Chapter 1

This report is composed of following the tracks of carrier educational activities that are called "NAKAHARA Animation" through professional animation production that Mitaka Municipal Nakahara Elementary School implemented in FY 2015. Learning achievements of NAKAHARA Animation were collected with multiple methods of evaluation and analysis making the best use of learning records known as "an externalizing card" that the students who participated in these activities wrote down. This chapter will introduce information on the basic outline of NAKAHARA Animation that Nakahara Elementary School implemented in FY 2015.

◇ Background

In the background of NAKAHARA Animation activities that have been implemented for 11 years including this fiscal year, Nakahara Elementary School joined in "Carrier Educational Project that makes the best use of regional autonomy and private companies" promoted by Ministry of Economy, Trade and Industry, Japan in FY 2005 and it became a turning point to start these activities.

Though the project itself was completed in three years and after that the activities continue receiving support and collaboration from Mitaka Municipal Government, Mitaka Network University and local animation production companies. At the present day, while further strengthening collaboration with animation production companies, Nakahara Elementary School keeps these educational activities autonomously. For your reference, so far "Studio Pierrot", "Studio Ghibli" and "Telecom Animation Film" that represent the Japanese animation industry have been collaborating with these activities.

◇ Basic information

2 sixth grade classes and 64 students joined in FY 2015 NAKAHARA Animation (actually 63 students except one student who was absent for long periods of time). As the implementation period, around 40 school hours (1 school hour = 45 minutes) were spent from the beginning of September, 2015 until the end of February, 2016. Regarding the form of activity, the production activities at a group unit are standard, 4 members (or 3 members) formed 1 group and 16 groups in 2 classes were established. Depending on each fiscal year, there were also some cases that 5 members formed 1 group. In this fiscal year's case, as the result of decision by the teachers in charge who wished to put much value on how hard each student could dedicate himself/herself to

jobs, a system with 4 members (or 3 members) per one group was selected.

Regarding the content of the activities, even the number of members per one group was decreased, each group was regarded as a temporary corporate organization as same as the past and assigned to produce one original short animation film as a responsible job.

Regarding the content of films, it basically depends on the students and they could choose any kinds of themes freely on condition that it should be an original story, not imitate previous films and not offend public order and morals.   In other words, because there was no introduction about a fixed theme, a story setting or a sample film from the teachers or outside lecturers in advance, the students literally needed to create a story and characters by their own brains.

As an activity place in the school, an empty room reserved by declining birth rates has been utilized for a single purpose of animation production.   Each class room was used in the beginning of NAKAHARA Animation, however because it required quite additional work to reset all production equipment such as moving a full set of camera equipment each time and fixing camera tripods with packing tape, nowadays making the best use of the empty room, the students can use it exclusively as a production studio.   For your reference, it took at least 15 minutes to move all equipment among class rooms and set it up before and eventually precious time for production was deprived by only this kind of preparatory work every time.

◇ Schedule

Though every year there are a few fixes and changes, a standard schedule table is bellow for your reference.   The production activities are basically divided by 4 stages. At first Preliminary production stage is composed of learning a process of animation production as an occupation and basic knowledge of making clay animation.   Then Planning stage consists of making an original story and writing up a proposal for an animation film based on it.   Production stage is composed of actually creating characters and background pictures and shooting a film with them.   Posteriori production stage consists of introducing a completed film to an audience in a screen party, receiving social evaluation by third persons and reflecting what the students did in the whole activities by themselves.

Especially Production stage is composed of two parts, the first part consists of analog jobs such as creating characters with clay and painting background pictures by their hands and the second one consists of digital jobs such as shooting created materials with a web camera connected to a laptop PC and film editing.

Regarding the pace of activity, NAKAHARA Animation used to be held once a week regularly using 2 school hours (45 minutes x 2 times = 90 minutes) in the past. Nowadays considering a schedule for all sorts of school events such as an athletic festival, the teachers in charge have taken measures that the activities would be held more than twice in succession depending on each week. The measures could let the students concentrate on the production activities more than before. While some school events were held and NAKAHARA Animation activities were temporally stopped in this fiscal year, the students could voluntarily try homework to watch their favorite animation film once again and research what kinds of visual expression techniques were used in it. Though it depended on each student to try it and it was natural that they usually tended to concentrate on the content of the film, it could expect to turn their eyes to visual expression techniques too and let them find useful information to refer as much as possible when they challenged animation production by themselves.

The studio was opened not only in the regular time slots for activates above mentioned but also a morning time slot before starting a class, a break time slot, a lunch break time slot and an evening time slot after school after the middle of Production stage and opportunities to work overtime were proposed at the decision of each group arranging these kinds of extra time slots among 2 classes. Previously the students could work overtime around the final stage of the production activities. In this fiscal year, the studio was opened after the middle of the production activities and especially a morning time slot was provided for the first time from this fiscal year. It totally depended on the students' decision to use these extra time slots for working overtime.

