

The eduScrum Guide

“The rules of the Game”

Developed by the eduScrum team



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Introduction

Most of you reading this paper will not be familiar with Scrum but probably will have a background in education. eduScrum has its origins in both; education and Scrum. Scrum is a framework for developing and sustaining complex products. Therefore it is widely used in IT development and about to become mainstream in this area. However, more and more professionals are exploring alternative areas where Scrum can be applied.

One of these areas is Education. This triggered the eduScrum Team to experiment with this framework in a class-room setting. Although the outcome of school results are relatively easy to predict, the process to achieve these outcomes is a rather complex one as with software development. The pillars Transparency, Inspection and Adaption together with Self-Organizing teams triggered the Team to experiment with this framework.

For all of you who had a chance to witness what is going on, it is no longer a secret. For those of you who did not have a chance I can assure you that you will be surprised. eduScrum is a cocreative process. Imagine children not being held responsible but feeling responsible for completing work. No one telling the children what and how to do it but only what the expected results are, and they want to do it. Homework is no longer dictated by the teacher, but taken up as deemed appropriate by the students. When you are in a eduScrum class you can feel the energy and positive vibe.

As Dan Pink points out in his theory, people are no longer motivated by the traditional "Carrot and Stick" method when tasks become more complex, interesting and self-directing. This describes our 21st century professionals who are already experiencing that the "carrot and stick" is obsolete. So if we want to prepare our children to become 21st century professionals we will have to give them Autonomy, Mastery and Purpose. This is exactly what eduScrum, and the people behind it, will facilitate.

This guide contains the minimum set of requirements for successfully working with eduScrum. Any element that could be removed has been removed, but no more than that. Therefore all elements presented in this guide are mandatory for working with eduScrum. If you choose to eliminate certain elements, that's fine. But then it is no longer eduScrum. Adding elements to this framework is very common (and desirable) and as long as the framework is respected this is fine. The framework is lightweight and offers plenty of room for a personal touch.

Purpose of the eduScrum Guide

eduScrum is based on Scrum (a framework for developing and sustaining complex products - Jeff Sutherland & Ken Schwaber 2013).

eduScrum is a framework for coaching students where the responsibility for the learning process is delegated from teachers to students.

This Guide contains the definition of eduScrum. This includes the eduScrum roles, events, artifacts and the rules that bind them together. This Guide was inspired by the original Scrum Guide by Jeff Sutherland and Ken Schwaber.

In eduScrum learning takes center stage; learn smarter, improve collaboration and get to know yourself better. This way of working also creates more responsibility, fun and energy that lead to better results and shorter turnaround times. Because of this students experience strong personal growth that strengthens their confidence in themselves and others. The key to all this is ownership; the students have the freedom to determine their own learning process within given boundaries and learning goals. eduScrum does not only improve study results but also improves personal development and collaboration within a team.

Definition of eduScrum

eduScrum: A framework within which students can tackle complex adaptive problems, while productively and creatively achieving learning goals and personal growth of the highest possible value. eduScrum is:

- Lightweight
- Easy to understand
- Difficult to master (because the Student Teams have to do it themselves).

The last because eduScrum only prescribes the "What" and not the "How". eduScrum is not a process or technique for coaching students; it is a framework within which you can employ various processes and techniques. eduScrum provides transparency on effectiveness of plans and the chosen approach so students can improve themselves. eduScrum challenges students on self-organization and quality of work within a given time frame with clear learning goals.

With eduScrum quality (with respect to subject matter, collaboration and personal development) is constantly evolving during the school year. Students co-determine their own quality of work as a result of ownership. Ownership combined with continuous improvement leads to higher quality. In a Review the focus is on the "What" (subject matter). The Retrospective is about the "How" (collaboration, using personal qualities, personal development).

eduScrum Framework

The eduScrum framework, like the Scrum framework, consists of Teams and their associated roles, events, artifacts and rules. Each component within the framework serves a specific purpose and is essential to eduScrum's success and usage.

Specific implementation strategies of eduScrum may vary and are not a part of this Guide.

The rules of eduScrum bind together the events, roles, and artifacts, governing the relationships and interaction between them. The rules of eduScrum are described throughout the body of this document.

eduScrum Theory

eduScrum, like Scrum, is founded on empirical process control theory, or empiricism. Empiricism asserts that knowledge comes from experience and making decisions based on what is known. eduScrum employs an iterative, incremental approach to optimize the achievability of learning goals and control risk.

