing, I might block out the basic shapes of the room and the various objects inside it, using a horizon line and vanishing points.

These roughs are the preliminary drawings based on the idea that we have in our heads. In some cases, the rough drawing may need to be revised one or two more times, depending on how well you execute the drawing. This could take anywhere from 5 to 15 minutes or more, depending on how detailed the image needs to be.

The clean-up process requires considerable more time as the lines need to be very precise and obviously there are a lot more required to finalize the image.

For me, a 12 fld layout will take, on average, about 2 - 3 hours to complete from beginning to end. This process is without any major breaks and very little pause time between each of the lines. As I draw, I'm constantly thinking about each and every line that I put down. Why is it in this position? Would it be better over here or over there? Is it saying what I want it to say? Generally speaking, I'm probably twice as fast as most students in this area. If it takes me 2 - 3 hours, it'll take a student 4 - 6 hours. I'm convinced most of this is because of extended breaks during the process. I usually just put my head down and draw with the odd short little stretch break here and there when my muscles start complaining.



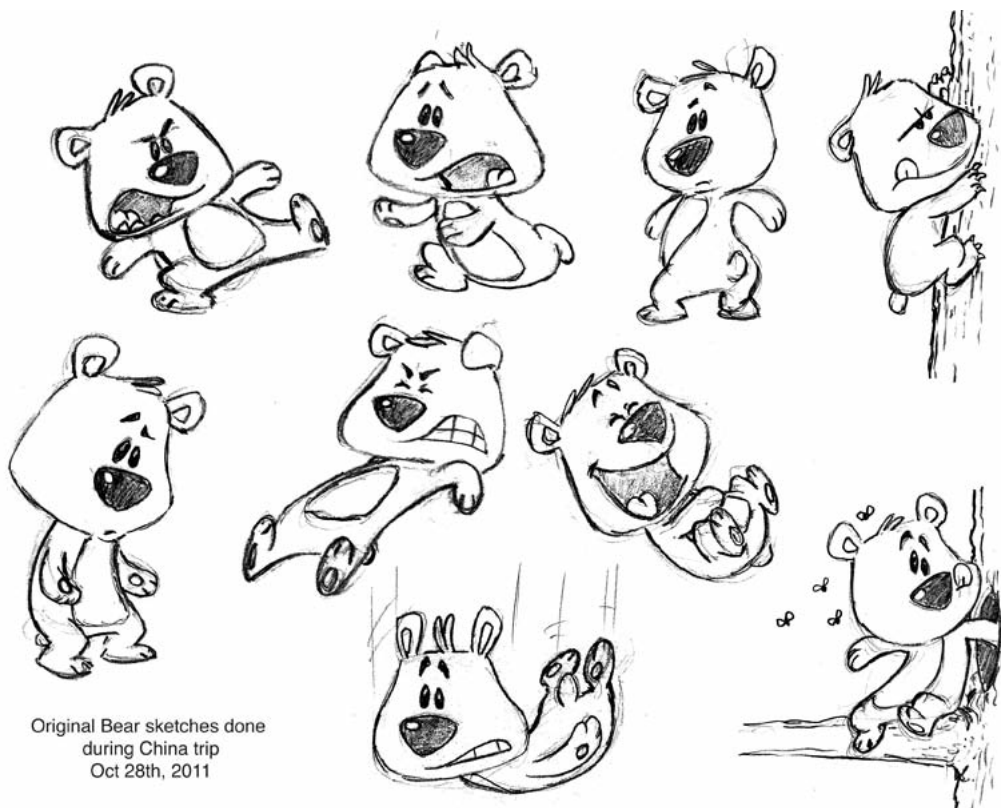
Animation

This course involves drawings of characters moving and acting. Usually depicting some specific action that helps to tell a story about who the character is, what they are doing, and why they are doing it. Sometimes it also has an emotional context to it. In the course I am teaching, we do not incorporate sound or voices into the animation. There are usually 5 phases that an animator will go through in completing their assignment, depending on how complex the action is:

- 1) thought processing, thinking the action through and acting it out,
- 2) thumbnailing,
- 3) rough animation,
- 4) breakdowns & clean-up, and
- 5) inbetweening

Animation is quite a bit different from layout in that there are a lot of drawings involved in any given project. One of the simplest and usually the very first project given in most animation schools will be the bouncing ball assignment. This assignment is made up of about 11 or 12 drawings of a circle, which on certain drawings will distort into an oval shape. The time it takes to draw a circle is roughly 10 seconds, so 11 drawings will take about 2 minutes to draw. This doesn't count the other things involved in animating such as flipping, pencil sharpening, grabbing paper and numbering the sheets and the odd timing chart. The last time I did the assignment from start to finish it took me 10 minutes total.

If we fast forward through the 1st year assignments to the Walk Cycle which involves the entire body of the character, I once did a series of lectures for some students in China at the University of Heibei and in one of them I animated a small bear character walking. From beginning to end with me getting up and acting it out and pauses for translations, I completed all 16 drawings in 1 hour and 20 minutes. That worked out to 5 minutes per drawing. Here's what the drawings looked like.



Original Bear sketches done
during China trip
Oct 28th, 2011



The more complex the character, or the more lines they need to make up the drawing, the longer it will take. The cleaner the lines are will also dictate the overall length of time to complete them.

It took me 15 minutes to clean with a nice line. I've had other animation drawings where the individual clean up would take me 45 minutes each.

