



AMORES

An Approach to Motivating learners to Read in European Schools

DELIVERABLE D2-2

Technology selection report

Version 1.0

This project has been funded with support from the European Commission. This deliverable reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



TYPE OF DELIVERABLE:	Document
DISSEMINATION LEVEL:	Public
WORK PACKAGE NUMBER:	WP2
WORK PACKAGE TITLE:	Development of a new methodology
DUE DATE:	31.03.2014.

WORK PACKAGE LEADER:	Dr Geoff Walton
AUTHOR(S):	Jelena Valčić, Dr Mark Childs
CONTRIBUTOR(S):	Gordana Jugo, Vedrana Vojković Estatiev
PROJECT COORDINATOR:	CARNet



TABLE OF CONTENTS:

1. INTRODUCTION	5
2. TOOLS FOR VIDEO CREATION AND EDITING	8
2.1. iMOVIE	8
2.1.1. CONCLUSION	14
2.2. MOVIE MAKER	15
2.2.1. CONCLUSION	21
2.3. VIDEOPAD	22
2.3.1. CONCLUSION	28
2.4. LOOPSTER	28
2.4.1. CONCLUSION	39
3. TOOLS FOR MAKING COMICS	39
3.1. TOONDOO	39
3.1.1. CONCLUSION	46
3.2. PIXTON	47
3.2.1. CONCLUSION	54
3.3. MAKEBELIEFSCOMIX	55
3.3.1. CONCLUSION	61
3.4. CHOGGER	62
3.4.1. CONCLUSION	68
4. VIRTUAL CLASSROOM AND SOCIAL NETWORKING TOOLS	69
4.1. EDMODO	69
4.1.1. CONCLUSION	75
4.2. SCHOLOGY	75
4.2.1. CONCLUSION	81



5. TOOLS FOR VIDEOCONFERENCING	82
5.1. LIVEMINUTES	82
5.1.1. CONCLUSION	89
5.2. ADOBE CONNECT 9	90
5.2.1. CONCLUSION	96
5.3. BIG BLUE BUTTON	97
5.3.1. CONCLUSION	102
5.4. SKYPE	103
5.4.1. CONCLUSION	109
6. GAME BASED LEARNING TOOLS	110
6.1. MICROSOFT PAINT	110
6.1.1. CONCLUSION	116
6.2. PAINTBRUSH	116
6.2.1. CONCLUSION	122
6.3. OPEN OFFICE - WRITER	122
6.3.1. CONCLUSION	128
7. TOOL SELECTED FOR THE PROJECT	128
8. RECOMMENDATIONS	130
9. LIST OF ALL TOOLS	131



1. Introduction

The AMORES technology selection report (D2-2) corresponds to the results of the state of the art document (D1-1), the needs analysis (D1-2) conducted among participating schools, as well as supports the draft of the methodology developed jointly by teachers participating in the project and expert facilitators (D2-1).

During this process following recommendations were made:

1. Sufficient tools should be identified to support the key aspects of construction; that is both the creation of the artefact and the social learning that is triggered by the process of creation.
2. Sufficient tools should be identified to support learners through the whole experiential learning cycle, that is; to create an artefact then observe the learning acquired and reflect on that learning.
3. Tools should build on prior experience within the consortium. Where schools were not familiar with a technology, the experience of one technology at one school could be shared within the group. Evidence of the technology working at one school was a reassurance that it should be possible for it to work at all.
4. That the predominant technologies used by the schools already were those for creating presentations and short videos; as well as those for making short videos *from* presentations. Where technology was less used was in the area of supporting online social and collaborative learning.
5. That the term “e-artefact” or “digital artefact” could be anything in the range from a scanned hand-drawing to a 3D object in a virtual world, but had to be feasible within the range of technologies identified as schools possessing (from the state of the art survey D1-1).



6. That technologies used within the project should be limited to those that two or more schools wished to use (to enable collaboration). During the workshop technologies were suggested, both during an initial trigger presentation in which two of the project team with experience of a range of technologies presented some ideas for consideration, and in subsequent discussions within the workshop. During this phase technologies such as augmented reality were raised (no schools were interested in pursuing this) and Minecraft (raised by one school as a technology they used but not picked up by any of the other schools). Others such as creating cards for games using a simple Word template were adopted by two schools.

The report looks at a number of ICT tools that fulfil the above criteria and makes recommendations for the selection of those which are considered to be the most appropriate in the context of supporting the learning goals of the AMORES project. The selection was carried out using the SECTIONS model, which is a framework for selecting technology developed by Bates and Poole (CTLT - 2010). The basic checklist includes these criteria:

S Students	What is known about the students and the suitability of the technology for them?
E Ease of use and reliability	How easy is it for participants to use? How reliable and tested is the technology?
C Costs	What are they per learner?
T Teaching & learning	What are the best technologies for supporting this pedagogical approach?
I Interactivity	What kind does this technology enable?



O Organization	What are the requirements and barriers?
N Novelty	How new is the technology?
S Speed	How quickly can materials be produced and changed?

Each criterion is further developed through 4-6 more specific questions which help to determine the suitability of the tools for this particular project. Nevertheless, the questions are applicable in a wider context and are not restricted to the selection of technology only for the purposes of teaching literature.

The report provides an analysis of 2-4 tools for each of the following five categories: video creation and editing, making comic strips, games-based learning, the virtual classroom and social networking, and videoconferencing. In addition to analysing the tools, the report provides a recommendation for one tool in each category that is considered the most appropriate based on the answers to the questions developed within the SECTIONS model. It is preferable that the tool has as many **positive** (yes) answers as possible, but the importance (high, medium or low) of the question also plays a part in deciding the recommendation. It should be noted that these evaluations and recommendations are hypothetical in certain aspects, and the answers to the questions are given from a general perspective. Some answers may change for individuals in specific contexts; for instance, if a teacher is already familiar with a particular tool and comfortable with his or her ability to show and explain how the tool is used to students.

Disclaimer: The AMORES technology selection report analyses technologies which are subject to updates.



2. Tools for video creation and editing

2.1. iMovie

Please note that teachers who choose iMovie as their tool for creating video artefacts must bear in mind that they will need to have specific technology available in their classroom/computer lab. They must also note that if they are going to give homework assignments that require use of the tool they must make sure that the students have the same technology available at their homes. iMovie is platform specific. It requires Apple products such as iPad and Mac in order to run and be usable. Teachers must first make sure that this technology is available or can be made available (in agreement with the school board). They must also ascertain whether their students have access to such technology in order to do their homework assignments (if the teacher decides to give them as a part of an activity). When it is concluded that the technology is available it should be checked if iMovie comes pre-installed. If not, there is one more thing to consider: which OS does this device have? If the device is a Mac and the OS is older than OS X Maverick, or if the devices are iPad / iPhone and the OS is older than iOS 7, the tool will have to be purchased. Otherwise it is available at no charge on <https://www.apple.com/mac/imovie/> (Mac) and <https://www.apple.com/ios/imovie/> (iPad, iPhone and iPod Touch).

The answers in the table will assume that the teachers have taken all of the above into consideration.



Tool to evaluate:

iMovie

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		It is OS based so it is highly unlikely that they will come in contact with the online community that online tools have.
	Do the students have the necessary computer skills to use this tool?	Y			M	Most children come in touch with technology at an early age nowadays but there will still be a few who have not had the opportunity.	Computer skills needed to use the tool: - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop
	Is the tool appropriate across different cultures and languages?	Y			M		The language is detected from the system settings of the OS.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H	This tool will be considered provided that the teacher has already determined that the Apple technology needed is	



					available.	
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M	This tool will be considered provided that the teacher has already determined that the Apple technology needed is available in students' homes.
E	Ease of Use					
	Is the tool easily available?	Y			H	The tool can be downloaded from Apple official app stores.
	Is the tool going to be easily available for the foreseeable future?	Y			M	Depending on the situation Apple may decide to make the tool available for purchase. The tool is one of the core apps that Apple provides and it is highly unlikely that it will not be available in the near future.
	Is it easy to upgrade and maintain the tool?				H	Apple regularly provides updates for their products and can be automatically updated.
	Is the tool available on mobile devices in addition to computers?	Y			M	The tool is available for all Apple mobile devices that run iOS 7 or newer versions of the OS.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H	For beginners the tool may be slightly difficult but is intuitive and supported with tutorials and instructions. Apple products are widely available and most of the students come in touch with them so it is likely that they already have some familiarity with using the tool.
	Will students be able to learn to use the tool without a	Y			M	A small number of students may have not been in touch



	major investment in time?					with the tool and may need more time to become familiar with it.	
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M	The teachers may need a little more time to learn how to use the tool. Particularly those that are not familiar with technology.	
	Are the teachers comfortable enough with the tool to guide students?	Y			H		The teachers need not be professionals and know the tool in detail. The knowledge of basic features will be sufficient.
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		It is quite easy to design a learning activity that will include the use of this tool.
	Will students be able to use the tool without incurring additional costs?	Y			M	It is possible that a few individuals will need to buy the tool because of the older OS.	
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	It will be required to host the materials on a third party service.	Yes, the materials upon creation are directly stored on the device running the tool.



T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Creating video materials on a specific topic is a common activity in education. In this context the script can be a chapter from a book students are required to read.
	Does the tool enable creation of e-artefacts?	Y			H		The tool enables the creation of video materials.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H		Sharing is supported through iTunes or YouTube directly from the tool. Note that for viewing in iTunes an account is needed. In addition one can export the material and upload it on a different hosting service to be shared.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M		
	Does this tool allow for collaboration with project participants?		N		H		The only way to accomplish collaboration is through sharing project files and not



	Does this tool allow for collaboration with others beyond the original project participants?		N		M	the completed material. This way of collaboration is quite impractical.	
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is supported by Apple and as such will be appropriately updated and maintained as all other official Apple products.
	Is there help available for the teachers or their students if they need it?	Y			H		Apple offers user help for those in need of assistance and there are resources available widely over the internet. Also help is available as a feature in the tool so it is easily accessible.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?	Y			H		The created material is not stored anywhere in the cloud but locally on the user's device so even if the tool fails or is replaced the material will still be available.
	Are there structures in place to support management of student accounts?			N/A	M	To be able to share the materials on third party services such as iTunes or YouTube an account will be needed.	There is no need to possess an account in order to use the tool, aside from the user account on the device used to run the tool.
	Will the teachers need to add students manually into the			N/A	M		The tool offers no options such as online environment or classrooms.



online environment?							
N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage in literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging in literature and reading.
	Has the technology been in use for some time already?	Y			M		This tool has been around for quite some time.
	Are there examples of use in an educational context?	Y			M	One must be sure that the examples are appropriate for the context in which the teacher will use the tool.	There are plenty of examples where the tool is used in education and supports education.
S	Speed						
	Is the content created with this tool easily changed/adapted?		N		H		If there is no backup of the project but the finished material then there is almost no possibility of changing or adapting the material.

2.1.1. Conclusion

iMovie is a recommended video tool for those classes that already have the supported technology (Apple products), as it has been noted that it comes free with most products. It is supported and available and for that reason stable to use for a longer period of time. It is easy to learn and has user support as well as tutorials and instructions to make it easier for students and



teachers to use the tool. In the context of the AMORES project this tool will provide the students with a fun and different approach to reading and understanding the reading material. The tool requires no registration in order to be used. The downside is that collaboration cannot be achieved through an online environment, but is not completely impossible to achieve it.