Stage	Number of hours	Title of activity	Content of activities
Preliminary production stage	1	Orientation; What is animation production as an occupation?	- Discuss words associated with animation and occupation in a class - Become aware of the truth that animation is made by many people through watching the end roll of a TV animation film
	2	Process of making animation	- Learn the process of making animation through inviting an expert - Ask the expert about his/her occupation including

			-	pleasure or bitter stories
	3	Grouping	-	Make a group based on jobs from now on
	4	Trial of clay animation	-	Get used to software for clay animation
			-	Learn basic camera technique from the expert
	5	What is a proposal for planning?	-	Learn why a proposal for planning is necessary
			-	Learn key issues for writing a proposal for planning
Planning stage	6	Writing a proposal for planning individually	-	Make a story
	7		-	Consider a title, theme, character, scene setting, catch copy and so on
	8	Planning discussion and selecting one planning	-	Present each proposal for planning and story in a group
	9		-	Write about what you felt sympathy for and wanted to know more on a memo and past it
			-	Select one proposal for planning in a group
	10	Making a storyboard	-	Learn the role of a storyboard
	11		-	Receive instruction about how to make a storyboard and actually make it
	12	Preparation for presentation	-	Learn how to make a presentation
	13		-	Show a title, theme, character and etc. with craft paper
			-	Assign who is responsible for which part of presentation and exercise
	14	Planning presentation	-	Present each group's planning to the expert
			-	Write what you felt sympathy for and wanted to know more on a memo and past it
	15	Revising a proposal for planning	-	After the presentation, make sure of what the expert advised and outline them
	16		-	Revise the proposal for planning if necessary
	17	Making a storyboard	-	Make a storyboard based on the revised proposal for planning
	18		-	Write a more detailed story and deepen mutual understanding about it inside a group

Production stage	19 20	Making materials	- Make and prepare characters, background pictures, properties for an animation work based on the storyboard and practically shoot them with a camera
	21 22	Making animation with software for clay animation 1, 2	- Divide members into a director, assistant director, animator, cinematographer and editor and start to work - Director: Total progress management and writing a job sheet
	23 24	Making animation with software for clay animation 3, 4	- Assistant director: Supporting most of production activities and schedule management - Animator: Making main characters and creating stages for animation - Cinematographer: Shooting a film with software for clay animation
	25 26	Making animation with software for clay animation 5, 6	- Editor: Film data management and editing recorded roles as a single film - Add sound effects as an additional work - Hold a rehearsal
	27 28	Making animation with software for clay animation 7, 8	- Make a publicity brochure in case there are some members without a job or groups that have already finished every job earlier - Consider publicity for a prototype edition presentation
	29 30	Prototype edition presentation	- Present the prototype edition films before completion with each other in a class and hold mutual evaluation - Receive advices from the expert - Revise the film based on the received advices and complete it better than before
	31 32	Revising based on advices 1, 2	- Revise the film conclusively based on the advices in the prototype edition presentation and exercise in presentation.
	33 34	Revising based on	

		advices 3, 4	
Posteriori production stage	35 36	Screen party for a completed edition in an open school day for guardians	- Hold a screen party for mainly guardians in an open school day - Receive comments on each work from the expert - Take a popularity poll and open the result to the public later
	37 38	What is animation production as an occupation?	- Discuss words associated with animation and occupation in a class - Find differences as compared with the first trial
	39 40	Reflection as a group	- Reflect memos up to the present and consider what you learned - Through a reflective presentation, share the result of reflection that each group concluded in the whole grade or class

◇ Production process

Regarding a production process, Nakahara Elementary School has adapted a learning model that was called a simulated experience type that follows a professional animation production process as precisely as possible. As the basic procedure, the school tries to realize an animation production process that is conducted by professionals as much as possible. The process starts with making a proposal for planning based on an original story and then it continues with creating materials including characters and background pictures, shooting them in order, editing a film and adding sound effects.

Regarding the simulated experience type model, currently most of carrier educational activities implemented in public schools consist of mainly field experience through visiting workplaces in neighboring companies and students work there for a couple of days or one week, however these kinds of activities have a drawback that how to deal with the students completely differ in each company and it totally depend on companies' preparation for receiving them. On the other hand, Nakahara Elementary School has adapted the simulated experience type model and chosen a method to make the best use of a school as a steady learning setting through bringing a workplace to a classroom

instead of visiting there.

Regarding a basic process for film shooting, it starts with setting a character created with clay or paper in advance on a background picture drawn by hand, then it continues with moving it in millimeter, shooting incremental differences before and after the moving with a web camera and continuing the same process until completing a film. Software named CLAYTOWN on the market is used for this series of film shooting that is called as stop motion (frame-by-frame recording).   Every year 10 frames (10 pictures) per 1 second are set up to shoot a film with this software (some fiscal year tried 12 frames per 1 second).   A general goal in this fiscal year was set on making a film with 2 minutes (120 seconds) duration that required every group to shoot 1200 pictures (10 frames x 120 seconds) at least.

◇ Production equipment

Regarding production and editing equipment, 1 laptop PC and 1 web camera per 1 group was prepared.   In fact 1 set per 2 groups in 2 classes was assigned, however there was no chance for 2 classes to implement the production activities simultaneously, actually each group could use the equipment freely and exclusively.   In case some of them are out of order, a couple of more laptop PCs and web cameras are prepared besides.

For your reference, web cameras that have been used currently have 120 mega pixels (300 mega pixels for still picture).   Though there are some cameras that possess higher image pixels in a market, the software (CLAYTOWN) for shooting and editing a film can only deal with Standard Definition (SD) image quality (640 x 480).   Eventually there is a dilemma that it is difficult to make the best use of its performance even a camera with higher image pixels is prepared.

Regarding materials that are necessary for clay animation production, 1 clay package with 8 colors on the market was distributed to each group and drawing papers for background pictures and magic markers were also prepared.   In principle, other materials should be gathered by the students at the decision of each group.   For example, cardboard for a film set or materials such as woolen yarn and cotton for a variety of stage effects were prepared by themselves.