Three pillars uphold every implementation of empirical process control: transparency, inspection, and adaptation.

Transparency

Significant aspects of the process must be visible to those responsible for the outcome.

Transparency requires those aspects to be defined by a common standard so observers share a common understanding of what is being seen. For example:

- A common language referring to the process must be shared by all participants; and,
- Those performing the work and those accepting the work product must share a common definition of "Done".

eduScrum focuses on adding value, where value is the sum of individual learning results, personal development and cooperative achievements. The eduScrum framework is meant to provide transparency on the above to support the learning process. Transparency is necessary to help students make the right decisions in their learning process so they are able to maximize value.

Inspection

eduScrum users must frequently inspect eduScrum artifacts and progress toward Learning Goals to detect undesirable deviations. Their inspection should not be so frequent that inspection gets in the way of the work. Inspections are most beneficial when diligently performed by both teachers and students, at the location of the work itself (the classroom or practice area).

Adaptation

If a student (or teacher) determines that one or more aspects of a process threaten to deviate outside acceptable limits and/or that the results will be unacceptable, the planning or approach must be adjusted. An adjustment must be made as soon as possible to minimize further deviation.

eduScrum prescribes six formal events for inspection and adaptation, as described in this *eduScrum Events* section of this document:

- Team Formation
- Sprint Planning
- Standup (at the beginning of each class)
- Sprint Review (test, oral or written presentation, experiment or a combination)
- Sprint Retrospective (functioning of team and team members)
- Personal Reflection (personal)

An eduScrum Team

An eduScrum Team consists of a teacher (Product Owner) and Student Teams of four students. One of the four students of a Team fills the role of (Student Team) eduScrum Master. Student Teams are self-organizing and multi-disciplinary. Self-organizing teams choose how best to accomplish their work, rather than being directed by others outside the team (e.g. teachers). Multi-disciplinary teams have all competencies needed to accomplish the work. The students form themselves into Student Teams based on skills and personal qualities. Although the team is responsible for its own results and is in that sense independent, they may use insights and information of other teams. Cross-team cooperation is encouraged. The team model in eduScrum is designed for optimal autonomy, collaboration, flexibility, creativity, motivation and productivity.

eduScrum Teams deliver learning results iteratively and incrementally, maximizing opportunities for feedback and adjustment. Incremental deliveries of “Done” learning results ensure that a potentially good result towards the learning goals is always achievable.

The Product Owner

The Product Owner determines learning objectives and is also responsible for monitoring and grading results. He or she will also facilitate the eduScrum process and the personal and team development process. The Product Owner may do so by reference to learning materials, answering questions and providing examples. Encouraging cooperation between teams is also one of the key responsibilities of the Product Owner. How organizations, teams and individuals try to accomplish this depends on organizational approach and strategy.

As Product Owner the Teacher explicitly focuses on the subject matter. The Product Owner is responsible for:

1. determining **WHAT** needs to be learned;
2. monitoring and improving the **quality** of educational results;
3. **evaluating** and **judging** the educational results (based on the Definition of Done and acceptance criteria)

1. Determining WHAT needs to be learned

The Product Owner is responsible for the measurable results of education: test results, passing to the next grade, and final exam results. The Product Owner ensures that the various stakeholders, such as students, parents, management and government are satisfied with educational results.

Therefore the responsibility of WHAT needs to be learned and what has priority for a specific subject lies with the Product Owner. To monitor and evaluate progress and results the Product Owner will define acceptance criteria (such as criteria for grading, presentation guidelines, etc.) prior to a period.

2. Monitoring and improving the quality of the educational results

Together with determining what needs to be learned, the Product Owner must also monitor, check and improve the quality of the educational results. To do this, the Product Owner uses two benchmarks: the Definition of Done, defined by the Student Team, and the acceptance criteria defined by the Product Owner.

Acceptance Criteria

To monitor the quality of what has been learned, the Product Owner defines a number of acceptance criteria that are determined beforehand and are shared with the Student Teams. For example, these Acceptance Criteria consist of the minimum test scores, types and size of presentations, deadlines and other requirements on the results. The Student Team is responsible for complying with the Acceptance Criteria. The team members themselves define tasks and activities to ensure that they will comply with the Acceptance Criteria.