2.2. Movie Maker

Please note that teachers who choose Movie Maker as their tool for creating video artefacts must bear in mind that they will need to have specific technology available in their classroom/computer lab. They also must note that if they are going to give homework assignments that require use of the tool they must make sure that the students have the same technology available at their homes. Movie Maker is platform specific. In order to run Movie Maker one must have a computer running a Microsoft Windows OS. It is not dependent on a specific hardware manufacturer like Apple and their products. Those who have tablet devices running Windows 8 OS can use Movie Maker on them. Movie Maker comes free of charge as part of the Windows Essentials package and can be acquired on <http://windows.microsoft.com/en-us/windows-live/movie-maker>.

Tool to evaluate:

Movie Maker

Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics



S	Students					
	Is the tool appropriate for the students, especially young children?	Y			H	The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H	The tool is OS based so it is highly unlikely that they will come in contact with the online community that online tools have.
	Do the students have the necessary computer skills to use this tool?	Y			M	<p>Most children come in touch with technology at an early age nowadays but there will still be a few who have not had the opportunity.</p> <p>Computer skills needed to use the tool:</p> <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop
	Is the tool appropriate across different cultures and languages?	Y			M	The language is detected from the system settings of the OS.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H	A big advantage of the tool is that it can be run on any device that runs MS Windows OS.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M	



E	Ease of Use					
	Is the tool easily available?	Y			H	The tool can be downloaded from the Microsoft website.
	Is the tool going to be easily available for the foreseeable future?	Y			M	Unless Microsoft decides not to provide the tool anymore. The tool is one of the core apps that Microsoft provides and is highly unlikely that it will not be available in the near future.
	Is it easy to upgrade and maintain the tool?	Y			H	The tool automatically updates if this is enabled in the OS settings.
	Is the tool available on mobile devices in addition to computers?	Y			M	The tool is available for all who use smartphones and tablets that run Windows mobile OS.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H	The tool's interface and features are simple. It offers most used and basic features so the user is not confused with many options.
	Will students be able to learn to use the tool without a major investment in time?	Y			M	Even though it may be for some a new tool, it is quite easy to learn the basic features.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M	
	Are the teachers comfortable enough with the tool to guide students?	Y			H	The teachers need not be professionals and know the tool in detail. Knowledge of basic features will be sufficient.



C	Costs					
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M	It is quite easy to design a learning activity that will include the use of this tool.
	Will students be able to use the tool without incurring additional costs?	Y			M	The tool comes free with the MS Windows package.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	It will be required to host the materials on a third party service. Yes, the materials upon creation are directly stored on the device running the tool.
T	Teaching and Learning					
	Does this technology support the learning goals that the teachers have identified?	Y			H	The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H	Creating video materials on a specific topic is a common activity in education. In this context the script can be a chapter from a book students are required to read.
	Does the tool enable creation of e-artefacts?	Y			H	The tool enables the creation of video materials.
I	Interactivity					
	Does this tool encourage	Y			H	With the appropriate activities the



	reflection on literature students will be reading?					students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H	It allows sharing through third party services such as YouTube, Vimeo, Flickr and Windows OneDrive directly from the tool. In addition one can export the material and upload it on a different hosting service to be shared.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M	
	Does this tool allow for collaboration with project participants?		N		H	The only way to accomplish collaboration is through sharing project files and not the completed material. This way of collaboration is quite impractical.
	Does this tool allow for collaboration with others beyond the original project participants?		N		M	
O	Organizational Issues					
	Are the support structures in place to maintain and update this tool?	Y			L	The tool is supported by Microsoft and as such will be appropriately updated and maintained as all other official Microsoft products.
	Is there help available for the teachers or their students if	Y			H	Microsoft offers user help for those in need of assistance and there are resources available widely over the



	they need it?					internet. Also help is available as a feature in the tool so it is easily accessible.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?	Y			H	The created material is not stored anywhere in the cloud but locally on the user's device so even if the tool fails or is replaced the material will still be available.
	Are there structures in place to support management of student accounts?			N/A	M	To be able to share the materials on third party services such as OneDrive or YouTube an account will be needed. There is no need to possess an account in order to use the tool aside from the user account on the device used to run the tool.
	Will the teachers need to add students manually into the online environment?			N/A	M	The tool offers no options such as online environment or classrooms.
N	Novelty					
	Will using this tool represent a new approach to teaching for the teachers?	Y			M	In the context of encouraging students to read more and engage in literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M	It will certainly show them a different and fun way of engaging in literature and reading.
	Has the technology been in use for some time already?	Y			M	This tool has been around for quite some time.



	Are there examples of use in an educational context?	Y		M	One must be sure that the examples are appropriate for the context in which the teacher will use the tool.	There are plenty of examples where the tool is used in education and supports education.
S	Speed					
	Is the content created with this tool easily changed/adapted?		N	H		If there is no backup of the project but the finished material then there is almost no possibility of changing or adapting the material.

2.2.1. Conclusion

Movie Maker is a recommended tool for those classes that already have the supported technology (Microsoft Windows operating system) as it is noted that it comes free of charge for all devices that run the operating system. It is supported and available and for that reason stable to use for a longer period of time. The tool is intuitive and offers user support, as well as instructions and tutorials to enable easy usage. In the context of the AMORES project this tool will give the students a fun and different approach to reading and understanding the reading material. The tool requires no registration in order to be used. The downside is that collaboration cannot be achieved through an online environment, but is not completely impossible to achieve it.



2.3. VideoPad

VideoPad is a tool for video editing like Movie Maker or iMovie. The difference is that VideoPad is a more complex tool and could be even considered as a semiprofessional tool. The considered version of VideoPad was free. The vendor states that the free version is available for non-commercial use and can be found on <http://www.nchsoftware.com/videopad/>.

Tool to evaluate:

VideoPad

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		The tool is OS based so it is highly unlikely that they will come in contact with the online community that online tools have.
	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: - Turn on the device



							<ul style="list-style-type: none"> - Navigate through the OS - Basic features like copy/paste, drag/drop
	Is the tool appropriate across different cultures and languages?		N		M		The tool is only supported in English.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		This is a cross-platform tool, which means it does not depend on specific hardware or software in order to be used. The only requirement is to own a computer or a mobile device.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		There is a free version available for download.
	Is the tool going to be easily available for the foreseeable future?	Y			M	There is a possibility that the tool will be no longer available at some point.	At the moment there is no indication that the tool won't be available in the near future.
	Is it easy to upgrade and maintain the tool?		N		H		The tool needs to be manually updated.
	Is the tool available on mobile devices in addition to computers?	Y			M		The tool is available for Apple and Android devices.



	Is the tool intuitive and easy for students and the teachers to use?		N		H		This tool is more complicated in comparison with other tools. Users who have no experience with video editing tools will find this tool more difficult to learn. Its characteristics are more like those of professional tools.
	Will students be able to learn to use the tool without a major investment in time?		N		M		The tool will prove to be more difficult to learn for those who do not have any experience with video editing tools. But those who do will also see that the tool is more sophisticated than iMovie or Movie Maker.
	Will teachers be able to learn to use the tool without a major investment in time?		N		M		
	Are the teachers comfortable enough with the tool to guide students?	Y			H		Though it is necessary to invest more time in learning how to use the tool, after mastering the basic features needed to create video materials it is not hard to pass on the knowledge.
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?		N		M		It is quite easy to design a learning activity that will include the use of this tool.
	Will students be able to use the tool without incurring additional costs?	Y			M		The tool is available free for download as long as it is used for non-commercial purposes.



	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	It will be required to host the materials on a third party service.	Yes, the materials upon creation are directly stored on the device running the tool.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Creating video materials on a specific topic is a common activity in education. In this context the script can be a chapter from a book students are required to read.
	Does the tool enable creation of e-artefacts?	Y			H		The tool enables the creation of video materials.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H	Sharing is supported through YouTube, Facebook and Flickr directly from the tool.	
	Does this tool allow for sharing with others beyond the original project participants?	Y			M	Note that to view the video on these services an account is needed. In addition one can export	



					the material and upload it on a different hosting service to be shared.	
	Does this tool allow for collaboration with project participants?		N		H	The only way to accomplish collaboration is through sharing project files and not the completed material. This way of collaboration is quite impractical.
	Does this tool allow for collaboration with others beyond the original project participants?		N		M	
O	Organizational Issues					
	Are the support structures in place to maintain and update this tool?		N		L	Updates are available but need to be manually installed.
	Is there help available for the teachers or their students if they need it?	Y			H	Help is available as a feature within the tool. Help, instructions and tutorials are also available on the tool website. Tutorials and instructions can be found outside the official web page but not as many as for iMovie or Movie Maker.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?	Y			H	The created material is not stored anywhere in the cloud but locally on the user's device so even if the tool fails or is replaced the material will be available.



	Are there structures in place to support management of student accounts?			N/A	M	To be able to share the materials on third party services such as Facebook or YouTube an account will be needed.	There is no need to possess an account in order to use the tool, aside from the user account on the device used to run the tool.
	Will the teachers need to add students manually into the online environment?			N/A	M		The tool offers no options such as online environment or classrooms.
N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage in literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging in literature and reading.
	Has the technology been in use for some time already?	Y			M		This tool has been around for quite some time.
	Are there examples of use in an educational context?	Y			M	One must be sure that the examples are appropriate for the context in which the teacher will use the tool.	There are plenty of examples where the tool is used in education and supports education.
S	Speed						
	Is the content created with this tool easily		N		H		If there is no backup of the project but the finished material then there is almost no possibility of changing or



changed/adapted?										adapting the material.
------------------	--	--	--	--	--	--	--	--	--	------------------------

2.3.1. Conclusion

VideoPad is a tool that is not dependent on a specific technology and can therefore be used on any platform. That is the main advantage of this tool in comparison to other tools in this category. On the other hand, it is more difficult to learn how to use this tool, and it resembles some professional tools for video editing. It does have instructions and tutorials but it takes more time to learn how to use than other tools in this category. Additionally, it doesn't update automatically, but needs to be updated manually. The downside is also that collaboration cannot be achieved through an online environment, although it is not completely impossible to achieve it. In the context of the project this tool will give the students a fun and different approach to reading and understanding the reading material. The tool requires no registration in order to be used.

2.4. Loopster

Loopster is an online tool for creating and editing of video materials. The version evaluated is free and is available on <http://www.loopster.com/>. The free version requires registration using either a Facebook or Google+ account or an email account. It offers a 5GB of cloud storage and the sharing of uploaded content with other users. The resolution of the created video material is 480p and it has a Loopster watermark. The duration of the video is limited to 10 minutes.