Inbetweening usually takes longer because of the flipping action that needs to take place after each line is drawn to be sure that it is moving properly and is correctly spaced

As you begin each project, you'll need to figure out how many drawings will be required to complete it properly. Sometimes the instructor will say, "This is a 16 drawing walk cycle assignment." and you'll have to do 16 drawings total. If each drawing takes you 20 minutes to complete, it will take you 5 hours and 20 minutes to complete with no breaks. If each drawing takes you 7 minutes to complete, it will take you 1 hour and 52 minutes to complete. Get the equation? How many drawings times how long each one takes. Once you have completed one or two drawings you should have a sense as to how long it will take you overall. Actually time yourself. Then be aware of how long each subsequent drawing is taking. If you take breaks between each drawing, time that as well and factor it into the overall schedule. If you set a goal of doing 2 or 3 drawings before taking a 5 minute stretch break, make a note of how long that takes.

Eventually you will have an idea of what your personal timing is for drawing stuff. How long does it take you to rough out a key pose? How long does it take you to rough animate a second of action? (That's 24 frames, shot on twos, would be 12 drawings inbetweened, which might be 2 -3 key poses).

How long would it then take you to rough key 5 seconds? 10 seconds?

Now you can begin working out schedules and blocking off time periods during your day so that you can devote your full attention to getting the job done as efficiently as possible.

If each drawing takes an average of 10 minutes to complete, a 10 second piece of animation will take how long?

10 seconds = 240 frames. That's 120 drawings shot on twos times 10 minutes each = 1200 minutes or 20 hours.

You can't sit in a chair for 20 hours of non-stop drawing... it's just not physically or psychologically possible. Given all the mandatory things that must take place in our everyday lives, we need to have blocks of time to get these drawings done properly.

The above example is something I might use for a "heavy object lift" assignment. The overall action usually takes about 10 seconds total to complete. I'd give the students 2 weeks to do it. The first week would be drawing all the key poses and all the breakdown inbetweens, about 40 drawings total, give or take 5. That means they'd have about 6 hours and 40 minutes of drawing to complete within the first week and then do the remaining 80 inbetweens through the 2nd week (another 13 hours 20 minutes). Don't forget, that's just solid drawing time with no breaks factored in.

Based on our earlier equation of stuff that we do throughout the week, we have 2 hours and 10 minutes each day from Monday to Friday and then 13 hours each day on Saturday and Sunday. That's 34 hours per week.... hah! that's tons of time... no problem!

Oh yeah, I forgot to mention that you also have other courses that also have homework to be done.

Here's where you need to get serious about scheduling your time.

Use your in-class time to work on your assignments! Your class time is not a "social club". Yeah, there are a bunch of other "like-minded" people just like you who love animation/manga/anime/whatever, but class time is for three purposes:

- 1) to get information from your instructor about what you have to do. This is usually the lecture time,
- 2) to interact with the instructor and get feedback about your work and what you need to do to make it better,
- 3) to actually sit at your desk and do the work!!!!

If you have a 3 1/2 hour class period, use all the time you have to get these three things done.

A lecture may be anywhere from 15 minutes to an hour and a half long. interactive one-on-one time with an instructor is on average about 10 minutes. That leaves you with 1 hour and 50 minutes to be working on your assignment. You could get about 9 or 10 drawings done, maybe even more. Don't stand around talking or watching YouTube or reading your e-mail. Get to work.

If it is the night before the assignment is due, let's say 6 PM and the assignment is due the next day at 10 AM, you have 16 hours left. If you have 100 drawings left to do, math is not on your side. You'll either have to draw faster and compromise the quality of the drawings or be sloppy in your inbetweening accuracy which will effect the movement, or you will have to leave out drawings and the assignment becomes jerky and incomplete.

Oh, how many times have I seen this happen? All the time. It never ends. If I have a class of 10 students, 1 will do the complete assignment and have all the drawings done. It may not be the best animation I've ever seen, but it's all there.

3 will be close, maybe missing only 10% of their drawings

3 will be missing maybe 40%.

2 will be missing more than 50% of the drawings and 1 person just won't hand anything in at all.

These are staggering numbers that I've just stated, but unfortunately, they are generally true!

The second semester always starts off good, with everyone showing up for the lectures and class periods, then around week 4, the numbers start dropping off. Right after "Break Week" (week 7) about 1/2 of the students show up once in a while. Around week 10 it's down to the faithful core of maybe 6 - 8 students out of 22 that show up to class at all. Most of these are late and they tend to leave class early after I've spoken with them individually. Then, miraculously at week 12, they all start showing up again, asking, "What do I need to do to get a passing grade??" Ha ha. Yes it's all too true.

I've started a collection of frantic e-mails from students begging for extensions or extra assignments to somehow get them a pass because they, "can't afford to fail my course." Forget about the fact that they only handed in 3 out of 6 assignments and of the 3 that they handed in, they only passed one, and their attendance is only 5 classes out of 14. "Please, is there anything that I can do, sir!!!" they beg me.

"Yes" I rely back to them, "you could have come to me after you failed your two assignments and I would have given you a make-up then, but you stopped showing up to class. I thought you had dropped out."

"I've been sick. I have a doctor's note" (which you can ask any physician for and it'll only cost you \$20.00. I know this because my Wife is a doctor).

Does it sound like I'm making this stuff up???

I wish I could. Some of it is just too insane to fabricate.

26 years I've been teaching for now and every year it's the same thing. I'm caught in a time loop. The same things happen over and over again. The faces change but the excuses are all the same.

I tell my students that I've been to the future and I know what's going to happen to them. I've even made a steam punk time machine and started acted out a time travel skit for them at the beginning of each semester to illustrate my point. It doesn't actually alter what happens, I just have a lot of fun doing it... (how low have I sunk??).

Will any of what I have written here have any effect on any of you? I don't really know. Maybe this is all just cathartic writing for me. I hope you'll listen and heed my words. It's not too late for you to change your futures. Please, please..... don't let this happen to you... I beg of you!

Sob.