



ASSET – Benefits Realisation

JISC Institutional Innovation Programme: Benefits Realisation Phase

1b

Final Report

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Acknowledgements

This project would like to acknowledge JISC and its Benefits Realisation Innovation Fund for the support of this project. We also wish to acknowledge the TEAM behind the original JISC funded ASSET project at Reading University.

Executive Summary

Aims/objectives

The aim of this project was to realise the benefits from the ASSET project at Reading University in another university to explore the challenges of transferring the technology and approach to another institution.

ASSET addresses an activity that has received a critical focus recently, that of assessment feedback to students. In national surveys, students complain that feedback is neither timely nor useful in many cases. There are many reasons why assessment feedback is not timely and that is tied up with tutor workload and lack of understanding of how to deliver meaningful feedback.

The ASSET project at Reading originally aimed to make feedback more rapid and engaging. Written feedback suffers from the fact that text rarely conveys all the nuances that is usually trying to be put across by the person doing the writing. The best option for conveying feedback is obviously face to face communication but that is not always practical. Video, where there is both the spoken word and visuals, though not as effective as personal meetings, offers more than text alone. Initial findings at Reading showed that staff and students enjoyed using video for feedback and the purpose of the BR project was to focus on implementing the system at Plymouth and sharing those experiences with others who might adopt the system.

Overall approach

The ASSET system is built around a bespoke video delivery system and the first steps of the approach was to replicate the same software at Plymouth. The software had to be set up on a server at Plymouth, and tied into the university's Active Directory, to allow users to log in using their normal university login details. This required collaboration with the IT services at the university, who had to verify the security of the software before the connection could be allowed. As the IT services at Reading had already examined the software before it was installed at Reading, and made several suggestions of way in which to improve the security, the software easily passed the tests at Plymouth.

Once the software had been set up, engagement with the future users of it was essential. Members of staff were approached, and given a demonstration of the site, and a few possible ways of using video to support feedback. Although there was great interest shown by staff at this stage, many found it difficult to find the time to engage fully with the site on relatively short notice. Lack of experience of producing media content on the part of the academics seems to have been the main limiting factor, and although the aim of this project was mainly to develop an IT infrastructure to house this content, the system produced could be used in future projects focussed more on the production of video and audio content, as well as supporting and training staff in media production.

The University of Plymouth Students' Union (UPSU) was also approached, as any system to support feedback to students requires some student input to be successful. The Student's Union was very keen to see this approach being used more widely, and future collaborations with members of the union are planned. Initially, we approached individual students to see if they would help in the evaluation. We found it was extremely difficult to engage students on an individual basis even with inducements like shopping vouchers. We thought we would take a more strategic approach and instead spoke to the President of UPSU and some of her officers. Their reception of the ASSET project and its objectives was highly positive and they said that they would take the project to the student parliament and then through the sabbatical officers' meetings and then the programme representatives' meeting. Although getting buy-in from the students' union was very positive, much time was taken up going through the various committee levels. For a project of this short duration, it meant that we had missed using the questionnaire

in this academic year. However, we have agreement in principle to conduct the questionnaire during the next academic year.

Findings

This project has shown that it is possible to deploy a software solution developed at one institution at another, as long as the software facilitates practices that are either already in place in that institution, or about to be introduced. The project also found great interest in the use of video and audio to enhance and support feedback, both with staff and with students. Having a software solution in place to support this will make it easier for academics and students to produce and share video and audio material to support any aspect of teaching and learning; including, but not limited to, feedback.

Achievements

This project has been successful in setting up a video delivery system at Plymouth University, based on the one used in the ASSET project at Reading University. Some modifications to the software have been made to add functionality, and adapt it for use in the new institution. Staff have been engaged to produce material for the site, and some useful resources already present at the university have been identified and uploaded to the site. Ties have also been formed with the Students' Union, and further collaboration is planned.