On the other hand, because it is necessary to make an original film, utilizing ready made goods for example a figure or doll of famous character directly for shooting is prohibited.   However, it is no problem to make a character or stage properties without using clay.   Especially in this fiscal year, there were some groups that never used clay but drew characters on paper or made stage properties with cutout pictures.

◇ Shooting method

Regarding a film shooting method, not only the steadiest method that shoots an object (character) from straight above but also the other one that shoots it from the side making it as a three dimensional object are recommended.　Actually it depends on each group to decide which angle to shoot.　In this fiscal year, there were many groups that shot a film from a variety of angles according to scenes and storylines.

For your reference, as compared with shooting a character on a flat background picture, shooting from the side in three dimensions is quite difficult more than imagined because a character made with clay has a weakness for its strength and it is necessary to make it stand in front of a background picture.　Especially when you try a human type character, putting a toothpick or wire into clay as the framework is necessary, nevertheless making the character stand firmly and act finely in millimeter are still quite hard jobs.　Whenever hands or feet of human type character are detached in the middle of shooting, urgent situations to fix them will happen frequently.

Moreover, every year film shooting was held during midwinter and air was dry severely so that it clacked dolls made with clay.　Every group was forced to deal with the difficulty.　Reserving materials made with clay in a vacuum packed plastic bag was recommended, however their drying deteriorated mercilessly during film shooting.

As the basic rule of film shooting, in the same way as animation production by professionals, it is recommended that a film should be divided as small as possible at a cut (roll) unit.　Because if a film is shot from start to finish at once and a problem is found in the middle, in the worst case it is necessary to shoot again from the beginning. As long as dividing a film at a cut (roll) unit, it should be enough to shoot a specific cut that has a problem again.　Therefore, even depending on scenes, a decision that 1 cut (roll) should be around 5 seconds (50 frames) at most and the number of cuts should be increased as much as possible was made in this fiscal year.　With this kind of decision, even if there is a problem in a cut, it will be enough to shoot 49 frames at most again thought it is easier to shoot it from the beginning.

It is true that more cuts (rolls) will require more time and effort to edit them, however there are merits that a risk as mentioned above will be reduced and more dynamic and rich expression can be expected.　It was 10 seconds at most per 1 cut (roll) in the past. After it was changed to 5 seconds per 1 cut (roll) as a new challenge in this fiscal year, films with more rich character's action and expression than before were produced.

◇ Production system

Regarding a production system, in the same way as a workplace for animation production by professionals, division of labor with role sharing inside a group is fundamental.　One group is composed of 1 director, 1 assistant director, 1 animator and 1 cinematographer and each of them will take a responsibility for work based on owe role and fulfill each job.　For your reference, in some fiscal years there were 5 members per group.　In that case the role of an editor was added.　Expected jobs per each role are mainly as follows.

1. Director

A director is fully in charge of the whole animation production and has a right to decide the content of film and production procedure.　In particular he or she is expected to decide a proposal for planning, the content of storyboard and adjust human deployment (placing the right person in the right jobs) and workload balance.　He or she is also expected to take accountability for production process and report it to producers (the teachers in charge) timely.

2. Assistant director

An assistant director supports a director and is expected to be occasionally in charge of the production activities instead of the director if he/she is absent.　The assistant director is also expected to help any kinds of actual jobs related to animation production if necessary.　Moreover, if a trouble happens in a group, he or she is expected to take the initiative to mediate it.　He or she also takes a role to negotiate with other groups such as exchange clay or giving instruction in shooting techniques.

3. Animator

An animator is in charge of actual jobs related to animation production.　In particular preparing a storyboard especially pictures in it, creating characters and background pictures and maintaining them are his/her main jobs.　During shooting an animation film, he or she is expected to prepare the next scene in advance while watching the procedure.

4. Cinematographer

A cinematographer is in charge of shooting an animation film with a camera.　In particular he or she takes a picture of a character on a background one frame by one frame while moving it.　Until the beginning of shooting job, he or she collaborates with an animator and make characters and background pictures.　At that time, he or she is

expected to pay attention to distant relationship between a character and a background picture (the laws of perspective) through the lens of a camera while collaborating.

5. Editor

An editor is in charge of saving and maintaining the filmed data of an animation work. In particular he or she saves new film data (roll) in a USB memory disk every time after film shooting was done. If some filmed data are erased accidentally, he or she is expected to recover from the accident through retrieving saved same data from the USB memory disk. During a period between making a storyboard in Planning stage and film shooting, he or she is also expected to figure out relationship between the number of pictures (the number of frames that are shot at a roll unit) and the number of seconds spent in film shooting (time that was spent in shooting a film actually) including calculation of running time for a film as a whole. Moreover, every time just before each production activity was done, he or she makes sure of the externalizing cards that members in his/her group described including typographical errors, no name, no date and no MKG data on them. If he or she finds a trouble that may affect production procedure such as confrontation among members on description of the externalizing cards as a work report, he or she will take the responsibility of reporting it to all members and urge them to deal with it.

Because there are many jobs that cause labor shortage during the production activities, actually it is necessary to deal with them flexibly beyond the boundaries of 4 or 5 types of roles mentioned above, nevertheless action and decision according to sufficient awareness of own role are always required. In other words, it is strictly forbidden to throw out jobs related to own role and take another ones related to other roles unless it is a decision as a group (or by a director).

Animation production by professionals is implemented with absolute division of labor and collaborative work. NAKAHARA Animation is also implemented in the form of collaborative work that means allocating a variety of jobs in a group and working with mutual cooperation rather than joint work that means approaching same job altogether. In accordance with the simulated experience type model mentioned above, realizing situations that are similar to professional ones as much as possible is also tried in this regard.