Tool to evaluate: Loopster

Questions to Ask...	Y	N	N/A	Importance	Need to take into	Specifics
---------------------	---	---	-----	------------	-------------------	-----------



					(high, med, low)	consideration...	
S	Students						
	- Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age. The tool is meant only for video creating and editing. It is not possible to view the work of others while browsing through the web of the tool. That way students can't accidentally come across inappropriate materials.
	- Is the tool a safe and secure environment for students, especially young children?	Y			H		The tool can be used by students of any age. The tool is meant only for video creating and editing. It is not possible to view the work of others while browsing through the web of the tool. That way students can't accidentally come across



							inappropriate materials.
	- Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop - Use an Internet browser
	- Is the tool appropriate across different cultures and languages?		N		M		It is available only in English.
	- Will the needed technology for working with the tool be available in school/classroom?	Y			H		The tool can be used on any computer, regardless of the OS. All that is needed is access to the Internet and a web browser.
	- Do the students have access to minimal requirements /	Y			M		



	technology needed to work with the tool for working from home?						
E	Ease of Use						
	- Is the tool easily available?	Y			H		The tool is available as an online tool easily found through a simple web search.
	- Is the tool going to be easily available for the foreseeable future?	Y			M	There is no indication that it will not be available in the near future. But teachers need to take in the consideration the fact that the tool is online and the life span of such tools is not easily foreseeable.	
	- Is it easy to upgrade and maintain the tool?	Y			H		The tool is available online so there is no need for updates to be installed on the computer. All updates are implemented without requiring any action



						from the user. Maintaining the tool is similarly achieved.
	- Is the tool available on mobile devices in addition to computers?	Y			M	The tool is available for iPad and iPhone devices.
	- Is the tool intuitive and easy for students and the teachers to use?	Y			H	It has an introductory video that shows the functions of the editor. It has all the basic properties.
	- Will students be able to learn to use the tool without a major investment in time?	Y			M	This tool is the simplest to learn of all the video tools considered.
	- Will teachers be able to learn to use the tool without a major investment in time?	Y			M	
	- Are the teachers comfortable enough	Y			H	With the introductory video explaining all the functions the



	with the tool to guide students?					teachers will be quite comfortable showing the tool to the students and teaching them how to use it.
	- Does the tool have support for intellectual property rights?		N			The tool states that the user-created content is copyrighted but it does not have the support for various copyright licenses (i.e. Creative Commons).
C	Costs					
	- Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M	It is quite easy to design a learning activity that will include the use of this tool.
	- Will students be able to use the tool without incurring	Y			M	A free account is available for the students and teachers to use. With limitations that are



	additional costs?					adequate for school assignments.	
	- Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	Teachers will need to take into consideration the possibility that the current user settings could be redefined, since it is a new tool, still growing.	The only condition is that the materials meet the limitation that is set on 5GB of cloud storage. Anything above will need to be paid for.
T	Teaching and Learning						
	- Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	- Does this tool enable students to engage with literature they are reading?	Y			H		Creating video materials on a specific topic is a common activity in education. In this context the script can be a chapter from a book students



							are required to read.
	- Does the tool enable creation of e-artefacts?	Y			H		The tool enables the creation of video materials.
I	Interactivity						
	- Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.
	- Does this tool allow for sharing with project participants?	Y			H	The tool allows downloading of the material for further sharing. Or it can be shared automatically on Facebook or YouTube. It should be kept in mind that for third party services one needs an account.	
	- Does this tool allow for sharing with others beyond the original project participants?	Y			M		
	- Does this tool allow	Y			H	One must note that full	



	for collaboration with project participants?					collaboration is actually not possible because the tool does not provide the option of direct project editing. But it allows sharing of uploaded materials such as audio, images and video used in video creation.	
	- Does this tool allow for collaboration with others beyond the original project participants?	Y			M		
O	Organizational Issues						
	- Are the support structures in place to maintain and update this tool?	Y			L		The tool is updated and maintained by the development team and those actions are taken in one place because the tool is online and there is no need for installation.
	- Is there help available for the teachers or their students if they need it?	Y			H	Note that although there is help available, it is limited because the tool is relatively new and it takes	The tool offers a great introductory video on its website. Also help is available as a tool feature for mobile



						time to make tutorials and instructions.	devices. Aside from that there are very few tutorials and instructions available.
	- Is there a way for the teachers to retrieve their material if this tool fails or is replaced?		N		H	Unless the material is saved on the device teachers won't be able to retrieve the material.	We recommend that all created materials are stored as a copy on a memory device as a backup.
	- Are there structures in place to support management of student accounts?		N		M		The tool offers no options for group accounts at this moment. There is a possibility, however, this will be available in the future. Every student will need to create their own account.
	- Will the teachers need to add students manually into the online environment?			N/A	M		The tool offers no groups or virtual classrooms so this question is not applicable.
N	Novelty						
	- Will using this tool	Y			M		In the context of encouraging



	represent a new approach to teaching for the teachers?					students to read more and engage with literature this will be a new concept.
	- Will this provide a new and (novel) learning experience for students?	Y			M	It will certainly show them a different and fun way of engaging with literature and reading.
	- Has the technology been in use for some time already?		N		M	This tool is relatively new. It has been in action for only two years and is constantly changing.
	- Are there examples of use in an educational context?		N		M	There is talk and mention of the tool being appropriate for use in education but no concrete examples.
S	Speed					
	- Is the content created with this tool easily changed/adapted?	Y			H	One must watch out that the cloud capacity is not filled because new content cannot be stored. Provided that the tool is not taken down and made unavailable, the created projects can be accessed and



edited at any time even if they have been published. The project files and published materials are kept separate.

2.4.1. Conclusion

Loopster is a tool that is not dependent on a specific technology and can therefore be used on any platform; all that is needed is a web browser. The biggest advantage the tool has is its simplicity and ease of use. The downside is the fact that it is a new technology and can be considered unstable because it is uncertain if it will be available in the near future. There is a limit on the video duration and registration is also required. Collaboration cannot be achieved and it does not have an environment like a virtual classroom. In the context of the project this tool will provide the students with a fun and different approach to reading and understanding the reading material.

3. Tools for making comics

3.1. ToonDoo

ToonDoo is an online tool intended for comic creation and is available on <http://www.toondoo.com/>. The tool is available for free but offers the option of an online environment for classrooms that serves as a closed online social network and this is



available for purchase. The free version has no limits on the tool functionality. The tool also allows users to make their own drawings or upload new content. Registration is required and must be through email.

Tool to evaluate:

ToonDoo

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H	There is an option for safe search so the students don't accidentally encounter inappropriate content.	Since it is aimed mostly at children it is a safe environment. If one does encounter inappropriate content it can be reported.
	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop - Use an internet browser



	Is the tool appropriate across different cultures and languages?		N		M	At the moment the tool is only supported in English. But the text for speech bubbles is supported for all languages.	
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		The tool is web-based can be used on any computer, regardless of the OS. All that is needed is access to the Internet and a web browser.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool is available as an online tool easily found through a simple web search.
	Is the tool going to be easily available for the foreseeable future?	Y			M	There is no indication that it will not be available in the near future. But the teachers need to take into consideration the fact that the tool is online and the life span of such tools is not easily foreseeable.	
	Is it easy to upgrade and maintain the tool?	Y			H		The tool is available online so there is no need for updates to be installed on the computer. All



						updates are implemented without requiring any action on part of the user. Maintaining the tool is similarly achieved.
Is the tool available on mobile devices in addition to computers?		N		M		At the moment the tool does not have an app that could be used on mobile devices. The tool can still be accessed via browser.
Is the tool intuitive and easy for students and the teachers to use?	Y			H		The tool is quite intuitive and the functions are understandable.
Will students be able to learn to use the tool without a major investment in time?	Y			M		Even though the tool has many options it is not confusing and is quite easy to understand.
Will teachers be able to learn to use the tool without a major investment in time?	Y			M		
Are the teachers comfortable enough with the tool to guide students?	Y			H		This tool has a nice fun touch to it so the teachers will find it easier to understand the tool and in that way it will be easier to explain it to the students.
Does the tool have support for intellectual property rights?		N				The tool states that the user-created content is copyrighted but it does not have the support for various copyright licenses (i.e. Creative Commons).



C	Costs					
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M	It is quite easy to design a learning activity that will include the use of this tool. For example, making a comic based on a chapter or event in a book that the students are reading.
	Will students be able to use the tool without incurring additional costs?	Y			M	The tool requires no additional cost since it is an online tool and has a free option for a user account.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	Teachers will need to take into consideration the possibility that the current user settings could be redefined since it is a new tool, still growing. There is no limit on the amount of materials that can be created and/or stored.
T	Teaching and Learning					
	Does this technology support the learning goals that the teachers have identified?	Y			H	The tool supports collaborative learning, learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H	Creating a comic related to the reading material is an interesting way to encourage students to learn. Students can deeply engage with literature through creating



						comics based on the reading material they are given.
	Does the tool enable creation of e-artefacts?	Y			H	The tool enables the creation of comic materials.
I	Interactivity					
	Does this tool encourage reflection on literature students will be reading?	Y			H	With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H	It is important that the comic is made public if there is intention of sharing beyond the traditional way of download and upload to another hosting service.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M	
	Does this tool allow for collaboration with project participants?	Y			H	If the teacher intends to use activities that include collaboration they need to keep in mind that the redo option must be enabled, aside from making the comic public.
	Does this tool allow for collaboration with others beyond the original project participants?	Y			M	
O	Organizational Issues					
	Are the support structures in place to maintain and update	Y			L	The tool is updated and maintained by the development team and those actions are taken



	this tool?						in one place because the tool is online and there is no need for installation.
	Is there help available for the teachers or their students if they need it?	Y			H		The tool has no introductory video but there is a help wiki available for users. Aside from that YouTube has many video tutorials demonstrating how to use the tool.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?		N		H	Unless the material is saved on the device teachers won't be able to retrieve the material.	We recommend that all created materials are stored as a copy on a memory device as a backup.
	Are there structures in place to support management of student accounts?		N		M	The teachers can consider the possibility of the paid version of the tool that offers the option of a controlled private environment and user account management.	The free version of the tool offers no options for student account managing, nor an online environment such as a closed virtual classroom. Every student will need to create their own account.
	Will the teachers need to add students manually into the online environment?			N/A	M		The tool offers no groups or virtual classrooms so this question is not applicable.
N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage in literature this will be a new



						concept.
	Will this provide a new and (novel) learning experience for students?	Y			M	It will certainly show them a different and fun way of engaging in literature and reading.
	Has the technology been in use for some time already?	Y			M	The tool has been in use for over five years.
	Are there examples of use in an educational context?	Y			M	Examples of use in education can be easily found and many teachers recommend it.
S	Speed					
	Is the content created with this tool easily changed/adapted?	Y			H	Any created comic can easily be edited and adapted to a new purpose.

3.1.1. Conclusion

ToonDoo is a recommended tool that is not platform dependent and in order to use it only a web browser and Flash are required. It is intuitive and easy so it takes very little time for students to learn how to use it. It is fun and offers the possibility of including their own content in addition to a range of premade content. The downside is that the virtual classroom environment needs to be paid for in order to be used and there are no application versions for mobile devices. The tool requires registration and offers a variation of collaboration which is based on redoing another user's comics. It has a community but



browsing through it can be controlled with safe filters. In the context of the project this tool will provide the students with a fun and different approach to reading and understanding the reading material.

3.2. Pixton

Pixton is an online tool intended for comic creation and is available on <http://www.pixton.com/>. The evaluated version is free but Pixton also offers a paid-for basic version and a version for schools. The free version requires registration using either a Facebook or Google+ account or an email account. The basic free version allows the user to create unlimited comics and fully possible characters. It also allows rating, embedding and editing of other users' comics. Printing and downloading of comics can only be achieved with coins that can be collected in various ways. The free version does not allow uploading of own content.

Tool to evaluate:

Pixton

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		The tool has a parental control option as well as security filters and settings so it can be appropriate for children of any



						age.
	Do the students have the necessary computer skills to use this tool?	Y			M	<p>Computer skills needed to use the tool:</p> <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop - Use an internet browser
	Is the tool appropriate across different cultures and languages?	Y			M	The tool can also be used in many languages other than English.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H	The tool is web-based and can be used on any computer, regardless of the OS. All that is needed is access to the Internet and a web browser.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M	
E	Ease of Use					
	Is the tool easily available?	Y			H	The tool is available as an online tool easily found through a simple web search.