Conclusions

Using video and audio to support feedback has a number of advantages. It is a more engaging medium, as it emulates face to face contact far better than the written word. It is easier to express views in more detail using video, and subtleties such as tone of voice are not lost. As many students are already familiar with using video online, through sites like YouTube, providing the feedback videos in a similar environment is likely to increase student engagement with the resource. This project has shown that such a site can be set up in a relatively short timeframe, and the amount of interest the use of video to support feedback has generated shows the great potential of this approach.

Background

The applicant for this grant has had extensive experience using audio and video media to support teaching at the University of the West of England (UWE) Bristol. This involved audio and video podcasts of lecture materials that students could download and work through at the leisure before the lecture so they were prepared for the lecture period when there would be discussion around the material. This work was highly successful and there was great satisfaction with this approach to on-demand learning. Part of the success of the video approach was the production of a platform, somewhat like YouTube but only accessible by students and staff with a university login. Whilst others who were producing video materials were uploading them onto YouTube, there were reasons not to use this website as an educational platform. One reason was that the academic materials were 'mixed' with the more entertainment type of content which would be more appealing to students. Also, I wanted serious student comments on the videos and felt there was a risk of less than serious comments from some of the general public that would detract from the value of the videos.

A software system was built called UWE Tube which proved to be popular with students and where they could leave comments and interact with their lecturers. Reading University got to hear about this system and a bid was put in from there to build a system, called ASSET, which would employ the use of videos but to aid in the feedback process. Because of the Web 2.0 nature of the resource, ASSET would feedback to tutors as well thereby forming a feedback loop rather than the usual uni-directional path taken with student feedback where comments come from the tutor and is given to the students without an opportunity for the student to respond. The ASSET work at Reading is still in its early stages but it was worth seeing if this approach could be applied to another institution, the University of Plymouth.

Aims and Objectives

The aims of this project were to set up a version of the ASSET video delivery system at Plymouth University, based on the system used at Reading University. The system needed to be sustainable beyond the life of the project, and as such needed to make good use of user-generated content, and ensure that such content could continue to be produced after the end of the project.

This project also sought to create video content for the site, and engage with staff and students to inform the further production of videos to support feedback; as well as identify existing material in the university that could be incorporated into the site.

As the Reading project is still ongoing, it has been difficult to completely mirror the activities of that project. Combined with rather limited funding and time, this meant this project was forced to focus on a few core targets: to set up the system at Plymouth University; to engage with staff and students; and to create awareness of the system, through conference presentations and workshops.

Methodology

In setting up the software, it was decided that a similar approach as that used at Reading should be used. Any changes made would be for the purpose of testing a slightly different approach that may be required when trying to use and embed the software in an institution other than the one where it has been developed.

The Reading project used a virtual server, running the Ubuntu JeOS operating system – a version of the OS specifically adapted for use with virtual servers. As not all institutions will be running virtual servers, we decided not to use the JeOS version of Ubuntu. However, we still wanted the server environment to be similar, so we chose to use Apache as the webserver, and MySQL as the backend database, as these are being used on the Reading server. Once the server had been set up, the video delivery system as used in the ASSET project was installed. It was copied from the Reading servers, and only the minimal changes required to make it run on the Plymouth server were made. No changes to the functionality of the site were made at this time.

As the two projects started to diverge as a consequence of the different environments in which they were run, and new opportunities for development became available, some additional functionality was added to the system, such as a facility for adding chapter points to videos.

Staff and students at the university were approached and asked to take part in interviews about various aspects of feedback and assessment. The interviews were videoed and uploaded onto the ASSET site. Informal conversations were also held with students and staff to get their opinions on the potential usefulness of video to enhance feedback. The University of Plymouth Students' Union (UPSU) were approached, as they could offer a representative picture of the

students' opinions on feedback; but also because the sustainability of this project depends on its uptake by staff and students, and the support of the Union would facilitate this.

Implementation

A virtual server was requested from the university IT department, and set up in the university server bank. A similar setup to the one used at Reading University was chosen to ensure compatibility; including the Ubuntu Linux distribution running the Apache web-server and MySQL database. Once the server had been set up and configured, the ASSET video delivery system was installed, and IT services were consulted about getting the system integrated with the university's Active Directory, which allowed users to access the site using their normal university login details.