◇ Production goal

Regarding a production goal, because of making a film as a part of work, the primary goal is set on how to receive higher evaluation from an audience that means being

accepted socially on the premise that an animation film should be completed by the date of delivery.　In other words, it is different from artistic activities in a general sense. Even the students make a good looking film with a high level of completion, unless it has a story or expression that catches the eye of an audience, it does not meet this goal. Moreover, even how great a film is, if it cannot meet a deadline, it will not be accepted in principle.

As an opportunity to evaluate completed films, a screen party is implemented inviting the students' guardians and experts on animation production.　Every year some films that an audience or experts could not understand the content of and were puzzled by received a harsh lesson as social evaluation.

In the screen party every completed film is introduced and a popularity poll for each film by the students' guardians, experts and the students themselves (on condition that they need to chose other group's film except own one) in the same way as audience rating of TV program is held and the voting results from top to bottom is fully opened to the public.

The detail of social evaluation will be described later.　As a measure to accomplish the goal mentioned above, Mr. Kohei Ito as a producer of Telecom Animation Film Co., Ltd. that produced a very famous series of "Lupin the Third" collaborated and gave professional advice to the students' films from Planning stage in this fiscal year too.

◇ Production procedure

Regarding a production procedure, though there are some strict deadlines and the teachers in charge make sure of work progress at each juncture in a work process, basically how to proceed totally depends on each group.　Because a work process itself is adapted from animation production by professionals, of course a nonsensical production procedure such as deciding sound effects suddenly before making a proposal for planning is never allowed.

The teachers in charge will not give a warning during the production activities unless the students commit to something that has no relationship with the carrier educational activities behaving unproductively or bother other groups (other companies).　Even a quarrel or trouble happens, the teachers will not intervene in it except for some extraordinary reason and the students are expected to solve it by themselves.

Basically a student who is a director or assistant director is in charge of a production procedure and especially an assistant director (sometimes editor) is expected to make sure of progress in the production activities each time as a timekeeper.

Because every year most of participating students had no experience to try

professional level animation production ever before, they needed to learn by mistake continuously in the first half of film shooting so that it was tend to be a very slow pace. However, in the second half the situation was changed completely and it was normal that they were forced to be pressed for time and run a business on a hand to mouth basis. Considering the simulated experience type learning model mentioned above, this point is also similar to the truth of animation production by professionals. However, in this fiscal year activities, even learning by mistake continuously, most of groups advanced with great enthusiasm from the first half of film shooting so that they could complete their films at a very early stage.

◇ Teachers' position

As one of features that the carrier educational activities implemented in Nakahara Elementary School have, at the early stage of these activities the declaration of amateur by the teachers in charge is presented. As a matter of fact, teachers are a professional in teaching not ones in animation production. Moreover, when a program for carrier education is planed, it is premised on borrowing a theme and knowledge related to it from a society outside of a school. Like a proverb "One should go to specialists for the best results", we can expect to make a more practical learning program through borrowing knowledge related to animation production from experts of the field.

As mentioned above, Mr. Kohei Ito of Telecom Animation Film Co., Ltd. as an expert of animation production collaborated in this fiscal year too and started with instructing basic knowledge of animation production process and basic techniques of how to make a clay animation at Preliminary production stage and then continued with commenting on proposals for planning that each group submitted at Planning stage, commenting on prototype films in a prototype edition presentation at Production stage and commenting on and evaluating (voting) completed films in a screen party at Posteriori production stage.

If necessary, the students can ask an expert more information on shooting techniques or expression methods timely. The reason why the declaration of amateur can work is that receiving support from an expert is available from the beginning to the end during the production activities.

Actually the declaration of amateur is enacted from the beginning so that some students seem confused for a while and still wish to ask their teachers for their advices even after the declaration. However, as long as the declaration of amateur is enacted, the teachers in charge will tell them only their thoughts or impressions absolutely from the perspective of one audience and basically never teach them what the detail of

content should be or how they should proceed with jobs.

For the students, it totally depends on each group whether it accepts opinions from their teachers as one of audiences or not. If some group accepts opinions from outsiders, it should bear the result and take the responsibility too. Even it adapts their teachers' opinion and eventually an audience does not show a good response to its film, it cannot shift the responsibility to others expect itself.

During the period of the production activities, the teachers take a stance as a producer who is in charge of public relations and a role to manage relationship outside of a school. Because there is a director in each group, they will not directly involve in the content of film. On the other hand, the teachers strictly manage the schedule of production. In the background, the teachers request experts on animation production to watch proposals for planning or completed films and their professional advices on each of them as mentioned above. However, because these kinds of support are conducted based on social relationship of mutual trust and professional animation production is one of very busy occupations, the teachers are not allowed to extend a deadline for proposals or films for their own convenience.

In other words, in usual learning activities the teachers can decide to extend a deadline to submit homework for example, however in NAKAHARA Animation, their one-sided decision to extend is not allowed because of contractual relationship with outside of a school even it is based on a verbal agreement. Not only the students are asked to keep the date of delivery strictly but also the teachers are asked to keep the social contract surely. If the contractual relationship is neglected, the carrier educational activities themselves that borrow a theme and knowledge from outside of a school cannot keep their existence.