Definition of Done (DoD)

To guard the quality of the Learning Goals the Student Team defines a Definition of Done. Prior to a Sprint the Student Team determines when their work is “Done”. With inexperienced Teams this is done in consultation with the Product Owner. Experienced teams do this autonomously. This way the Student Teams keep getting better in defining their own quality criteria.

3. Evaluating the educational results

The Product Owner evaluates - in name of the stakeholders (parents, school board and students) - the quality of the educational results. The Product Owner evaluates and judges both the individual students (with for instance a written test) and the teams (by evaluating an end product of the team).

The Product Owner is the only person who is responsible for managing the Product Backlog. Product Backlog management consists of:

- Initial explanation of eduScrum to the Students (one time - 2 hours),
- Define Sprint Goal, meaning learning goals for that Sprint,
- Define and explain the Acceptance Criteria. Clearly explain what the criteria are that determine if a learning goal has been achieved so that the teams can start working independently (experiments, papers, presentations, etc.),
- Facilitating the Student Team; next to clear learning goals and acceptance Criteria also refers to teaching and background material and is available for questions.
- Monitors that all involved will follow the eduScrum process.

Unlike in Scrum the eduScrum Product Owner is not bound to a team but to a subject. The Product Owner therefore supports multiple teams across multiple classes. With cross-subject Teams can even have multiple Product Owners, one per subject.

Sometimes students have the freedom within the curriculum of the school to partly determine their own learning goals. In this case the Product Owner is still responsible for the final acceptance criteria, but the relation with core goals and final terms is much more relaxed.

As product owner the teacher is a servant leader to the Student Teams. The product owner is also responsible for the propagation of the eduScrum philosophy. The product owner is responsible that eduScrum is understood and correctly executed and therefore focuses on the way of working and collaboration of all Student Teams of a class. To ensure this, the product owner, does the following:

- explain what eduScrum is, what its relevance is and how it works (one time)
- ensure that good Student Teams are formed based on complementary skills
- ensure that the eduScrum process is followed by holding a Student Team to the eduScrum theory and rules
- if necessary intervene with extra explanation, demonstrations, positive feedback etc.
- encourage energy, fun and a growth mindset (may be delegated to eduScrum Master)
- protect teams from interruptions from outside (may be delegated to eduScrum Master)
- encourage Student Teams to remove impediments quickly and autonomously; impediments that are too large for a Team should quickly be resolved by the product owner. (may be delegated to eduScrum Master)

Furthermore the product owner is responsible for coaching and guiding the students who serve as eduScrum Masters within their Student Team. (see eduScrum Master)

The product owner also encourages cross-Team collaboration. After all, Student Teams can learn a lot from each other's successes and failures.

The Student Team

The Student Team consists of autonomous students who collaborate to achieve the required learning goals at the end of the Sprint according to the defined acceptance criteria. The team members are responsible together, as a team, for complying with the acceptance criteria.

The Student Teams are structured and empowered by the Product Owner in such a way that they can organize and manage their own work. Because of this the effectiveness and efficiency¹ is greatly improved, and also the learning experience and personal growth.

Student Teams have the following characteristics:

1. They are self-organizing. Nobody (not even the Product Owner) tells the Student Team **how** they should realize the learning goals.
2. They are multi-disciplinary, with all required skills and personal development themes to be able to achieve the learning goals together and can develop personally.
3. Student Team members can have specific skills or focus areas, but the responsibility lies with the Student Team as a whole,
4. The Student Team members may determine themselves if they want to contribute their qualities, or that they want to develop new areas.
5. The Student Team tracks its own progress and quality level based on the acceptance criteria and the Definition of Done.

¹ Effectiveness is doing the right things, efficiency is doing the things right.

Student Team size

The optimum Student Team size is small enough to be manageable and large enough to perform significant amounts of work. A rule of thumb is to have 4 person teams. Less than three members leads to less interaction and representation of skills. More than five members in the team requires too much coordination. Large teams generate too much complexity to be able to be controlled by an empirical process. The teacher is not counted in the Student Team size.