The ASSET video delivery system as used at Reading University made great use of the system's built-in functionality for organising the content into playlists. Three types of playlist were made available: University-wide playlists (referred to as 'public playlists'), available to all staff and students at the university; module specific playlists that were only made available to staff and students on a specific module; and personal playlists (referred to as 'private playlists') that were only visible to the user who created it. As the scope of this project did not include the production of module specific content, the module specific playlists function was removed – though it could be reinstated at a later date, should the need arise. The public and private playlist functions, however, were deemed to be beneficial to the users, and were left in. The uploaded videos were organised into public playlists to provide basic structure to the site content, and allow users to access related content with ease. (See Figure 3).

In addition to structuring content through the use of playlists, the video delivery system also allows users to provide so called chapter points; specified time-locations within a particular video. These chapter points will allow users to jump to relevant points in a video, and can therefore be used to mark up long video clips for ease of reference. The chapter points for any given video are organised into layers; groupings of related chapter points. Like the playlists, these layers can be either public or private, and users can designate public layers as 'collaborative' allowing other users to add points to them. (See Figure 2)

A valuable resource was identified at Plymouth University, in the Wrasse project. This project, funded as part of the CETL initiative, has created a series of examples of student essays and reports, and annotated them with marker's comments, giving feedback about various aspects of the students' work; such as highlighting a useful introductory paragraph or noting correct usage of references. These annotated essays were a very useful resource, and fit perfectly with the aims of this project. Therefore, a way of converting them to a format suitable for use on the ASSET system was devised. The excerpts from the students' work were placed into a PowerPoint presentation and captured using the Camtasia Studio screen capture software. A voiceover track of the text being read aloud was recorded and placed over the screen recording, to form a video consisting of both a visual and aural representation of the content. These videos were then uploaded into the ASSET video delivery system, and made available to all users.

Outputs and Results

The ASSET video delivery system was successfully set up at Plymouth University, and made available to all staff and students, through their normal university logon details. The system requires users to log in to access the material. This ensures that the content will only be visible to staff and students of the university, and those outside the institution invited by staff. The fact that users have to log in also ties any activity on the system to their accounts, and provides an audit trail in case users post offensive content or comments. It also allows tracking of users' engagement with the system allowing detailed reports on the usage of the site to be generated.

The ASSET video delivery system is subdivided into channels, to allow the content to be organised into broad categories, or intended uses. For this pilot project, only a single channel was used, though the possibility of adding more remains. In each channel the content is further subdivided into categories, which are created by the site moderators. The videos also have keyword tags to allow searching the site for videos on specific topics. These tags are also used by the system to suggest other videos that may be related to the one the user is currently watching.

When viewing a video, the user is presented with information about the video, as well as a series of links to related videos. There is a facility for the users to rate the video, and provide comments on it. When commenting, the users can choose to use a pseudonym, as students may be more likely to engage with the system if they can do so anonymously. However,

moderators can remove any offensive comments, and an audit trail is still available, should repeated offensive comments need to be traced back to a particular account. (See Figure 2)

The users can also subscribe to videos; if they do so, the system will notify them when a new comment is posted, so that they can follow ongoing discussions without having to check each video page individually. A user who uploads a video automatically subscribes to it, so as to be notified of any comments on it.

The system uses playlists to organise the video and audio content. The playlists are divided into public and private playlists. Public playlists can be only created by users with moderator privileges on the system. They are visible to all users, and serve to provide some basic organisation of the content. Private playlists can be created by any user and are, as the name suggest, private to the user who created them. They allow users to organise the content in a manner that is relevant to them. (See Figure 3)

The system also has a functionality that allows users to mark up videos with chapter points. These points allow quick and easy access to specific locations in a video. Users can create points for their own personal use, or choose to share the points with other users; collaborating to build up sets of points in videos. This feature allows videos of longer length to be put on the system and with navigation being facilitated through chapter points that signpost the user to certain parts of the video and which allows the user to comment on these signposts and add others of his/her own.