Therefore, though measures were changed slightly in each fiscal year considering the circumstance of the whole grade, in most cases if some group could not meet a deadline even one minute, it was scolded by their teachers more or less because it could not fulfill its social responsibility. As the reason, not only the group that delayed the date of delivery needed to take the responsibility but also the teachers as a producer in charge of public relations had to take the responsibility.

On the other hand, during the production activities the teachers do not need to take a position of teaching knowledge of animation production so that it enables them to spend much more time on observing how the students make efforts to advance the production activities. In ordinary lessons, a reality in school education is that they cannot afford much time to observe how each student or group advances the activities from behind them while teaching the students various learning materials from a platform.

However, as it will be introduced in Chapter 2, because the declaration of amateur increases chances for the teachers to observe, they can afford to verify blooming or demonstrating a variety of abilities and skills in the students nearby. Moreover, while observing continuously the teachers can praise the students well for their bloomed or demonstrated abilities or skills from behind so that the students can get confident in what he/she is doing or they are doing as a group.

As a matter of fact, though external experts are professional in the field, ordinarily they are not professional in teaching and there is no one else who knows much about each student's character, the feature of classroom and the tendency of the whole grade without teachers. In other words, it is obviously too much to ask the experts to teach figuring out these kinds of internal conditions of each student or classroom. Once again like a proverb "One should go to specialists for the best results", it is the time for the teachers to deal with definitely these kinds of tasks.

Furthermore, while the teachers confirm each student's and group's status through observation, it will be easier for them to figure out the overall course of the activities. It will be also possible for them to ask the experts to adequately adjust how to lead in advance considering the overall course of the activities.

For example, as the tendency of the whole grade in this fiscal year, because the teachers in charge had already figured out the very strong bond of solidarity established among the students in advance and many groups that demonstrated highly organized role-sharing from an early stage of the carrier educational activities were actually observed, they decided to aim animation production at a higher level through requesting experts to make professional comments more severe than usual from the stage of planning presentation. On the other hand, in such a case that some grade is difficult to deal with group activities, teachers can ask experts to lead the students in a manner that gives priority to collaborating together and completing films by themselves while promoting their interest. In a sense it is a chance for the teachers in charge to demonstrate their professional skills through dealing with this kind of adjustment at least in the carrier educational activities implemented in Nakahara Elementary School.

◇ Learning goal

Though it seems contradictory to the production goal mentioned above, Nakahara Animation activities do not take fostering of human resources that will engage in creative jobs such as an animator into consideration and only regard animation production as a theme for the carrier educational activities. Therefore, the activities do not request to improve drawing or craft skills in a visible way. Consequently if

drawing or craft skills are bloomed through the carrier educational activities and there are some students who will choose a creative job in the future, it is regarded as delightful side effects.

On the one hand, the production goal is an aim on the side of "carrier" (responsible working activities) in "carrier education".   On the other hand, the learning goal is an aim on the side of "education" (learning activities).   Both of them are very important aims and the students are expected to devote themselves to achieve both of them.

The learning goal of Nakahara Animation follows one that Mitaka city holds up and the city requests to acquire 7 abilities that lead to a zest for living mentioned bellow. On the other hand, for example even "1. Ability to communicate" consists of a variety of sub categories such as an ability to make a presentation or to keep silent depending on a situation, therefore each of these abilities is vague.   As it will be described in detail in Chapter 2, Nakahara Elementary School sets a goal that these abilities and related skills will be bloomed and fostered in each student through the carrier educational activities in a more detailed way.

1. Ability to communicate
2. Ability to gather and find information
3. Ability to understand self-other
4. Ability to understand and recognize a role
5. Ability to carry out a plan
6. Ability to solve problems
7. Ability to understand occupations

Moreover, Nakahara Elementary School does not assume that all these abilities or a part of them will be intentionally nurtured. The school persistently premises that theses ones will be bloomed and demonstrated autonomously during the activities.   On the other hand, it regards that what kinds of abilities actually will be bloomed depends on each student.

Though it is difficult to explain somewhat, in the background of setting this kind of premise, NAKAHARA Animation follows an animation production process for professionals as precisely as possible and produces films as an occupation as mentioned above.   Therefore, situations and scenes that require these abilities frequently happen. When the students face these kinds of scenes, it depends on them to judge if they cannot deal with necessary jobs unless they make sure of the type or level of required abilities and try to learn or demonstrate them.   In other words, it means that the teachers do

not specify which ability should be developed from the beginning.

It seems that it heavily relies on students' autonomy, however from past experience blooming a variety of abilities on demand from each situation or scene can be surely expected more than making a program in order to acquire a specific ability and instructing in accordance with it by teachers.　The actual proof will be described in later chapters.　It is true that a wide variety of abilities and skills have been bloomed until now beyond the framework of 7 abilities mentioned above.

◇ Social evaluation

On condition that as long as animation production is implemented as an occupation, the result should be evaluated socially.　The carrier educational activities in Nakahara Elementary School regard opportunities for social evaluation as important as the animation production activities themselves.　As an overlapping part of the learning goal mentioned above, on the one hand blooming or demonstrating various abilities and skills rely on autonomous activities by the students, on the other hand a scheme for social evaluation is effectively used as ideal opportunities to promote blooming or demonstrating them.

Furthermore, social evaluation is closely related to reflective activities by the participating students and affects with each other such as two sides of a coin.　In other words, Nakahara Animation activities put greatly emphasis on how the students can accept social evaluation and what kinds of things they can learn from it.　For your information, 7 different types of opportunities for social evaluation implemented in this fiscal year are as follows.