The eduScrum Master

Within a Student Team one of the members performs the eduScrum Master role of that team. The eduScrum Master is a “serving, coaching leader” of the team while they are also part of the team. They help their team to perform optimally - but they do not direct the team.

Within eduScrum the eduScrum Master has a more constrained role than the Scrum Master role in Scrum. This is because the Product Owner takes on several of these responsibilities. As the eduScrum Masters gain more experience, they take up more responsibilities and the number of responsibilities of the Product Owner decreases more and more.

In the Team Formation ceremony first the eduScrum Masters are chosen by the Product Owner or by the class. The eduScrum Masters in turn choose team members with complementary skills.

In the Student Team the eduScrum Master is responsible for the "Flip" (a synonym for the Scrum Board - one sheet of flipchart paper). The eduScrum Master ensures that the "Flip" is available and up to date. However, performing the actual work is the responsibility of the whole team. The eduScrum Master also supports the Product Owner and the Student Team.

The eduScrum Master role is by default the responsibility of the Product Owner. However the better teams get, the more responsibilities are delegated to the eduScrum Master on the Team.

eduScrum Master service to the Product Owner

The eduScrum Master serves the Product Owner in various ways, including:

- creating transparency on progress by making the "Flip" available and ensuring that it is up to date
- facilitating eduScrum events when asked or needed.

eduScrum Master service to the Student Team

The eduScrum Master serves the Student Team in several ways, including at the very least:

- creating transparency on progress by making the Flip" available and ensuring that it is up to date
- ensuring correct execution of eduScrum (initiating and facilitating eduScrum events, correct execution of events, use instruments correctly)
- facilitating cross-team collaboration

eduScrum Events

Prescribed events are used in eduScrum to create regularity and predictability. All events are time-boxed events, such that every event has a maximum duration, ensuring an appropriate amount of time is spent without allowing waste in the process.

Other than the Sprint itself, which is a container for all other events, each event in Scrum is a formal opportunity to inspect and adapt something. These events are specifically designed to enable critical transparency and inspection. Failure to include any of these events results in reduced transparency and is a lost opportunity to inspect and adapt.

The Sprint

The heart of eduScrum is a Sprint, a coherent set of learning material that achieves certain learning goals. A Sprint can be a context rich lesson serie, a project, a chapter from a book, and so on. Usually Sprints coincide with semesters or periods, but this is not required.

A Sprint has a predetermined time-box, usually two months or less. When this horizon is further away it becomes hard for the Student Teams to plan² well and oversee the complexity.

The Sprint starts with a Sprint Planning Meeting and Team Formation. The Student Teams determine independently what they will be doing in that period. The Student Team at all times determines the “how”.

Sprints consist of:

- Sprint Planning meeting including Team Formation
- Stand Ups at the start of every class
- performing assignments and tasks within a Sprint
- Sprint Review
- Sprint Retrospective and Personal Reflection

During the Sprint:

- the composition of the Student Teams is not changed
- the scope is not changed; the quality may be clarified and renegotiated between the Product Owner and the Student Team as more is learned

The sprint ends with a Review and Retrospective; inspecting work delivered and identifying possibilities for improvement.

During a Sprint the Product Owner monitors and checks regularly whether each Team realizes the intended quality. Some teams even have an additional event scheduled on a regular and time-box based interval to secure that Inspection and Adaption takes place during the Sprint. Just like in Scrum, in eduScrum we have the motto “Test in the Sprint”. The Product Owner emphasizes regularly that deliveries have to be tested and stimulates the Student Teams to do this themselves. Student Teams may think of all kinds of methods to do this, from testing each other to short educational games or competitions.

² Some teams, in particular those new to eduScrum, find it hard to plan a whole Sprint at the start. They usually than plan high-level at the beginning and more in detail as they go along and gain more insight.

As Product Owner the teacher monitors the progress of each team. The "Flip" and the Burn Down Charts provide a quick overview.

Canceling a Sprint - not in eduScrum.

Unlike with Scrum a Sprint cannot be canceled in eduScrum. It is possible that extra assignments (scope) are provided to reach the required results. This shall only be used in exceptional circumstances. A teacher can also include central explanation moments to ensure the required results. This can be done for all teams or per Student Team.

The Sprint Planning Meeting

The Sprint Planning meeting is scheduled at the beginning of the Sprint. It consists of 3 sub elements; Team Formation, Learning Goals and Work Planning.