Is the tool going to be easily available for the foreseeable future?	Y			M	There is no indication that it will not be available in the near future. But teachers need to take into consideration the fact that the tool is online and the life span of such tools is not easily foreseeable.
Is it easy to upgrade and maintain the tool?	Y			H	The tool is available online so there is no need for updates to be installed on the computer. All updates are implemented without requiring any action on part of the user. Maintaining the tool is similarly achieved.
Is the tool available on mobile devices in addition to computers?		N		M	At the moment the tool does not have an app that could be used on mobile devices. The tool can still be accessed via browser.
Is the tool intuitive and easy for students and the teachers to use?	Y			H	The tool is easily understandable and simple.
Will students be able to learn to use the tool without a major investment in time?	Y			M	The tool in its free version has few features so it is not complicated to learn and is not



	Will teachers be able to learn to use the tool without a major investment in time?	Y			M		confusing.
	Are the teachers comfortable enough with the tool to guide students?	Y			H		This tool has a nice fun touch to it so the teachers will find it easier to understand and therefore explain it to the students.
	Does the tool have support for intellectual property rights?	Y					All content that is created is licensed under the creative commons license. One is for remixable content and one for content that is not remixable.
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		It is quite easy to design a learning activity that will include the use of this tool. For example making a comic based on a chapter or event in a book that the students are reading.
	Will students be able to use the tool without incurring additional costs?	Y			M	Teachers need to take into consideration that the free version offers very limited features. One of these is downloading the created comic which can be used by trading in coins that can be earned in some ways or be bought.	



	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	Teachers will need to take into consideration the possibility that the current user settings could be redefined, since it is a new tool, still growing.	There is no limit on the amount of comics that can be created and/or stored.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Creating a comic related to the reading material is an interesting way of encouraging students to learn. Students can deeply engage with literature through creating comics based on the reading material they are given.
	Does the tool enable creation of e-artefacts?	Y			H		The tool enables the creation of comic materials.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.



	Does this tool allow for sharing with project participants?	Y			H	It is important that the comic is made public if there is intention of sharing beyond the traditional way of download and upload to another hosting service.	The created materials (if made public) are available for sharing via email, embedding code, Twitter, Facebook, link or simple search on the Pixton webpage.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M		
	Does this tool allow for collaboration with project participants?		Y		H		A user can modify a comic from another user if the comic is public and the user has enabled the remix option. It is worth noting that the original comic is not modified. Instead a copy of the selected comic is made in another user's library which can then be modified.
	Does this tool allow for collaboration with others beyond the original project participants?		Y		M		
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is updated and maintained by the development team and those actions are taken in one place because the tool is online and there is no need for installation.
	Is there help available for the teachers or their students if they need it?	Y			H		The tool has no introduction video but offers a link to how-to videos throughout the creation of the comic. Also help can be found through FAQ and information topics.



	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?		N		H	Unless the material is saved on the device teachers won't be able to retrieve the material.	We recommend that all created materials are stored as a copy on a memory device as a backup.
	Are there structures in place to support management of student accounts?		N		M	The teachers can consider the possibility of the paid version of the tool that offers the option of controlled private environment and user account management.	The free version of the tool offers no options for student account managing, nor an online environment such as a closed virtual classroom. But it provides parental control and security filters. Every student will need to create their own account.
	Will the teachers need to add students manually into the online environment?			N/A	M		The tool offers no groups or virtual classrooms so this question is not applicable.
N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage with literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging with literature and reading.
	Has the technology been in use for some time already?	Y			M		The tool has been in use for over five years.



	Are there examples of use in an educational context?	Y			M		Examples of use in education can be easily found and many teachers recommend it.
S	Speed						
	Is the content created with this tool easily changed/adapted?	Y			H		Any created comic can easily be edited and adapted to a new purpose.

3.2.1. Conclusion

Pixton is a tool that is not platform dependent and in order to use it only a web browser and Flash are required. The advantage that this tool has in comparison to other tools of the same context is the possibility of customizing premade content in a way that enables the user to change positions of characters and their body parts. The downside is the limitation of the free version: it offers no possibility of importing own content and the download of created comics must be paid for with coins (part of the application). The tool requires registration and a virtual classroom version must be paid for. Collaboration can be achieved through redoing comics of other users who have enabled this. In the context of the project this tool will give the students a fun and different approach to reading and understanding the reading material.

3.3. MakeBeliefsComix

MakeBeliefsComix is an online tool intended for comic creation and is available on <http://www.makebeliefscomix.com/>. It is fully free to use and requires no registration. The tool does not allow uploading of own content and has limited content. The created content cannot be downloaded.

Tool to evaluate:

MakeBeliefsComix

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		The tool requires no registration so there is no user profile and no communication channels.
	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop



							- Use an internet browser
	Is the tool appropriate across different cultures and languages?	Y			M		The tool also supports writing in speech bubbles in languages other than English.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		The tool is web-based and can be used on any computer, regardless of the OS. All that is needed is access to the Internet and a web browser.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool is available as an online tool easily found through a simple web search.
	Is the tool going to be easily available for the foreseeable future?	Y			M	There is no indication that it will not be available in the near future. But teachers need to take into the consideration the fact that the tool is online and the life span of such tools is not easily foreseeable.	



Is it easy to upgrade and maintain the tool?	Y			H		The tool is available online so there is no need for updates to be installed on the computer. All updates are implemented without requiring any action on part of the user. Maintaining the tool is similarly achieved.
Is the tool available on mobile devices in addition to computers?	Y			M		There is an app for iPad available.
Is the tool intuitive and easy for students and the teachers to use?	Y			H		The tool is easily understandable and simple.
Will students be able to learn to use the tool without a major investment in time?	Y			M		The tool has basic features with predefined elements so it is easy to use and understand.
Will teachers be able to learn to use the tool without a major investment in time?	Y			M		
Are the teachers comfortable enough with the tool to guide students?	Y			H		This tool has a nice fun touch to it so the teachers will find it easier to understand and therefore explain it to the students.
Does the tool have support for intellectual property rights?		N				The tool states that the user's created content is copyrighted but it does not have the support for various copyright licenses (i.e.



							Creative Commons).
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		It is quite easy to design a learning activity that will include the use of this tool. For example, making a comic based on a chapter or event in a book that the students are reading.
	Will students be able to use the tool without incurring additional costs?	Y			M		The tool requires no registration so there are no paid and free user account plans.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?			N/A	M		This question cannot be answered because the tool does not have the option of hosting or archiving created materials.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Creating a comic related to the reading material is an interesting way of encouraging students to learn. Students can deeply engage with literature through creating comics based on the reading material they are given.



	Does the tool enable creation of e-artefacts?	Y			H		The tool enables the creation of comic materials.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H	The tool allows sharing but in a very limited way. One can either receive it via email or share the received link (which does not always work) or a screenshot can be taken and later shared via another sharing service.	
	Does this tool allow for sharing with others beyond the original project participants?	Y			M		
	Does this tool allow for collaboration with project participants?		N		H		This tool does not allow any kind of collaboration.
	Does this tool allow for collaboration with others beyond the original project participants?		N		M		
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is updated and maintained by the development team and those actions are taken in one place because the tool is online and there is no need for



						installation.
	Is there help available for the teachers or their students if they need it?	Y			H	The tool has no introduction video but help can be found through FAQ and information topics. Tutorials are available through web search.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?		N		H	Unless the material is saved on the device teachers won't be able to retrieve the material.
	Are there structures in place to support management of student accounts?			N/A	M	The tool demands no registration or user accounts in order to be used. Because of that this question cannot be considered.
	Will the teachers need to add students manually into the online environment?			N/A	M	As there are no user accounts there are no closed environments where the students could be added.
N	Novelty					
	Will using this tool represent a new approach to teaching for the teachers?	Y			M	In the context of encouraging students to read more and engage with literature this will be a new concept.
	Will this provide a new and (novel) learning experience for	Y			M	It will certainly show them a different and fun way of engaging



	students?					in literature and reading.
	Has the technology been in use for some time already?	Y			M	The tool has been in use for over five years.
	Are there examples of use in an educational context?	Y			M	Examples of use in education can be easily found on the website and internet in general.
S	Speed					
	Is the content created with this tool easily changed/adapted?	N			H	Once created, the content cannot be altered anymore.

3.3.1. Conclusion

MakeBeliefsComix is a tool that is not platform dependent and in order to use it only a web browser and Flash are required. The advantage that this tool has in comparison to other tools of the same context is that it does not require registration and is quite simple to use, as well as completely free. It enables quick creation of comics without the need for account management and that made it popular. The disadvantage is that without an account the created materials cannot be stored unless they are sent via email. The tool also does not have the possibility of downloading the created content, nor a possibility of uploading own content. The premade content is very limited. Collaboration is not possible and there is no virtual classroom environment. In the context of the project this tool will give the students a fun and different approach to reading and understanding the reading material.



3.4. Chogger

Chogger is an online tool for creating comics and is available on <http://chogger.com/>. The tool is free and registration is made through email only. The tool's main feature is that it has no premade content but focuses on user uploads or drawings inside the tool. It does not have a download option available.

Tool to evaluate:

Chogger

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		The tool requires no registration so there is no user profile and no communication channels.
	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop



							- Use an Internet browser
	Is the tool appropriate across different cultures and languages?		N		M		The tool is only available in English.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		The tool is web-based and can be used on any computer, regardless of the OS. All that is needed is access to the Internet and a web browser.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool is available as an online tool easily found through a simple web search.
	Is the tool going to be easily available for the foreseeable future?	Y			M	There is no indication that it will not be available in the near future. But teachers need to take into consideration the fact that the tool is online and the life span of such tools is not easily foreseeable.	
	Is it easy to upgrade and maintain the tool?	Y			H		The tool is available online so there is no need for updates to be installed on the computer. All



						updates are implemented without requiring any action on part of the user. Maintaining the tool is similarly achieved.
	Is the tool available on mobile devices in addition to computers?		N		M	The tool is not available for mobile devices.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H	The tool is easily understandable and simple.
	Will students be able to learn to use the tool without a major investment in time?	Y			M	All the features are understandable and easy to use.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M	
	Are the teachers comfortable enough with the tool to guide students?	Y			H	This tool has a nice fun touch to it so the teachers will find it easier to understand and therefore explain it to the students.
	Does the tool have support for intellectual property rights?		N			The tool states that the user's created content is copyrighted but it does not have the support for various copyright licenses (i.e. Creative Commons).
C	Costs					



	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		It is quite easy to design a learning activity that will include the use of this tool. For example making a comic based on a chapter or event in a book that the students are reading.
	Will students be able to use the tool without incurring additional costs?	Y			M		The tool is free to use and requires no additional payments.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M		There is no limit on the number of comics that can be created.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Creating a comic related to the reading material is an interesting way of encouraging students to learn. Students can deeply engage with literature through creating comics based on the reading material they are given.
	Does the tool enable creation	Y			H		The tool enables the creation of



	of e-artefacts?						comic materials.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H		The tool allows sharing on Reddit, Twitter and Facebook. It also allows sharing via link.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M		
	Does this tool allow for collaboration with project participants?		N		H		The tool does not offer a collaboration option.
	Does this tool allow for collaboration with others beyond the original project participants?		N		M		
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is updated and maintained by the development team and those actions are taken in one place because the tool is online and there is no need for installation.
	Is there help available for the		N		H		There is no help available on the



	teachers or their students if they need it?					tool website, but tutorials can be found.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?		N		H	Unless the material is saved on the device teachers won't be able to retrieve the material. We recommend that all created materials are stored as a copy on a memory device as a backup.
	Are there structures in place to support management of student accounts?		N		M	The tool offers no groups or virtual classrooms so there is no possibility of account managing. Chogger Classroom is currently under development. Every student will need to create their own account.
	Will the teachers need to add students manually into the online environment?			N/A	M	The tool offers no groups or virtual classrooms so this question is not applicable.
N	Novelty					
	Will using this tool represent a new approach to teaching for the teachers?	Y			M	In the context of encouraging students to read more and engage with literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M	It will certainly show them a different and fun way of engaging with literature and reading.
	Has the technology been in use for some time already?	Y			M	The tool has been in use for over



						five years.
	Are there examples of use in an educational context?	Y			M	Examples of use in education can be easily found and many teachers recommend it.
S	Speed					
	Is the content created with this tool easily changed/adapted?		N		H	Once created, the content cannot be altered anymore.