1. Planning meeting to select one proposal

This meeting is held in Planning stage to choose only one proposal for planning about an animation film including an original story and character setting from ones that each member in a group prepared.　Each member tries to appeal own proposal for planning to other members and receives comments from them.　Every year a furious presentation contest happened regularly inside a group because only one proposal for planning was adapted and realized as an animation film.　Through the process to select one proposal, most of students directly receive severe social evaluation from other members so that they can start to notice that it is impossible to implement animation production just for fun and recognize that they need to produce a film as a part of work. Moreover, this meeting is the first opportunity for the students to know what kinds of opinions about animation production other members who will work together from now

on have.

2. Planning presentation

　　After each group selected one plan and set an original story and characters, a planning presentation is held.　Every year each group presented their proposal for planning in front of an expert of animation production, Mr. Kohei Ito who is a producer of Telecom Animation Film Co., Ltd and he judged if each proposal deserved to be actually realized as an animation film.　Most of proposals for planning received severe comments from him and not a few groups were asked to rewrite their whole proposals. There was no room for soft social evaluation in here only because they were children. On the other hand, he tried to explain as simply as possible chewing each technical word and make a comment coordinating with the students' cognitive development stage as much as possible.

　　This planning presentation becomes a precious opportunity for the students to know the reality of society outside of a school including sharp and severe comments and momentum to let the students try Nakahara Animation activities with a professional sense.

3. Prototype edition presentation

　　When a prototype edition of animation films was made in this fiscal year's activities, each group presented own film and indicated good points and improvements to it with each other in a class.　The presentation enabled the students to obtain precious information on good points and improvements from all of them except members in own group and reflect own film that they were making.　Moreover, as a new trial one class conducted a popularity poll in the presentation and the result was opened to the public.

　　Before a prototype edition presentation was not held and only a screen party for a completed edition was done.　At that time the students strongly wished to have a chance to improve their films based on social evaluation that they received and precious knowledge that they obtained from the evaluation.　A prototype edition presentation started to be held considering their wish.

　　Usually Mr. Kohei Ito of Telecom Animation Film Co., Ltd. watched a prototype edition and gave advice to each film.　In this fiscal year every group had already completed their films before they received his advices because they engaged in the production activities enthusiastically with incredible speed.

　　At first most of groups carefully consider how they can improve their films based on information on social evaluation that they obtained through the prototype edition

presentation and then they dedicate themselves to fix their films in a visible way within a time frame by a screen party for a completed edition.   On the other hand, even there are some proposals in social evaluation that seem very useful for improving, if the students conclude that it is impossible for them to realize them within a certain period of time or they do not have enough ability to realize them, it is necessary to choose other feasible proposals in that case.

4. Screen party for a completed edition

Every year a screen party was opened at the beginning of the third semester.   An audience such as mainly the students' guardians, Mr. Kohei Ito of Telecom Animation Film as an expert of animation production, a guest from Mitaka Municipal Government who was in charge of Independent Animation Festival mentioned bellow and the author were invited and it was a big moment for the students.

After every film was shown, an audience, expert and guest voted for one their favorite film.   An audience's vote was given 1 point per person and an expert's and guest's vote was given 10 points per each of them.   Each student could vote and give 1 point to one his/her favorite film without own group's one.   Then every point was summed including ones from an international judge mentioned bellow who voted for 6 films and give 5 points to each of them and a ranking based on the result of popularity vote was opened to the public later.   Especially top 4 films in the ranking had the honor of being shown in a big event, Independent Animation Festival that Mitaka Municipal Government hosted mentioned bellow as special entries.

This kind of popularity vote and announcement of ranking have been done as a part of social evaluation as same as an announcement of TV program rating.   Every year it was natural that there was a huge gap in the score between films in a higher rank and ones in a lower rank.   In the background, an audience tended to vote for a film that they were moved by or amused by purely following their feeling.   In other words, even how hard the students try the production activities, it is difficult for them to obtain high social evaluation unless the film itself can attract an audience.

Though it should be a very bitter experience for groups in a lower rank, the carrier educational activities implemented in Nakahara Elementary School put a high value on how decidedly the students can face this kind of hard reality as a part of a zest for living mentioned above.   For your reference, even some groups eventually belonged to a lower rank, there was another chance for them to redeem their honor through a reflective presentation mentioned bellow.

A conference room was used for the screen party in this fiscal year.   As a measure to

let the students firmly grasp an audience's reaction to each film, chair arrangement was done with a creative idea that an audience sat in the center of the venue and the students sat surrounding them. Through this kind of measure, the students could observe an audience's reaction that was glad and sad by turns closely and directly check if an audience really understood their films and how much their films won the heart and mind of an audience before knowing the result of popularity poll mentioned above.

As a new challenge in this fiscal year, each group assessed difference between a prototype edition and a completed one by themselves before presenting their films in the screen party, put the assessed result together as a booklet and distribute it to an audience. This challenge gave the students an opportunity to evenly reflect how far they could reach by themselves or where was the limit after they experienced professional animation production for the first time.   As mentioned above NAKAHARA Animation does not aim to foster young persons who will work in creative industries in the future.   However, the students can make sure that they feel a good response or a lack of ability to deal with professional work in their own way so that it can expect to promote an realistic appreciation of having a job in the future among them.

5. Reflective presentation

Regarding social evaluation related to "carrier" in carrier education, every year severe evaluation was given by third persons such as an audience and experts through the planning presentation, prototype edition presentation and screen party for a completed edition mentioned above. However, all evaluation mentioned above does not mean everything in the carrier educational activities implemented in Nakahara Elementary School. The students can analyze what they learned through a series of production activities once again from the side of "education" in carrier education thoroughly at a group unit using the data of the externalizing cards mentioned bellow, try self evaluation and present the result in the whole class or grade at the end of NAKAHARA Animation activities.