Team Formation

In addition to the Scrum Events eduScrum offers two extra events, one of which is Team Formation. Careful Team Formation based on qualities and skills is essential to eduScrum for better learning performance. The work that needs to be done is varied and requires teams to have as many qualities, knowledge and skills as possible.

To achieve good team compositions the following criteria are important:

- qualities of team members are complementary;
- balanced ratio of sexes;
- different compositions than those during previous assignments;
- composition based on friendship is undesirable.

During Team Formation the Product Owner or the entire class first appoint eduScrum Masters. The eduScrum Masters then choose a team of people with complementary skills. The Team Formation event is part of the Sprint Planning event.

Learning Goals

The learning goals give the Student Team the necessary flexibility with respect to what and how there will be delivered within the Sprint. The Product Owner tells what he expects of the Team at the end of the Sprint; the learning goals are primarily subject matter related and are extensions of the Core Goals and Final Terms as formulated by the government.

During their work the Student Team keeps an eye on the learning goals. Assignments and tasks will be done to achieve these learning goals. If the work turns out to be different than the Student Team expected they will work with the Product Owner to restructure the tasks and assignments in such a way that the learning goals can once more be achieved.

The learning goals are part of the formal Core Goals or Final Terms and can as such be seen as milestones in the progress of the Student (Teams).

Work Planning

The work that must be done during a Sprint is planned during the Sprint Planning meeting. The creation of this plan is a collaborative effort of the whole Student Team.

First the teacher presents an overview of the assignment, the number of lessons, how many lessons are in a Sprint, when the central moments are, hand in date, evaluation models and so on. The Product Owner sets the boundaries within which the students can claim ownership and create their planning.

The Sprint Planning Meeting is a time box of two classes for a Sprint of approximately two months. This time box is usually also needed for shorter Sprints.

The Sprint Planning Meeting answers the following questions:

- What is expected of the Student Team in this Sprint; what are the learning goals, what teaching material will be covered, what are the acceptance criteria and what dependencies are there.
- What has to be done to achieve the learning goals, in what order and by whom.

The Product Owner presents the learning goals to the Student Teams and explains them so that all Student Teams and all team members have a good idea what is expected of them during this Sprint. The learning goals must have been explained to such a degree that the Student Team can independently elaborate these learning goals in a team planning.

After the Product Owner has explained the learning goals it is up to the Student Team to figure out the required activities. In principle the Student Team is responsible for the size of tasks and partial deliveries.

As soon as it is clear what needs to be done the Student team starts to organize the tasks and partial deliveries chronologically based on their own insight and acceptance criteria of the Product Owner.

As soon as the tasks and partial deliveries have been ordered chronologically the first subdivision into tasks can be done. During this planning session there will only be a first draft. After all, the process of inspection and adaptation continually leads to renewed insights and possibly to changes in the planning and work division.

At the end of the Sprint Planning Meeting the Student Team should be able to explain to the Product Owner how they are planning, as self-organizing team, to achieve the learning goals and how they will realize the Sprint Objectives.

Stand Up

The Stand Up is a 5 minute time boxed event for the Student Team to synchronize activities and to make a plan until the next meeting. The Stand Up occurs at the beginning of every class. This is done by inspecting the work since the last Stand up and by forecasting what work can be done until the next Stand Up.

The Stand Up is held every class at the same moment, namely at the beginning, to reduce complexity and introduce regularity. During the Stand Up each Student Team member tells the following:

- What have I done to help the team achieve the Sprint goal since the previous class?
- What will I do this class to help the team achieve the Sprint goal?
- What are impediments that block me or the team to achieve the Sprint goal?

The Student Team uses the Stand Up to evaluate and guard the progress with respect to the learning goals, re-plan the work and to make working agreements. The Stand Up maximizes the likelihood that the Student Team will reach the learning goals at the highest possible quality. The Student Team must be able to explain the Product Owner how they will work together as a self-organizing team to achieve the learning goals and what the activities are in the remainder of the Sprint.

The eduScrum Master makes sure that the Student Team actually does the Stand Up, but the Student Team is responsible for the execution of the Stand Up. The eduScrum Master helps the Student Team to keep the Stand Up within the 5 minute time box.