3.4.1. Conclusion

Chogger is a tool that is not platform dependent and in order to use it only a web browser and Flash are required. The biggest advantage, which can also be considered a disadvantage, is the feature that allows the user to import his or her own content but has no premade content to offer. The tool is free to use but requires registration. Another disadvantage is that it does not enable download of the content. It also has no virtual classroom environment or versions for mobile devices. In the context of the project this tool will provide the students with a fun and different approach to reading and understanding the reading material.

4. Virtual classroom and social networking tools

4.1. Edmodo

Edmodo is an online classroom environment that has an aspect of social networking and is available on <https://www.edmodo.com/>. The version evaluated is free and the only limitation it has is that snapshot for schools and Edmodo practice are not available. The main functionalities of the tool are available in the free version without limitations. Users register through a given course code or URL; after that, once in the system, they no longer need to register but only join the course through the code or URL.

Tool to evaluate:

Edmodo

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		It is a secure environment intended to be a virtual classroom with the focus on the social aspect.



	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop - Use an internet browser
	Is the tool appropriate across different cultures and languages?	Y			M		The tool can also be used in many languages other than English.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		The tool is web-based and multi-platform and therefore not dependent on a specific technology.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool is available as an online tool easily found through a simple web search.
	Is the tool going to be easily available for the foreseeable	Y			M	There is no indication that it will not be available in the near future. But teachers	The tool is well established so it is highly likely that it will be around



future?					need to take into consideration the fact that the tool is online and the life span of such tools is not easily foreseeable.	for a while.
Is it easy to upgrade and maintain the tool?	Y			H		The tool is available online so there is no need for updates to be installed on the computer. All updates are implemented without requiring any action on part of the user. Maintaining the tool is similarly achieved.
Is the tool available on mobile devices in addition to computers?	Y			M		The tool is available for Android, Apple and Windows mobile devices.
Is the tool intuitive and easy for students and the teachers to use?	Y			H		Those that have experience with social networks like Facebook and virtual classrooms like Moodle will have no problem with this tool. But those who don't won't have too much of a problem either.
Will students be able to learn to use the tool without a major investment in time?	Y			M		Even those that have no experience with social networks and/or virtual classrooms do not need to worry. The tool is simple and can be learned very quickly.
Will teachers be able to learn to use the tool without a major	Y			M		



	investment in time?					
	Are the teachers comfortable enough with the tool to guide students?	Y			H	This tool has a nice fun touch to it so the teachers will find it easier to understand and therefore explain it to the students.
C	Costs					
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M	It largely depends if the teachers have previous experience with the tool or are new to it. Generally it is an easy tool and does not require much time to be invested in order to design learning activities.
	Will students be able to use the tool without incurring additional costs?	Y			M	The tool is free to use and no additional costs will be incurred.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	Hosting and archiving will not be additionally charged.
T	Teaching and Learning					
	Does this technology support the learning goals that the teachers have identified?	Y			H	The tool supports collaborative and social learning, learning by doing and the constructivist learning theory.



	Does this tool enable students to engage with literature they are reading?	Y			H		Creating discussions, quizzes or polls is an encouraging way of engaging students with literature.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H		The tool is designed to be like a social network where the users can communicate and share among themselves.
	Does this tool allow for collaboration with project participants?	Y			H		The tool allows collaborating with others through discussions, messages and polls/quizzes.
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is updated and maintained by the development team and those actions are taken in one place because the tool is online and there is no need for installation. The mobile versions can be automatically updated.
	Is there help available for the teachers or their students if	Y			H		Detailed support and help are available.



	they need it?					
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?	Y			H	The tool can be connected with Google Drive where all the materials can be stored and shared on Edmodo. We recommend that all shared materials are stored as a copy on a memory device as a backup.
	Are there structures in place to support management of student accounts?	Y			M	The teacher generates a code or a URL for the student, which is then used for account creation.
	Will the teachers need to add students manually into the online environment?		N		M	Students join the environment through the given codes or URLs.
N	Novelty					
	Will using this tool represent a new approach to teaching for the teachers?	Y			M	In the context of encouraging students to read more and engage with literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M	It will certainly show them a different and fun way of engaging with literature and reading.
	Has the technology been in use for some time already?	Y			M	The tool has been available since 2008.
	Are there examples of use in an	Y			M	There are many examples of educational use on the tool



	educational context?						website and the Internet in general. Specifically because it is an educational tool.
S	Speed						
	Is the content created with this tool easily changed/adapted?	Y			H		The tool enables changes and editing of almost all created content.

4.1.1. Conclusion

Edmodo is an online social network for schools and classrooms which enables collaboration and interaction between students and teachers. Advantages are that it is simple and user friendly; it also has a big community and user support with help available. Registration is required but is carried out with a code or an URL and no email is required. We recommend the tool because CARNet already offers the necessary support for the tool, though it must be stressed that this is limited to the duration of the project. The tool offers a secure closed environment for students and in the context of the project has no disadvantages. In the context of the project this tool will give the students a fun and different approach to reading and understanding the reading material.

4.2. Schoology

Schoology is an LMS tool with an emphasis on social interaction available on <https://www.schoology.com/home.php>. The evaluated version is free and covers all the necessary features for running an online classroom environment. The paid version is



supported for the whole school to be networked and offers advanced features. Users register through a given course code; after that, once in the system, they no longer need to register, only join the course through the code.

Tool to evaluate:

Schoology

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		The tool enables extra security in case children under 13 years of age are joining.
	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop - Use an internet browser
	Is the tool appropriate across different cultures and		N		M		The tool is only supported in



	languages?					English.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H	The tool is web-based and multi-platform and therefore not dependent on a specific technology.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M	
E	Ease of Use					
	Is the tool easily available?	Y			H	The tool is available as an online tool easily found through a simple web search.
	Is the tool going to be easily available for the foreseeable future?	Y			M	There is no indication that it will not be available in the near future. But the teachers need to take into consideration the fact that the tool is online and the life span of such tools is not easily foreseeable.
	Is it easy to upgrade and maintain the tool?	Y			H	The tool is available online so there is no need for updates to be installed on the computer. All updates are implemented without requiring any action on part of the



							user. Maintaining the tool is similarly achieved.
	Is the tool available on mobile devices in addition to computers?	Y			M		The tool is available for Apple, Android and Kindle (Android) mobile devices.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H		The tool has a very similar interface to Facebook and is easily understandable, even for individuals that have no experience with such tools.
	Will students be able to learn to use the tool without a major investment in time?	Y			M		Even those that have no experience with social networks and/or virtual classrooms do not need to worry. The tool is simple and can be learned very quickly.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M		
	Are the teachers comfortable enough with the tool to guide students?	Y			H		This tool has a nice fun touch to it so the teachers will find it easier to understand and therefore explain it to the students.
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		It largely depends if the teachers have previous experience with the tool or are new to it. Generally it is an easy tool and does not require much time to be invested in order to design learning



						activities.
	Will students be able to use the tool without incurring additional costs?	Y			M	The tool is free to use and no additional costs will be incurred.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	Hosting and archiving will not be additionally charged.
T	Teaching and Learning					
	Does this technology support the learning goals that the teachers have identified?	Y			H	The tool supports collaborative learning, learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H	Creating discussions, quizzes or polls is an encouraging way of engaging students with literature.
I	Interactivity					
	Does this tool encourage reflection on literature students will be reading?	Y			H	With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H	The tool is designed to be like a social network where the users can communicate and share among themselves.
	Does this tool allow for collaboration with project	Y			H	The tool allows collaborating through discussions, messages and



	participants?						polls/quizzes.
0	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is updated and maintained by the development team and those actions are taken in one place because the tool is online and there is no need for installation. The mobile versions can be automatically updated.
	Is there help available for the teachers or their students if they need it?	Y			H		Detailed support and help are available.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?	Y			H		The tool can be connected with Dropbox, Google Drive, Evernote or Khan Academy where all the materials can be stored and shared. We recommend that all shared materials are stored as a copy on a memory device as a backup.
	Are there structures in place to support management of student accounts?		N		M		A user account can be created with an email or with a username and entering a school or a district.
	Will the teachers need to add students manually into the online environment?		N		M		Students join the environment through the given codes or URL-s.



N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage with literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging with literature and reading.
	Has the technology been in use for some time already?	Y			M		The tool has been in use since 2007.
	Are there examples of use in an educational context?	Y			M		There are many examples of educational use on the tool website and the Internet in general. Specifically because it is an educational tool.
S	Speed						
	Is the content created with this tool easily changed/adapted?	Y			H		The tool enables changes and editing of almost all created content.

4.2.1. Conclusion

Schoology is an online LMS focused on a social network aspect for schools and classrooms which enables collaboration and interaction between students and teachers. The advantage is that is simple and user-friendly, it also has a big community and



user support with available help. Registration is required and can be carried out using either an email or a username, and the school name. Students are enrolled automatically upon entering a course code. Special authentication is required if the students participating are under 13 years old.

5. Tools for videoconferencing

5.1. LiveMinutes

LiveMinutes is an online conferencing tool and is available on <http://liveminutes.com/>. The evaluated version is free and is limited to 5 projects and one free project access per invite. Both versions have unlimited participants per project.

Tool to evaluate:

LiveMinutes

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students,	Y			H		Even though the tool is web-based, it is secure. The tool has



especially young children?						no community to access. Instead it relies on an invitation principle. The invitations are sent via email.
Do the students have the necessary computer skills to use this tool?	Y			M		<p>Computer skills needed to use the tool:</p> <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop - Use an internet browser - Use a basic text editor
Is the tool appropriate across different cultures and languages?	Y			M	The tool does not support other languages beyond English and French so the majority will be able to understand it, if not all.	
Will the needed technology for working with the tool be available in school/classroom?	Y			H		The tool is browser based so it can be accessed from any device that has a web browser.
Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		



E	Ease of Use						
	Is the tool easily available?	Y			H		The tool is available as an online tool easily found through a simple web search.
	Is the tool going to be easily available for the foreseeable future?	Y			M	There is no indication that it will not be available in the near future. But the teachers need to take into consideration the fact that the tool is online and the life span of such tools is not easily foreseeable.	
	Is it easy to upgrade and maintain the tool?	Y			H		The tool is available online so there is no need for updates to be installed on the computer. All updates are implemented without requiring any action on part of the user. Maintaining the tool is similarly achieved.
	Is the tool available on mobile devices in addition to computers?	Y			M		The tool is available for Apple mobile devices iPad, iPhone and iPad touch. It requires iOS 7 or later and is optimized for iPhone 5.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H		It is a very simple and intuitive tool with a basic text editor integrated and a message thread. Files can be uploaded from the device by browsing or simple drag



							and drop actions. Files can be imported from the Evernote service too.
	Will students be able to learn to use the tool without a major investment in time?	Y			M		This is a very simple and intuitive tool and requires very little time for anyone to learn how to use it.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M		
	Are the teachers comfortable enough with the tool to guide students?	Y			H		
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		Activities involving this tool will be mostly based on collaboration and communication. Some activities that would be used in class for collaboration will be easily transferable to the tool.
	Will students be able to use the tool without incurring additional costs?	Y			M	These features could be changed in the future because the tool is still in its early stages.	The tool has a free plan for users limited to 5 workspaces, which should be more than enough.