The ASSET video delivery system embraces the Web 2.0 approach of user-created content, and as such, a facility for users to upload their own video and audio content has been included. The user provides basic information such as a suggested title, description and keyword tags, which are then reviewed in the moderation process. The newly uploaded video does not become visible to other users until it has been approved by a moderator. This is to ensure that any content on the site is pedagogically sound. The site moderators also have the ability to remove videos at a later date, as well as remove inappropriate comments made on the video pages. (See Figure 5)

To facilitate and encourage discussions between users, two features have been provided; a discussion forum and a user-to-user messaging tool. The discussion forum functionality provides a separate forum for each channel on the site, and each forum can be further subdivided into subfora to allow discussions on similar themes to be grouped together. In these fora, the users can create new topics, or threads, in which they can discuss topics of a more

general nature than what is being discussed in the comments section of the videos themselves. The user-to-user messaging system allows users to send messages to each other within the system, and reduces the reliance on external forms of communication such as email.

It was during the development of the project that we heard that the Reading version of ASSET was going to change from the bespoke system used here to one that integrated with Blackboard and involved a dropbox approach to uploading videos. Here, users would upload their videos into a dropbox. The users would then receive a unique link which would be posted on Blackboard pages directing the users to the video which would play in a proprietary media player. This approach is a radical departure from the system originally designed and as this change occurred in the middle of the BR project it meant we had to adapt our original aims. The reason for the change in approach in Reading is that the ASSET system was owned by a software company and for roll out an alternative approach had to be adapted. The University of Plymouth does not use Blackboard and therefore we could not emulate the intended change in software as being developed there. However, the ASSET project has never been about the technology but rather the approach of using video to make feedback more meaningful.

As we were midway through the project, we thought we would continue using the original ASSET system but investigate more deeply how video can help staff deliver feedback and for students to use feedback including being able to provide feedback back to the tutor and also to peers.

Outcomes

There have been a number of significant outcomes for this project considering the limited funding and the time limit of only a few months.

1. Setting up the system at Plymouth

The software used in the ASSET project has successfully been set up at Plymouth University, and has been integrated with the University Active Directory, allowing users to access the site with their usual university login details. This shows that the software approach used is transferable to another institution, with only minimal customisation and adaptation needed, and that it can successfully be integrated with the processes used at that institution.

2. Engaging with staff

Recently appointed staff on the Learning and Teaching in Higher Education programme (LTHE) were approached and given a demonstration of the system, and told about various ways of using video and audio in supporting and enhancing feedback. Though many were already involved in other research projects, and could not work directly on this project, there was a great deal of interest in the approach, and possible future collaborations.

3. Engaging with students

The University of Plymouth Students' Union (UPSU) was approached and asked for input regarding the use of video to support and enhance feedback. The Students' Union has voiced its support for this approach, and for the possibilities of future collaboration to produce material for the site. The students' union has also agreed to facilitate interviews and focus groups with, as well as the distribution of questionnaires among, the students, as we found it very difficult to engage with students – even with inducements like shopping vouchers.

4. Enhancing the system

The functionality of the site has been extended with new features designed to improve the feedback process and further enhance the usefulness of video feedback. A facility for adding chapter points to videos has been integrated into the system, which allows users to mark up videos and customise the content of the site.

5. Raising awareness

In order to raise awareness of the possible use of audio and video to enhance feedback, several conference presentations have been given. The feedback from these presentations has always been favourable with numerous participants asking questions at the meeting and showing genuine interest in the work. Aspects people particularly liked was the ability to enter into a discourse about a particular piece of feedback that was visible to other participants thereby mimicking certain aspects of social networking.

Conclusions

1. Integration with existing processes

Each institution has its own local processes in place for using software approaches, and allows embedding of these to varying degrees. Levels of embedding may range from none, where the system is completely stand-alone; to low, such as using the existing university authentication process (e.g. LDAP) to allow access to the software; to high, such as embedding the software fully into the university's VLE. Some institutions may welcome such integration, whereas others are reluctant to embed new systems into existing practices.