Stand Ups improve communication, identify and remove obstacles to development, highlight and encourage fast decision making and improve the knowledge of the Student Team about the project. This is a very important “inspect and adapt” meeting.

Sprint Review

The Sprint Review takes place at the end of Sprint and is synonymous with a final assignment. The Student Teams display what they have learned in the last Sprint, this should be checked against the Learning Goal and Definition of Done. The manner of presentation depends on the Learning Goals and the acceptance criteria.

During the Sprint it is necessary to Inspect and Adapt as often as possible but without hindering the learning process. In general it can be concluded that the more often Inspection takes place the higher the chances on success are. Frequency of Inspections and how they will be judged should be shared with the Student Team at the start of the Sprint during Sprint Planning. These inspections help the teams to judge what progress and quality are against the Learning Goals, and aim for getting as much feedback as possible about the finished tasks.

Sprint Retrospective

The Sprint Retrospective is an opportunity for the Student Team to inspect themselves. The Sprint Retrospective is done as soon as possible after the Sprint Review. The Retrospective should be done thoroughly and is meant for the Team and Individuals to create a plan to improve themselves and prepare for the upcoming Sprint assignment. This Retrospective should be held as soon as the grades of the final assignment are available. Any delay of the Retrospective is a possible missed opportunity for improvement of the Teams and Individuals for the current Sprint.

The goal of this Sprint Retrospective is:

- to inspect how the last Sprint went with respect to people, relations, processes and tools;
- to identify things that went well and potential improvements and to order those; and,
- to create a plan to implement improvements of the way in which the Student Team performs its work.

The Sprint Retrospective consists of three parts:

1. The students evaluate the methodologies and work methods of the team and identify improvement points;
2. Next, each student evaluates his team members on skills and improvement points; and he/she does this for him/herself as well;
3. The team discusses what they should stop doing

Consequently, the students are learning together to learn effectively and efficiently. The Sprint Retrospective is therefore a very important and essential part of the eduScrum process and it must certainly not be omitted. It takes place after the **whole Sprint** has been finished.

The Student Team individually and collectively answers the following four questions:

1. What went well?
2. What can or should be done better?
3. What should we not do anymore?
4. What action will we take into the next Sprint?

eduScrum Artifacts

eduScrum's artifacts represent work or value in various ways that are useful in providing transparency and opportunities for inspection and adaptation. Artifacts defined by eduScrum have been specifically designed to maximize transparency of key information needed to ensure Student Teams are successful in achieving a "Done" Learning Goal.

Product Backlog

The Product Backlog is an ordered list (all items) of learning goals and work methods that conform to the Core Goals as defined by the government for the entire course.

The Product Owner is responsible for the Product Backlog, including its content, availability and ordering.

Contrary to Scrum, where the Product Backlog is never complete, with eduScrum the Core Goals and often the Learning Goals too, are known in advance. The Core Goals are predetermined; the Learning Goals may vary, but are often known as well. However, the work methods will be constantly adjusted based on progressive insight, in accordance with the Scrum principle "Inspect and Adapt". The Product Backlog is dynamic as to work methods: it constantly changes to identify what the students need to cooperate effectively and to understand the learning material.

The Product Backlog is ordered based on the Learning Program, thus the learning goals and stories (work methods) have to conform to the overall, governmentally imposed Learning Program. The highest ordered Product Backlog items relate to the upcoming Sprint, and lower ordered items will be processed later chronologically. Higher ordered Product Backlog items are clearer and more detailed than lower ordered ones. The lower the order, the less detail. Product Backlog items that will occupy the Student Team for the upcoming Sprint are fine-grained, having been decomposed so that any one item can be "Done" within the Sprint time-box. That is, the learning material has been clarified and outlined sufficiently so that the Student Team will be actually successful in realizing proper results in the upcoming period.

The "Flip" (Scrum Board)

The "Flip" derives its name from the Flipchart and conveys the mobility of this overview of the set of tasks and assignments (research, quiz, presentation, paper, etc.) that the Student Team will complete in the current Sprint. The Flip is a chronological representation of the Sprint work. The tasks and assignments move according to their status from: To Do, Busy to Done. The Flip is an overview of all tasks needed to accomplish the learning goal. In addition, the Flip provides insight in the Planning. It illustrates exactly where the Student Team stands with respect to done and remaining work. Consequently, the Flip is also a forecast whether the Student Team will achieve the stated learning goals. The Flip must be constantly updated so that it always reflects an "up to date" status of the progress of the Student Team. Updating occurs at least before every Stand Up.