	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M		There are no additional costs for storing materials if the capacity is within the limits of the free plan.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports collaborative learning, learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Video conferencing can be a powerful tool for encouraging students to read. Real time discussions can prompt students to prepare for them by reading beforehand in order to fully participate.
	Does the tool enable creation of e-artefacts?	Y			H		The tool enables the creation of text materials produced through collaboration.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing	Y			H		Sharing can be achieved via email



	with project participants?						invitation.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M	The participants outside the project will need to be invited to the workspace or the materials will need to be hosted on another service.	
	Does this tool allow for collaboration with project participants?	Y			H		The tool allows the creation of text documents and commenting, as well as group discussions and e-artefact sharing.
	Does this tool allow for collaboration with others beyond the original project participants?	Y			M	The participants outside the project will need to be invited to the workspace in order to achieve collaboration.	
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is updated and maintained by the development team and those actions are taken in one place because the tool is online and there is no need for installation.
	Is there help available for the teachers or their students if they need it?	Y			H	Take note that although there is help available, there is not much of it because the tool is relatively new and it	The tool offers a great introductory video on its website. Help is also available in the form of a test project that is



					takes time to make tutorials and instructions.	automatically added upon account creation, where everything is explained.	
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?		N		H	Unless the material is saved on the device teachers won't be able to retrieve the material.	We recommend that all created and shared materials are stored as a copy on a memory device as a backup.
	Are there structures in place to support management of student accounts?		N		M		The tool offers no options for group accounts at this moment. There is a possibility, however, that it will be available in the future. Every student will need to create their own account. An account can be created via email registration or a Google account.
	Will the teachers need to add students manually into the online environment?	Y			M	Even though there is no support for group or classroom environments, the tool is structured in a way that it requires an email invitation to join a workspace.	
N	Novelty						
	Will using this tool represent a new approach to teaching for	Y			M		In the context of encouraging students to read more and engage



	the teachers?						with literature this will be a new concept. It will also provide a new and broader way of collaboration and communication.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging with literature and reading by collaborating and communicating with their colleagues.
	Has the technology been in use for some time already?		N		M		This tool is relatively new. It has been in use for only three years and is constantly changing.
	Are there examples of use in an educational context?		N		M		There is mention of the tool being appropriate for use in education but no concrete examples.
S	Speed						
	Is the content created with this tool easily changed/adapted?	Y			H		Provided that the tool is not taken down and made unavailable, the created projects can be accessed and edited at any time.

5.1.1. Conclusion

LiveMinutes is a tool whose focus is on conferencing and collaboration. It requires registration but the main advantage is that there can be unlimited participants in a project. It also offers a chat functionality aside from the video calls, real-time



collaboration on text documents, and also commenting on pictures and pdf files. The downside is that the free version is limited to 5 projects and has no special environment for schools. Nevertheless, its lack of school environment does not make it less secure because in order to join a project, the participants must be invited. In the context of the project this tool will give the students a fun and different approach to reading and understanding the reading material.

5.2. Adobe Connect 9

Adobe Connect is a tool that has to be purchased and is available on <http://www.adobe.com/products/adobeconnect.edu.html>. There is no option for free usage aside from the offered trial version. In order to use it the school will need to buy the tool and have an administrator set everything up. An administrator will be needed in order to use this tool and have it run smoothly. In the scope of the AMORES project the role of the administrator will be given to CARNet.

Tool to evaluate:

Adobe Connect 9

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						



Is the tool appropriate for the students, especially young children?	Y			H		With the tool the environment can be secured and safe appropriately to the students and their age.
Is the tool a safe and secure environment for students, especially young children?	Y			H		
Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop - Use an internet browser
Is the tool appropriate across different cultures and languages?	Y			M		The tool supports other languages aside from English.
Will the needed technology for working with the tool be available in school/classroom?	Y			H		The tool needs to be installed on a server but can be accessed from anywhere without the need for client installation.
Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		



E	Ease of Use					
	Is the tool easily available?	Y			H	The tool can be found on Adobe webpages.
	Is the tool going to be easily available for the foreseeable future?	Y			M	This tool is one of Adobe's important features and it is highly unlikely that it will be shut down.
	Is it easy to upgrade and maintain the tool?		N		H	The tool need to be manually updated.
	Is the tool available on mobile devices in addition to computers?	Y			M	There are versions of the tool available for Apple, Android and Blackberry mobile devices.
	Is the tool intuitive and easy for students and the teachers to use?		N		H	The tool is very complex and not very intuitive. Some extensions may make it easier to use but it is still quite complicated.
	Will students be able to learn to use the tool without a major investment in time?		N		M	This tool requires a good amount of time invested in order to learn how to use it at a basic level.
	Will teachers be able to learn to use the tool without a major investment in time?		N		M	
	Are the teachers comfortable enough with the tool to guide students?	Y			H	Teachers will be comfortable teaching the students how to use the tool features that they will need.



C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		Designing a learning activity that incorporates the use of this tool is much simpler than learning to use the tool.
	Will students be able to use the tool without incurring additional costs?	Y			M		The students will not have additional costs. No client is needed in order to use the tool.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M		In the scope of the AMORES project the hosting is done on CARNET servers so no additional costs will arise. If a school chooses to have their own and hosting is provided by a third party (and not on own server), then additional costs could arise.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports collaborative learning, learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Video conferencing can be a powerful tool for encouraging students to read. Real-time discussions can prompt students to prepare for them by reading beforehand in order to fully



							participate.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H		The tool allows sharing with any participant of the video conference.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M		
	Does this tool allow for collaboration with project participants?	Y			H		
	Does this tool allow for collaboration with others beyond the original project participants?	Y			M		The tool allows whiteboard and mind mapping, as well as group discussions and e-artefact sharing.
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool can be automatically updated as is the case with all Adobe products.
	Is there help available for the teachers or their students if they need it?	Y			H		Adobe offers user support for teachers and students. Tutorials and user manuals are also available.



	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?		N		H		None of the content that is uploaded can be retrieved if the tool is unavailable for any reason. We recommend that all shared materials are stored as a copy on a memory device as a backup.
	Are there structures in place to support management of student accounts?	Y			M		The administrator can create an account for each student and manage it.
	Will the teachers need to add students manually into the online environment?		N		M		Participants usually access the meeting rooms through URL-s given to them. The host can allow or decline any access to the meeting room.
N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage with literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging with literature and reading.
	Has the technology been in use for some time already?	Y			M		The tool has been in use for some time and is a well-established product.
	Are there examples of use in an	Y			M		Examples are presented on the Adobe website but can also be



	educational context?						found on the Internet.
S	Speed						
	Is the content created with this tool easily changed/adapted?		N		H		Content that is created in this tool cannot be easily changed.

5.2.1. Conclusion

Adobe Connect is a tool for conferencing and recommended for the project because CARNet offers support and can open conferencing rooms for the purposes of the project. We have to note that it is a paid tool and has no free plan for user accounts. The advantage is complete security through special administration. The hosts and administrators can control the access of participants, and also customize each conference room to the needs of the conference. The downside is, as previously noted, the price, because anyone outside the project that will want to use the tool will need to invest in it, also an administrator will be needed to manage the tool. Users can join as guests (they can be invited to attend webinars, for instance), or can be registered by the administrator. In the context of the project this tool will provide the students with a fun and different approach to reading and understanding the reading material.



5.3. Big Blue Button

Big Blue Button is a conferencing tool and is available on <http://bigbluebutton.org/>. It needs to be implemented in an existing web content such as an LMS or a website. It cannot be used as a standalone tool. The best way of using this tool is to implement it into a supported LMS so that it can enhance the learning environment and support collaboration.

Tool to evaluate: **Big Blue Button**

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		The tool is made to be secure and easy to use.
	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: <ul style="list-style-type: none"> - Turn on the device - Navigate through the OS - Basic features like copy/paste, drag/drop



							- Use an internet browser
	Is the tool appropriate across different cultures and languages?	Y			M		The tool supports other languages aside from English.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		The prerequisite is that the tool is embedded in an LMS or a web content. If that prerequisite is fulfilled the tool is freely available.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool and the API is available on the Big Blue Button website.
	Is the tool going to be easily available for the foreseeable future?	Y			M		There are many more features planned for the tool and it will be available for the foreseeable future.
	Is it easy to upgrade and maintain the tool?		N		H		An administrator with adequate knowledge will be needed to update the server. The plugin needs to be manually updated but is easier to maintain than the server.



	Is the tool available on mobile devices in addition to computers?	Y			M		The tool is available on Android mobile devices.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H		The tool is simple to use and is quite intuitive. In comparison to other tools this tool would have low to medium difficulty.
	Will students be able to learn to use the tool without a major investment in time?	Y			M		The tool is intuitive but some aspects could be a little difficult to figure out at first. However, there is a great introductory video that explains all the features.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M		
	Are the teachers comfortable enough with the tool to guide students?	Y			H		The teachers will be comfortable enough to teach the students how to use the tool.
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		Designing a learning activity that uses this tool is much simpler than learning to use the tool.
	Will students be able to use the tool without incurring additional costs?	Y			M		The students will have no additional costs.
	Can hosting/archiving of materials beyond the life of the	Y			M	If a school chooses to have their own version and	If the tool is hosted on a school



	project be carried out without additional costs?				hosting is provided by a third party (and not on own server), then additional costs could arise.	server there will be no costs.
T	Teaching and Learning					
	Does this technology support the learning goals that the teachers have identified?	Y			H	The tool supports collaborative learning, learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H	Video conferencing can be a powerful tool for encouraging students to read. Real-time discussions can prompt students to prepare for them by reading beforehand in order to fully participate.
I	Interactivity					
	Does this tool encourage reflection on literature students will be reading?	Y			H	With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H	The tool allows sharing with any participant of the video conference.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M	
	Does this tool allow for collaboration with project	Y			H	The tool allows a whiteboard, as well as group discussions and e-



	participants?						artefact sharing.
	Does this tool allow for collaboration with others beyond the original project participants?	Y			M		
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?		N		L		The administrator will need to manually update the tool as well as the server software.
	Is there help available for the teachers or their students if they need it?	Y			H		Aside from the introductory tutorial, user and developer support is available.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?		N		H		None of the content that is uploaded can be retrieved if the tool is unavailable for any reason. We recommend that all shared materials are stored as a copy on a memory device as a backup.
	Are there structures in place to support management of student accounts?			N/A	M		This tool must be integrated into some kind of web content. Mainly it is used in an LMS. That way there is no need for additional accounts for the tool.
	Will the teachers need to add students manually into the online environment?			N/A	M		Participants cannot be manually added; they join the meeting themselves.



N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage with literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging with literature and reading.
	Has the technology been in use for some time already?	Y			M		The tool has been in use for some time and is a well-established product.
	Are there examples of use in an educational context?	Y			M		Examples are presented on the Adobe website but can also be found on the Internet.
S	Speed						
	Is the content created with this tool easily changed/adapted?		N		H		Content that is created in this tool cannot be easily changed.