The result of analysis and self evaluation at a group unit in detail will be introduced in Chapter 4. This challenge itself is one of features that the carrier educational activities implemented in Nakahara Elementary School have. Every year reflective activities were held using 2 school hours. However, an opportunity to present the result of analysis and self evaluation done by each group in front of the whole grade was arranged and totally 6 school hours including a time for the presentation were prepared in this fiscal year.

If some groups that unfortunately received low social evaluation in a screen party for

a completed edition can precisely analyze the reason of low evaluation and reflect their production activities in a way that everyone can understand, it will be highly evaluated from the side of "education" in NAKAHARA Animation activities. Especially if they can introduce the result of excellent self evaluation based on detailed analysis in a place for a reflective presentation, they can receive high praise from the students in the other groups and the teachers in charge at least. Above all they can feel a sense of accomplishment or fulfillment of what they achieved in themselves once again.

On the other hand, if some groups that received high social evaluation in a screen party for a completed edition cannot firmly analyze the cause of victory, the high evaluation may be a result from an accident in a strict view and they cannot expect the same result next time they try animation production. In a reflective presentation if they present self evaluation based on inaccurate and unaccountable analysis, they will be laughed at by other groups and lose the honor obtained in a screen party.

6. Additional screening party

Additional screen parties were implemented for the students of other grades in this fiscal year too though they were done several times before. In some fiscal years, the students of other grades were directly invited to a screen party for a completed edition and kindergarten students (new 1st graders) who would enter into a school from now on were also invited. In this fiscal year, 6th graders managed additional screen parties by themselves to introduce their films to the students of other grades using a lunch break.

In the background of this kind of challenge, not only there is an aim to pass NAKAHARA Animation activities on to the next generation but also there is a possibility to receive different reaction or evaluation from one that adult gave because additional screening parties target the same elementary school students as an audience segment as compared with the screen party for a completed edition mentioned above that was basically for adults such as experts and guardians. Especially it is true based on learning through long experience that there were some films that students could understand easier because they were same children. Therefore, social evaluation in additional screening parties is not always as same as one in a screen party for a completed edition. For example, in Planning stage the students needed to decide an audience segment and most of groups targeted the same generation of elementary school students on this occasion. In that context, receiving any responses from other graders as social evaluation was definitely meaningful for 6th graders.

7. Independent Animation Festival

This event is a film festival hosted by Mitaka Municipal Government and animation studios located around the city and a gateway to success for vocational school students and young animators who are expected to play a key role in animation industry from now on.   Every year high quality films were gathered from all over the country and some excellent films were selected among them.   Besides ones for the final selection, every year 4 student groups' films that received the highest social evaluation in the screen party for a completed edition were introduced on a big screen at the event site. It is a precious opportunity for the students who produced the selected films to know how a lot of audiences react to their films once again through this kind of special opportunity.   For your reference, an official site for the event is in the following URL.

Independent Animation Festival
http://www2.m-sohot.com/iafesta/
http://www2.m-sohot.com/iafesta/schedule.html

◇ Internationalization
Every year new trials to improve NAKAHARA Animation activities have been implemented and in this fiscal year as a part of social evaluation mentioned above, a trial related to internationalization was held following the last fiscal year.   Mr. Fred Wang who is one of organizers for the Hong Kong International Film and TV Market "FILMART" that is one of the world leading film festivals and the top of film company that represents the Hong Kong film industry picked up his favorite 6 films after he watched all completed ones as same as Mr. Kohei Ito of Telecom Animation Film mentioned above.   The films that he chose could get extra points at the time of social evaluation in a screen party.   It became a very precious opportunity for the students to know how their films were evaluated from an international perspective.

For your reference, Salon Films Ltd that Mr. Fred Wang owns is one of film companies that represent Hong Kong.   Since the company collaborated with Hollywood on shooting a movie for the first time in the Asian region, it keeps producing numerous blockbusters such as old premier movies including "Apocalypse Now", "Crouching Tiger, Hidden Dragon" that received the Academy Award or films that big name stars including Jackie Chan and Jet Li performed in.

He also actively supports "Education for Sustainable Development" that UNESCO promotes and right now superintends following UNESCO Salon Video Competition collecting video expression that the youth produced from all over the world.   In the background, he promotes fostering young creators who work in media content

industries including animation production that are expected to play a part of new economic system friendly to global environment that Education for Sustainable Development aims.

When the competition was opened for the first time two years ago, one of films produced in NAKAHARA Animation activities was exhibited and had a record with being in a shortlist. Currently target participants in a screening criterion of the competition are university students or at least high school ones and unfortunately films produced by elementary school ones are not collected.

UNESCO Salon Video Competition
http://en.unesco.org/greencitizens/salon-youth-video-competition

Moreover though it is under negotiation at the time of writing this report, without the film competition that targeted university and high school students mentioned above, it is expected to develop an educational program based on Education for Sustainable Development for the younger generation than high school students and NAKAHARA Animation is also recommended for the purpose. He requested the author to develop a program that enables international co-production among Asian children including Japanese ones. Right now he works on making the proposal for planning.

◇ Meaning to continue animation production

At this point a question about NAKAHARA Animation that is always asked will be answered in advance. It is that "Why is making animation implemented in carrier educational activities?". A simple answer to the question is that as the name of "Carrier Educational Project that makes the best use of regional autonomy and private companies" mentioned above suggested, collaboration with local industries was a precondition for this project and the world-class animation industry that Mitaka city can be proud of was at the head of candidates for collaboration.