2. Adaptation of an approach

Despite these differences in protocols and procedures, an approach developed at one university can be adapted for use at another. As long as the approach is fundamentally sound, changes can be made to it to ensure it will fit within the procedures of a similar institution to one where it has been shown to be successful.

3. Interest in video approach

With video becoming increasingly popular online, and many students already being familiar with the technology, it is no surprise that there has been great interest in this approach from the students. More surprising, perhaps, is the amount of interest the project has generated among the staff. From feedback at presentations and during informal interviews with members of staff, we learned that staff see the potential pedagogic benefit in this approach, and are keen to apply it themselves. They are aware of the potential increase in their workload, as producing videos would entail a small investment of time up front, but they can also see that it would reduce their workload in the long term, as the video and audio resources become reusable learning objects.

4. Replication of ASSET project

Though it has not been possible to fully replicate the work done at Reading, as it has had more funding and a longer period in which to develop, we have been able to emulate what we believe to be the core components of that project – namely developing and deploying an interactive video delivery system, and engaging with staff and students to produce videos for the site, and

raise awareness both of the issues surrounding feedback, and the possible solutions offered by the use of video and audio. Because of the short timescale for the project and ongoing uncertainty of the final nature of ASSET at Reading, it was not possible to second guess the direction of the parent project so some executive decisions were made to direct the approach used.

5. Timing

The timing of the project was not ideal to engage new staff as processes and project areas had been previously structured. However, we have still been able to develop an online environment in which staff and students can share audio and video content, and this infrastructure will certainly form the basis of future projects that focus on getting staff involved in the process of producing content for the site.

Implications

Even though the nature of the software to deliver ASSET at Reading in the future is still to be confirmed, this project has been successful in producing a video resource at Plymouth which will have a life beyond its funding phase, as well as raising awareness among staff and students about the issues surrounding feedback, and how the use of video and audio can mitigate those problems.

As part of the development of the project, we have formed an alliance with a number of groups including Wrasse project. This project has been funded as part of the CETL initiative and has produced a wealth of material on providing feedback and examples of tutor feedback to students. This material is largely text-based and this project has used some of this material to put it into video format. In this way, we are using open resources in an optimal way. Similar approaches can be taken to adapt other material for use on the system, thus making it more accessible to students.

With the growing interest in the use of video and audio in HE, and the eagerness of staff and students to try this approach in matters relating to feedback, having a user-friendly system in place to house the multimedia content as it is being produced is vital for the continuation of the use of video and audio to support and enhance feedback. The limitations of this project in terms of time and funding have made it impossible to produce all the content that staff and students

desire, but with the software already in place, future projects could focus exclusively on the production of content for the site, and on training staff and students to produce content themselves.

Recommendations

The BR initiative has been extremely valuable in using the outputs of one institution within another. The relatively small amount of funding and short period to perform the work precludes very ambitious work but is ideal for small scale, highly focused projects. In this way we have delivered what we promised in terms of second home for ASSET and have engaged staff and students. We have also developed a new paradigm in overlaying video with tutor and peer discourses.