Another attribute of the Flip is that it should enhance the transparency about progress. This requires that the Flip must be visible for all Student Teams during each meeting.

The Flip is a plan with enough detail that changes in progress can be understood in the Stand Up. The Student Team modifies the Flip throughout the Sprint, and thus it evolves during the Sprint. So, the Flip may be revised at all times based on progressive insight (such as adding new tasks).

As new work is required, the Student Team adds it to the Flip. When elements of the plan are deemed unnecessary, they are removed. Only the Student Team can change its Flip during a Sprint. The Flip is a highly visible, real-time picture of the work that the Student Team plans to accomplish during the Sprint, and it belongs solely to the Student Team.

Monitoring Sprint Progress

At any point in time in a Sprint, the total work remaining in the Sprint on the Flip can be summed. The Student Team tracks this amount at least for every Stand Up. The Student Team, together with the Product Owner, projects the likelihood of achieving the Learning Goal, based on the status of the remaining tasks. By tracking the remaining work throughout the Sprint, the Student Team can manage its progress.

Definition of “Done”

When a Learning Goal or a Learning Story item is described as “Done”, everyone must understand what “Done” means. Although this varies significantly per Student Team, members must have a shared understanding of what it means for work to be complete, to ensure transparency. This “Definition of Done” for the Student Team is used to assess when work is complete for the Learning Goal.

Learning Goal

The Learning Goal is the sum of all the items to be completed during a Sprint. At the end of a Sprint, the Learning Goal must be “Done,” which means it must meet the predefined acceptance criteria, where the goal is to get a grade that denotes comprehension of the Learning Goal (which is more or less two thirds of the learning material). Even though a 5.5 (on an scale from 1 – 10) is sufficient to pass to the next Sprint/Period/School Year, that does not by definition indicate comprehension of the Learning Goal.

The same definition guides the Student Team with planning and decomposing during the Sprint Planning Meeting. The purpose of each Sprint is to accomplish Learning Goals that adhere to the current Definition of “Done” of the Student Team at the highest quality possible.

Important questions to arrive at a useful Definition of “Done” are:

- How do you check whether you are really done?
- What is done exactly, what criteria should hold?
- But also, when is it not done?

De Student Teams are themselves responsible for setting up their Definition of “Done”. Since setting up a Definition of “Done” is also part of the learning process, it may be changed based on

the output of the retrospectives. In that way, new insights can be assimilated into the process to get better results.

The Definition of Fun

An addition to the Definition of “Done” is the Definition of “Fun”. Fun is an important motivator for students and is therefore essential for getting better learning results. Hence, students should also indicate what they need to have fun during the work they are doing. “Need” in this context may be interpreted best in the broad sense of the word: what should be there to ensure enjoyable work. Often the output of a retrospective offers clues for the Definition of “Fun”. The Definition of Fun list is also a ‘living document’ and may be changed or expanded frequently.

End Note

eduScrum is free and offered in this Guide. eduScrum's roles, artifacts, events, and rules are immutable and although implementing only parts of eduScrum is possible, the result is not eduScrum. eduScrum exists only in its entirety and functions well as a container for other techniques, methodologies, and practices.

This guide will be revised regularly. If you have some thoughts on how this guide can be improved, please share them with us at:

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Acknowledgements

People behind eduScrum

“We have great faith in young people. We are convinced that they wish more and are more capable than they themselves or many adults believe. eduScrum ensures that students get the most out of themselves and their team. That is what makes education worthwhile for anyone involved! The result is that young people respect each other as they are. So we hope that we can contribute to a better world.”

The eduScrum team: <http://eduscrum.nl/eduscrum-team>

The students:

Most of the ideas to improve eduScrum come from the students themselves. We implemented their ideas and creativity.

eduScrum Foundation and Friends of eduScrum

Further development of eduScrum is made possible with the help of the Friends of eduScrum.

Our partners are: Jeff and Arline Sutherland (Scrum Inc.), Ashram College, Schuberg Philis, Xebia, Tele 2, Prowareness.

For further reading please visit:

<http://www.eduscrum.nl>