Of course with not only this reason, animation production has been implemented for 11 years. There is another appropriate reason. Animation production is only one of themes borrowed from outside and fostering experts such as animators or scriptwriters is not the purpose of these activities.

On the other hand, as mentioned bellow because it can be expected that a variety of abilities that will lead to strength necessary for living autonomously are demonstrated in front of our eyes literally and newly bloomed in the participating students through trying jobs as same as ones for professionals, these activities have been implemented.

For your information, so far in Nakahara Elementary School, commercial production (NAKAHARA CM) making the best use of a program that a big advertising agency prepared and design T-shirts production (NAKAHARA collection) under a collaboration with a high status designer were implemented as a part of the carrier educational activities except animation production.   Even contents and themes were different from animation production, the basic parts of the activities mentioned above were almost untouched and a variety of bloomed abilities were observed as an achievement in each activity.

◇ Structure of this report

As the structure of this report, in this chapter basic information on NAKAHARA Animation was introduced.   In Chapter 2, categorizing a variety of abilities bloomed through animation production and the result are explained tracking learning records that the participating students described on a Post-it called as "an externalizing card".

In Chapter 3, the result of a questionnaire survey that was implemented in order to figure out learning achievements in the carrier educational activities from the point of view of the whole class or grade are introduced.   In Chapter 4, utilizing description on the externalizing cards mentioned above and a tool called as SAKANA system that supported reflective activities at a group unit, results of self evaluation based on the students' analysis of what kinds of things they learned as a group are introduced.   In Chapter 5, learning achievements in FY 2015 collected from each chapter is considered once again.

◇ Complementary information

It can be said that an externalizing card is the most important tool to support the reflective activities in NAKAHARA Animation and it has been adapted for a long time as a method to track learning results that the participating students achieved through the carrier educational activities in Nakahara Elementary School.   At this point the detail of this card will be explained.

Though the name sounds somewhat exaggerated, it is also called as "a reflective card" in Nakahara Elementary School.   The card itself is a Post-it that is available anywhere on the market.   The size is around 7.5 x 5 cm.   Depending on the fiscal year, there were some cases that the size was changed.   Though it is a simple and common Post-it, the meaning of externalizing is to tell directly what comes up to your mind or what you feel in your heart through experience to the rest of the world (third persons).

Since the beginning of implementing the carrier educational activities, as a method to

record learning results an externalizing card has been adapted. It was created by Professor Toshibumi Kariyado of Department of Social Informatics, Aoyama Gakuin University who made a plan of this learning program.

Regarding how to basically use an externalizing card, all participating students are asked to describe what they learned, felt, found or noticed freely in each activity using 5 or 10 minutes just before the end of each session. There is no rule on the content and the volume of description. Even one sentence or many ones described on the other side of a card are acceptable. On the other hand, recording what they learned in writing definitely is regarded as a responsible job as same as implementing animation production.

After every student described an externalizing card, their teachers retrieve all of them and post them on a bulletin board or corridor within a few days. In the same way as most of occupations that are making the best use of what each worker learned for the entire organization through an operational record, writing an externalizing card is supposed to be beneficial not only to a student him/herself who wrote it but also to the whole class or grade.

As compared with an ordinary essay style record, implementing this kind of reflection every time has the huge advantage of obtaining information on what the students learned at the time and spot. Because most of essays are described in the final stage that every activity has already been completed, it is necessary for students to try to remember their experience that they have already forgotten. On the other hand, an externalizing card can record their experience that is still alive though it is restricted to itemization.

There is not only a space for free description but also one for additional information on 3 indicators including "Learning Type", "Emotional Type" and "Effort Type" in an externalizing card. The students are asked to fill out the indicators too. In Nakahara Elementary School it is called MKG picking up the first letter of each indicator. * Manabi in Japanese means learning, Kimochi in Japanese means emotional and Ganbaru in Japanese means effort or working hard. "Learning Type" is set to categorize each externalizing card according to what kinds of learning contents are included in it. There are 5 response alternatives for the indicator including "1. Change in Self-Affirmative Tendency", "2. Change in Self-Discovery Tendency", "3. Change in Role Grasp and Recognition", "4. Change in Occupation Understanding" and "5. Change in Communication". The students can pick up 2 of them at most at the same time.

"Emotional Type" is set to categorize each externalizing card according to what kind of emotional status a student had when it was written. There are 8 response

alternatives for the indicator including "1. Glad", "2. Happy", "3. Interesting", "4. Easy", "5. Sad", "6. Angry", "7. Painful" and "8. Difficult".   The students can pick up 2 of them at most at the same time.

"Effort Type" is set to evaluate the degree of self contribution for group activities. There are 5 response alternatives for the indicator including "1. Quite Insufficient", "2. A Little Insufficient", "3. Tried", "4. Tried Hard" and "5. Tried Hard Enough". The students can pick up only 1 of them at once per one card.

In the background of requesting the students to describe the externalizing cards and enter the indicators mentioned above on it every time, it is assumed that these data will be utilized not only for promoting reflection in each production activity among the students but also for the reflective activities with self evaluation at a group unit that will be explained in Chapter 4.

In the FY 2015 carrier educational activities, 2 classes and 64 participating students (actually 63 ones) described around 1200 externalizing cards and the author confirmed and regarded all of them as analysis subjects for this report.