Appendix 1 – Images of the system

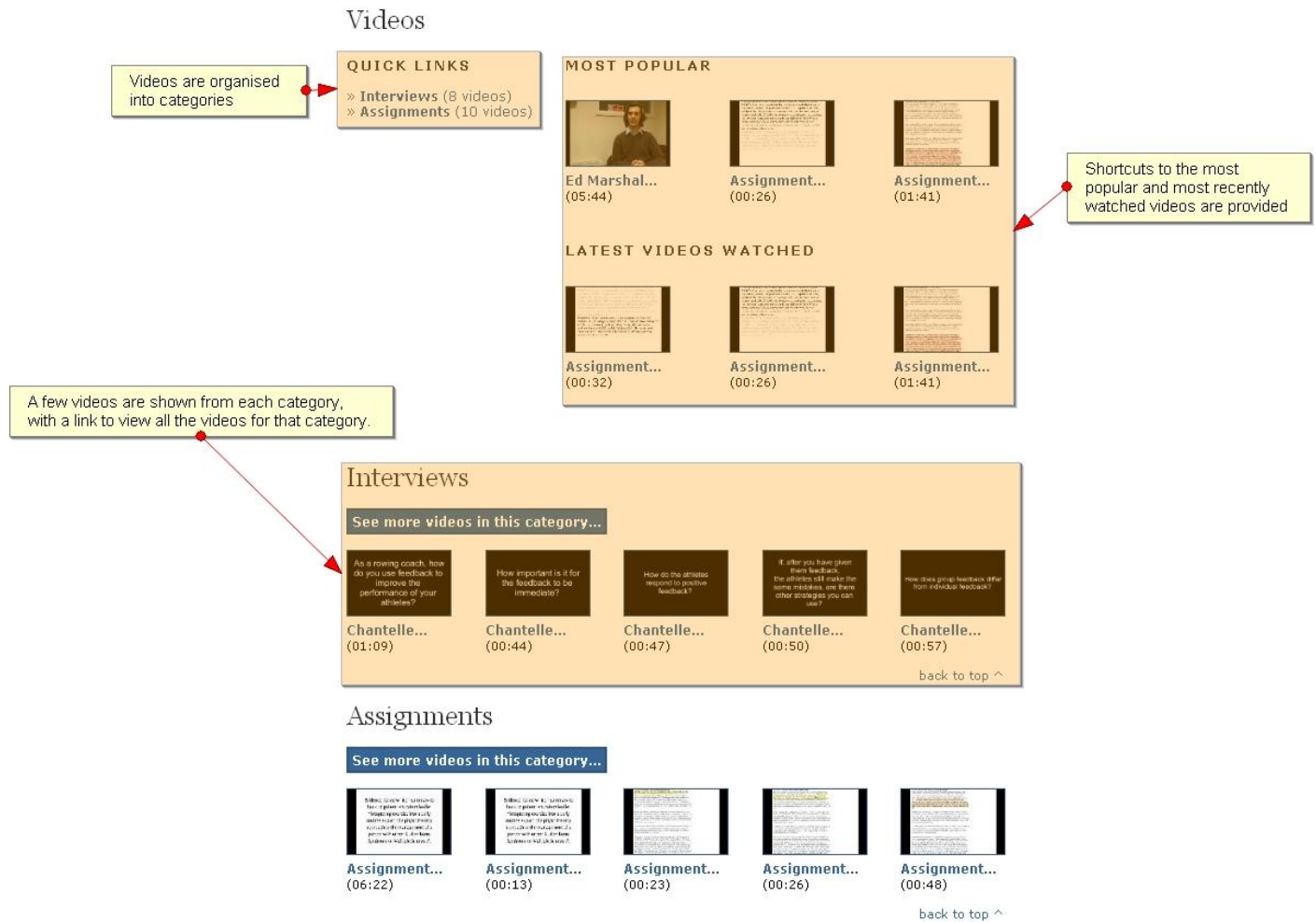


Figure 1 The videos on the site are organised into categories, and can be found either by searching for keywords or browsing through the collection of videos, split into categories.

Assignment feedback

The screenshot shows a video player interface with several key components and callouts:

- Video Player:** Displays a video frame with the text: "Evidence-based written summary to back up patient education leaflet 'Integrating exercise into a daily routine as part of a physiotherapy approach to the management of a person with either Guillan Barre Syndrome or Multiple Sclerosis'". Below the video are controls for "Add to playlist" and "Unsubscribe".
- Callouts:**
 - "Buttons provide an easy way for users to add the video to a playlists, or subscribe to be notified of any new comments." (points to 'Add to playlist' and 'Unsubscribe')
 - "Users can rate the video, both in terms of its quality, and its usefulness" (points to 'Quality' and 'Usefulness' stars)
 - "Users can comment on the video in this section. They can adopt a pseudonym if they prefer to remain anonymous. Users always have the option of removing their comments." (points to the comments section)
 - "Chapter points allow users to jump to particular points in videos." (points to the 'Paragraphs' table)
 - "Users can also create their own points, and optionally share these with others." (points to 'Add chapter point', 'Add layer', and 'Edit chapter points' buttons)
 - "Videos on similar topics are suggested" (points to the 'Related Videos' list)
- Paragraphs Table:**