5.3.1. Conclusion

Big Blue Button is a conferencing tool that needs to be integrated as a plugin into an existing web environment in order to be used. An advantage is that it can be used as a plugin nearly anywhere and if integrated with an LMS it works with the user accounts as a means of authenticating. A disadvantage is also the fact that the tool has to be integrated into an existing environment; this should be done by someone who knows how to integrate the API unless it is used as a plugin in an LMS. For the



server an experienced administrator will be required. The view can be customized and the tool has an intuitive interface. In the context of the project this tool will give the students a fun and different approach to reading and understanding the reading material.

5.4. Skype

Skype is a communication tool that can be used as a simple text exchange client or as a collaboration and video/voice conferencing tool. Skype is available for download on <http://www.skype.com/en/>. It allows users to send instant messages, send different files, share screens from their devices. For voice conferences the recommended maximum is 25 people. This means connected devices because there can be more than one person conferencing through one device. For video conferences the recommended maximum is 10 people. Again this means connected devices because there can be one or multiple people conferencing through the device. This tool should be used only in the classroom. Because it is a communication tool there is a possibility that the students could come in contact with unwanted individuals. For that reason the student should not use the tool by themselves.

There is a special offer for skype in classroom that is advertisement free and can be acquired on <https://education.skype.com/>.

Tool to evaluate:

Skype

Questions to Ask...	Y	N	N/A	Importance (high, med,	Need to take into consideration...	Specifics



					low)		
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H	This tool should be used only in the classroom. Because it is a communication tool there is a possibility that the students could come in contact with unwanted individuals. For that reason the student should not use the tool by themselves.	The tool is intended for use in classroom on a main device where the teacher has control over the usage of the tool.
	Do the students have the necessary computer skills to use this tool?	Y			M		Considering that the tool will be set up by the teacher and students will likely have no interaction with the tool.
	Is the tool appropriate across different cultures and languages?	Y			M		The tool supports other commonly used languages aside from English.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		All that is needed is a computer, microphone and a web camera.
	Do the students have access to minimal requirements / technology needed to work	Y			M		



	with the tool for working from home?						
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool is available on the official website.
	Is the tool going to be easily available for the foreseeable future?	Y			M		This tool is very popular and used by millions of people around the world. It is highly unlikely that it will not be available in the foreseeable future.
	Is it easy to upgrade and maintain the tool?	Y			H		The tool automatically detects updates and notifies the user. It only requires the user's confirmation.
	Is the tool available on mobile devices in addition to computers?	Y			M		The tool is available on Android, iPhone, Windows Phone, Blackberry mobile devices, as well as Windows, Android and Kindle tablet computers. It can even be used on smart TV's, Xbox One and Play Station.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H		The tool is simple to use and is quite intuitive. In comparison to other tools this tool would have low to medium difficulty.
	Will students be able to learn to use the tool without a major	Y			M		The tool is quite simple to use and has a tutorial that explains all



	investment in time?					major features and how to use them.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M	
	Are the teachers comfortable enough with the tool to guide students?	Y			H	The teachers will be comfortable enough to teach the students how to use the tool.
C	Costs					
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M	The learning activity that uses this tool should best involve collaboration with another school through a video conference.
	Will students be able to use the tool without incurring additional costs?	Y			M	The students will have no additional costs.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?			N/A	M	The tool does not have the feature of hosting or archiving materials.
T	Teaching and Learning					
	Does this technology support the learning goals that the teachers have identified?	Y			H	The tool supports collaborative learning, learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they	Y			H	Video conferencing can be a powerful tool for encouraging



	are reading?					students to read. Real-time discussions can prompt students to prepare for them by reading beforehand in order to fully participate.
I	Interactivity					
	Does this tool encourage reflection on literature students will be reading?	Y			H	With the appropriate activities the students can reflect on what they have read.
	Does this tool allow for sharing with project participants?	Y			H	The tool allows sharing with any participant of the video conference.
	Does this tool allow for sharing with others beyond the original project participants?	Y			M	
	Does this tool allow for collaboration with project participants?	Y			H	
	Does this tool allow for collaboration with others beyond the original project participants?	Y			M	Collaboration can be achieved through file and screen sharing.
O	Organizational Issues					
	Are the support structures in place to maintain and update this tool?	Y			L	The tool automatically detects updates and notifies the user. It only requires the user's



						confirmation.
	Is there help available for the teachers or their students if they need it?	Y			H	A tutorial for first time users is available, as well as helps inside the tool or on the official website.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?			N/A	H	The tool has no option of storing shared data on their server. All data that is shared must be saved locally on a device that has the tool installed.
	Are there structures in place to support management of student accounts?		N		M	There is no account management but since there's only one account needed for a in classroom conference there is no need for account managing.
	Will the teachers need to add students manually into the online environment?			N/A	M	The host invites participants; later the participants can also add other individuals to the conference.
N	Novelty					
	Will using this tool represent a new approach to teaching for the teachers?	Y			M	In the context of encouraging students to read more and engage with literature this will be a new concept.
	Will this provide a new and (novel) learning experience for	Y			M	It will certainly show them a different and fun way of engaging



	students?						with literature and reading.
	Has the technology been in use for some time already?	Y			M		The tool has been in use for some time and is a well-established product.
	Are there examples of use in an educational context?	Y			M		Examples are presented on the Skype website but can also be found on the Internet.
S	Speed						
	Is the content created with this tool easily changed/adapted?			N/A	H		This tool does not have the option of creating content.

5.4.1. Conclusion

Skype is a conferencing tool that we would recommend if Adobe Connect is not available. It is a reliable tool that had many users and is well established in the educational community. It is not as diverse as other conferencing tools because it mainly focuses on voice and video communication and not so much on collaboration. None the less it has been received very well among the teachers. As the tool is under Microsoft it is maintained and updated regularly. It is also supported with many instructions and help available. All users must have an account which is free for most features. The teachers should focus on using this tool inside the classroom for conferencing with another school. In the context of the project this tool will provide the students with a fun and different approach to reading and understanding the reading material.

6. Game based learning tools

6.1. Microsoft Paint

Microsoft Paint is a tool that comes with the Microsoft Windows operating system and according to that Windows must be installed on the computer of the user in order to use Paint. It is a very simple and intuitive drawing and picture editing tool. It does not support collaboration and sharing but is easily available for anyone with Windows OS to use.

The answers in the table will assume that the teachers have taken all of the above into consideration.

Tool to evaluate:

Microsoft Paint

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		
	Do the students have the necessary computer skills to	Y			M		Computer skills needed to use the tool:



	use this tool?						<ul style="list-style-type: none"> - Turn on the device - Navigating through the OS - Basic features like copy/paste
	Is the tool appropriate across different cultures and languages?	Y			M		The tool determines the languages according to OS settings.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		Provided that the condition of previously installed Windows operating system is met the tool will be available.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool is integrated within the Microsoft Windows operating system and no additional download or installation is needed.
	Is the tool going to be easily available for the foreseeable future?	Y			M	Microsoft may decide discontinuation of the tool within the OS.	The tool is integrated within the Microsoft Windows operating system.
	Is it easy to upgrade and maintain the tool?	Y			H		The tool updates if needed along with Windows updates.



	Is the tool available on mobile devices in addition to computers?		N		M		The tool is not available for mobile devices at the moment.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H		The tool has basic features for drawing and editing. It is easily understandable and intuitive.
	Will students be able to learn to use the tool without a major investment in time?	Y			M		The tool is easy to learn even if the user had no previous encounter with the tool or any similar tool.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M		
	Are the teachers comfortable enough with the tool to guide students?	Y			H		Teachers will be comfortable teaching students to use the tool.
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		It is quite easy to design a learning activity that will include the usage of this tool.
	Will students be able to use the tool without incurring additional costs?	Y			M	The only cost will be acquiring the Windows OS if it's not owned already.	
	Can hosting/archiving of materials beyond the life of the project be carried out without	Y			M	It will be required to host the materials on a third	Yes, the materials upon creation are directly stored on the device



	additional costs?					party service.	running the tool.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Creating materials on a specific topic is a common activity in education. In this context the theme can be a chapter from a book required to read.
	Does the tool enable creation of e-artefacts?	Y			H		The tool enables the creation of image materials.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they read.
	Does this tool allow for sharing with project participants?		N		H		The tool allows sending the created material through email. Otherwise sharing must be accomplished through third party services.
	Does this tool allow for sharing with others beyond the original project participants?		N		M		
	Does this tool allow for collaboration with project participants?		N		H		The tool allows no options for collaboration.



	Does this tool allow for collaboration with others beyond the original project participants?		N		M		
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is supported by Microsoft and as such will be appropriately updated and maintained as all other official Microsoft products.
	Is there help available for the teachers or their students if they need it?	Y			H		Microsoft offers user help for those in need of assistance and there are resources available widely over the internet. Also help is available as a feature in the tool so it is easy accessible.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?	Y			H		The created material is not stored anywhere in the cloud but locally on the users device so even if the tool fails or is replaced the material will be available.
	Are there structures in place to support management of student accounts?			N/A	M	To be able to share the materials on third party services such as OneDrive or YouTube an account will be needed.	There is no need to possess an account in order to use the tool aside from the user account on the device that is being used to run the tool.
	Will the teachers need to add students manually into the			N/A	M		The tool offers no options such as online environment or classrooms.



	online environment?						
N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage in literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging in literature and reading.
	Has the technology been in use for some time already?	Y			M		The tool is part of the Windows environment for a long time.
	Are there examples of use in an educational context?	Y			M	One must be sure that the examples are appropriate for the context in which the teacher will use the tool.	There are plenty of examples where the tool is used in education and supports education.
S	Speed						
	Is the content created with this tool easily changed/adapted?		N		H		If there is no backup of the project but the finished material then there is almost no possibility of changing or adapting the material.



6.1.1. Conclusion

Paint is a recommended tool for this project if Windows OS is being used. It enables easy creation and editing of images. It is integrated in the OS and as such does not need any additional installation. It has basic and intuitive features that does not require a long time to learn. Many of the users already have experience with this tool but for those that don't have the experience can find many help and tutorial resources. In the context of the project this tool will provide the students with a fun and different approach to reading and understanding the reading material.

6.2. Paintbrush

Paintbrush is a tool equivalent to Microsoft Paint, available on Mac OSX. First, as stated for iMovie, this tool also requires an Apple computer and OSX 10.5 or higher operating system in order to be used. Second, the tool will need to be installed because it does not come with the operating system like Microsoft Paint does. The tool can be downloaded from <http://paintbrush.sourceforge.net/>.

The answers in the table will assume that the teachers have taken all of the above into consideration.

Tool to evaluate:

Paintbrush

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						



	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		
	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: - Turn on the device - Navigating through the OS - Basic features like copy/paste
	Is the tool appropriate across different cultures and languages?	Y			M		The tool determines the languages according to OS settings.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		Provided that the condition of previously installed Mac OS operating system is met the tool will be available.
	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool needs to be downloaded



						from the official site.
	Is the tool going to be easily available for the foreseeable future?	Y			M	The developer may decide to discontinue the tool. The tool will probably be available for some time.
	Is it easy to upgrade and maintain the tool?	Y			H	Since 2010. the published version is the final version. This means there will be no updates.
	Is the tool available on mobile devices in addition to computers?		N		M	The tool is not available for mobile devices.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H	The tool has basic features for drawing and editing. It is easily understandable and intuitive.
	Will students be able to learn to use the tool without a major investment in time?	Y			M	The tool is easy to learn even if the user had no previous encounter with the tool or any similar tool.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M	
	Are the teachers comfortable enough with the tool to guide students?	Y			H	Teachers will be comfortable teaching students to use the tool.
C	Costs					
	Are the time costs relatively low to design a learning activity	Y			M	It is quite easy to design a learning activity that will include



	using this tool (or at least is the cost/benefit ratio favorable)?					the usage of this tool.	
	Will students be able to use the tool without incurring additional costs?	Y			M	The only cost will be acquiring the Mac OS if it's not owned already.	The tool is completely free.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	It will be required to host the materials on a third party service.	Yes, the materials upon creation are directly stored on the device running the tool.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Creating materials on a specific topic is a common activity in education. In this context the theme can be a chapter from a book required to read.
	Does the tool enable creation of e-artefacts?	Y			H		The tool enables the creation of image materials.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they read.
	Does this tool allow for sharing		N		H		The tool allows sending the



	with project participants?					created material through email. Otherwise sharing must be accomplished through third party services.
	Does this tool allow for sharing with others beyond the original project participants?		N		M	
	Does this tool allow for collaboration with project participants?		N		H	The tool allows no options for collaboration.
	Does this tool allow for collaboration with others beyond the original project participants?		N		M	
O	Organizational Issues					
	Are the support structures in place to maintain and update this tool?		N		L	The tool is published in its final version and will have no updates.
	Is there help available for the teachers or their students if they need it?		N		H	Not much help is given either on the official site or the internet.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?	Y			H	The created material is not stored anywhere in the cloud but locally on the users device so even if the tool fails or is replaced the material will be available.
	Are there structures in place to support management of student			N/A	M	To be able to share the materials on third party
						There is no need to possess an account in order to use the tool aside from the user account on



	accounts?					services.	the device that is being used to run the tool.
	Will the teachers need to add students manually into the online environment?			N/A	M		The tool offers no options such as online environment or classrooms.
N	Novelty						
	Will using this tool represent a new approach to teaching for the teachers?	Y			M		In the context of encouraging students to read more and engage in literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M		It will certainly show them a different and fun way of engaging in literature and reading.
	Has the technology been in use for some time already?	Y			M		The tool is available for quite some time.
	Are there examples of use in an educational context?	Y			M	One must be sure that the examples are appropriate for the context in which the teacher will use the tool.	There are plenty of examples where the tool is used in education and supports education.
S	Speed						
	Is the content created with this tool easily changed/adapted?		N		H		If there is no backup of the project but the finished material then there is almost no possibility of changing or adapting the material.



6.2.1. Conclusion

Paintbrush is the image editing alternative for Mac OS. You must take note that the official Mac OS image editing tool is old and discontinued. In order to fix that many developers created alternatives that are intended to be like MS Paint. From that perspective it should be noted that there is a variety of choice. Some tools are more complicated, some have the same functionality. Even though Paintbrush has very little tutorials and help it is intuitive and very easy to use. It is really the alternative to MS Paint. It is also recommended as a number one Paint alternative on Mac by the community. The disadvantage is that the final version was released back in 2010 so there is a possibility that it will be discontinued or replaced by a better tool sometime in the future. We recommend it none the less for the project to those users that use Mac devices. In the context of the project this tool will provide the students with a fun and different approach to reading and understanding the reading material.

6.3. Open Office - Writer

Open Office - Writer is a text editing tool incorporated in the Open Office package and is available on <https://www.openoffice.org/>. Writer is much like Word from Microsoft Office package, but the advantage in the context of the project is the fact that it is open source and free to use. It can be used like a basic text editor or an advanced text editor, depending on the needs of the user. It has an interface much like MS Word, that way many of the users will have little to none trouble in adjusting to the tool. All the general features of the tool are also almost as those in MS Word.



Tool to evaluate:

Open Office - Writer

	Questions to Ask...	Y	N	N/A	Importance (high, med, low)	Need to take into consideration...	Specifics
S	Students						
	Is the tool appropriate for the students, especially young children?	Y			H		The tool can be used by students of any age.
	Is the tool a safe and secure environment for students, especially young children?	Y			H		
	Do the students have the necessary computer skills to use this tool?	Y			M		Computer skills needed to use the tool: - Turn on the device - Navigating through the OS - Basic features like copy/paste
	Is the tool appropriate across different cultures and languages?	Y			M		The tool determines the languages according to OS settings.
	Will the needed technology for working with the tool be available in school/classroom?	Y			H		The tool does not depend on the OS installed on the user device.



	Do the students have access to minimal requirements / technology needed to work with the tool for working from home?	Y			M		
E	Ease of Use						
	Is the tool easily available?	Y			H		The tool can be acquired from the official web site.
	Is the tool going to be easily available for the foreseeable future?	Y			M	The developers may decide discontinuation of the tool.	
	Is it easy to upgrade and maintain the tool?	Y			H		The tool has the option of automatic updating.
	Is the tool available on mobile devices in addition to computers?	Y			M		The tool can be used on Android devices bud also for iPads.
	Is the tool intuitive and easy for students and the teachers to use?	Y			H		The tool is very similar to the MS Word text editing tool. That way many of the new users will have little to none difficulty to use.
	Will students be able to learn to use the tool without a major investment in time?	Y			M		The tool is intuitive mostly because of the similarity with the widespread MS Office. If needed, many tutorials are available.
	Will teachers be able to learn to use the tool without a major investment in time?	Y			M		



	Are the teachers comfortable enough with the tool to guide students?	Y			H		Teachers will be comfortable teaching students to use the tool.
C	Costs						
	Are the time costs relatively low to design a learning activity using this tool (or at least is the cost/benefit ratio favorable)?	Y			M		It is quite easy to design a learning activity that will include the usage of this tool.
	Will students be able to use the tool without incurring additional costs?	Y			M		Since the tool is declared as open source and free to use no costs will incur.
	Can hosting/archiving of materials beyond the life of the project be carried out without additional costs?	Y			M	It will be required to host the materials on a third party service.	Yes, the materials upon creation are directly stored on the device running the tool.
T	Teaching and Learning						
	Does this technology support the learning goals that the teachers have identified?	Y			H		The tool supports learning by doing and the constructivist learning theory.
	Does this tool enable students to engage with literature they are reading?	Y			H		Creating materials on a specific topic is a common activity in education. In this context the theme can be a chapter from a book required to read.
	Does the tool enable creation	Y			H		The tool enables the creation of



	of e-artefacts?						text materials.
I	Interactivity						
	Does this tool encourage reflection on literature students will be reading?	Y			H		With the appropriate activities the students can reflect on what they read.
	Does this tool allow for sharing with project participants?		N		H		Sharing must be accomplished through third party services.
	Does this tool allow for sharing with others beyond the original project participants?		N		M		
	Does this tool allow for collaboration with project participants?		N		H		
	Does this tool allow for collaboration with others beyond the original project participants?		N		M		The tool allows no options for collaboration.
O	Organizational Issues						
	Are the support structures in place to maintain and update this tool?	Y			L		The tool is well established and maintained.
	Is there help available for the teachers or their students if they need it?	Y			H		There is help available in the tool. Aside from that support is available on the official site and instructions or tutorials can be



						easily found on the internet.
	Is there a way for the teachers to retrieve their material if this tool fails or is replaced?	Y			H	The created material is not stored anywhere in the cloud but locally on the users device so even if the tool fails or is replaced the material will be available.
	Are there structures in place to support management of student accounts?			N/A	M	To be able to share the materials on third party services. There is no need to possess an account in order to use the tool aside from the user account on the device that is being used to run the tool.
	Will the teachers need to add students manually into the online environment?			N/A	M	The tool offers no options such as online environment or classrooms.
N	Novelty					
	Will using this tool represent a new approach to teaching for the teachers?	Y			M	In the context of encouraging students to read more and engage in literature this will be a new concept.
	Will this provide a new and (novel) learning experience for students?	Y			M	It will certainly show them a different and fun way of engaging in literature and reading.
	Has the technology been in use for some time already?	Y			M	The tool has been widely used for years.
	Are there examples of use in an	Y			M	One must be sure that the examples are appropriate for There are plenty of examples where the tool is used in



	educational context?					the context in which the teacher will use the tool.	education and supports education.
S	Speed						
	Is the content created with this tool easily changed/adapted?		N		H		If there is no backup of the project but the finished material then there is almost no possibility of changing or adapting the material.

6.3.1. Conclusion

Open Office - Writer is a tool intended to create textual artifact, also in combination with images. It is very similar to MS Word text editing tool and that is why many of the users will not experience many difficulties, if any, using this tool. It is well supported and help and tutorials are available in the tool or on the official site and internet. In the context of the project this tool will provide the students with a fun and different approach to reading and understanding the reading material.

7. Tool selected for the project

Specifically for the AMORES project

Tool	Category	Why we recommend
Movie Maker	Video creation and editing	Participants that do not have Apple products have the Windows alternative which has



		Movie Maker available.
<i>iMovie</i>	Video creation and editing	Many project participants have Apple technology and the tool available. Participants are familiar with the tool.
<i>ToonDoo</i>	Comic creation	Easy and intuitive, many premade content, enables using own content.
<i>Edmodo</i>	Virtual classroom and social network	CARNet offers support, simple and intuitive environment.
<i>Adobe Connect</i>	Videoconferencing	CARNet offers conference room and user support, secure environment.
<i>Skype</i>	Videoconferencing	Free, established in the educational environment, good support available.
<i>Paint</i>	Game based learning tools	Microsoft version of an image editing tool, easy and intuitive. Integrated with the OS.
<i>Paintbrush</i>	Game based learning tools	Apple version of an image editing tool, equivalent to MS Paint. Easy and understandable. Needs to be additionally installed
<i>Open Office - Writer</i>	Game based learning tools	Free open source text editing tool, very similar to MS Word and available on any platform. Support and help available



anywhere.

8. Recommendations

For everyone

<i>Tool</i>	<i>Category</i>	<i>Why we recommend</i>
<i>VideoPad</i>	Video creation and editing	Free, not OS depended, despite being a little advanced help and tutorials are available for quick learning.
<i>Loopster</i>	Video creation and editing	Web based, accessible from anywhere, no need for third party hosting services.
<i>ToonDoo</i>	Comic creation	Easy and intuitive, many premade content, enables using own content.
<i>LiveMinutes</i>	Videoconferencing	Free, easy to use and can have unlimited participants per project.
<i>Edmodo</i>	Virtual classroom and social network	Both are intended as virtual classrooms, free and established in teacher community. Also used as closed and secure social networks for students.
<i>Schoology</i>	Virtual classroom and social network	
<i>Paint</i>	Game based learning tools	Microsoft version of an image editing tool,



		easy and intuitive. Integrated with the OS.
<i>Paintbrush</i>	Game based learning tools	Apple version of an image editing tool, equivalent to MS Paint. Easy and understandable. Needs to be additionally installed
<i>Open Office - Writer</i>	Game based learning tools	Free open source text editing tool, very similar to MS Word and available on any platform. Support and help available anywhere.

9. List of all tools

<i>Tool</i>	<i>Category</i>
<i>iMovie</i>	Video creation and editing
<i>Movie Maker</i>	
<i>VideoPad</i>	
<i>Loopster</i>	
<i>ToonDoo</i>	Comic creation
<i>Pixton</i>	
<i>MakeBeliefsComix</i>	



<i>Chogger</i>	
<i>Edmodo</i>	Virtual classroom and social network
<i>Schoology</i>	
<i>LiveMinutes</i>	
<i>Adobe Connect 9</i>	Videoconferencing
<i>Big Blue Button</i>	
<i>Skype</i>	
<i>Microsoft Paint</i>	
<i>Paintbrush</i>	Game based learning tools
<i>Open Office - Writer</i>	