Paragraphs	Marker's comments
Paragraph 1	(00:14)
Paragraph 2	(00:38)
Paragraph 3	(01:05)
Paragraph 4	(01:53)
Paragraph 5	(02:45)
Paragraph 6	(03:44)
- Category and Tags:** Category: Assignments; Tags: Assignment, feedback
- Description:** Assignment feedback
- Added:** January 26, 2010; **By:** Holger
- Related Videos:** A list of related videos including "Assignment Feedback 9/9 (00:32)", "Assignment Feedback 8/9 (00:26)", "Assignment Feedback 7/9 (01:41)", "Assignment Feedback 6/9 (00:59)", and "Assignment Feedback 5/9 (00:52)".

Figure 2 The video page contains a number of features for interacting with the content. Users are able to rate and comment on individual videos, using a pseudonym if they wish. They can also find related videos through the links provided. The chapter points for the current video are also shown. These allow users to jump to specific points in a video. The users also have the option of creating their own chapter points at any point in the video. The points are organised into layers – groups of related points. Users can create their own layers, and layers can be defined as private, public or collaborative. Private layers can only be seen by the user who created them; points in public layers are visible to all users, but only the user who created the layer can add more points to it; and collaborative layers can be added to by anyone.

Chantelle Hanley

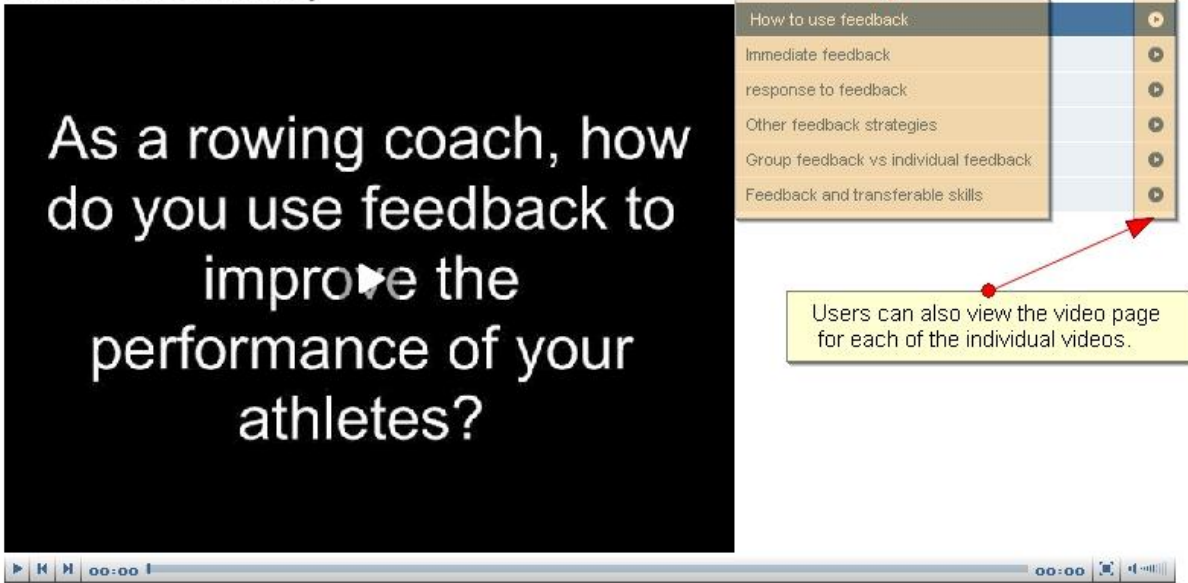


Figure 3 The videos on the site are also organised into playlists, allowing users to group several related videos together. The user can either view the playlist as a whole, with the system automatically playing the next video when the one playing finishes; or choose to jump to a particular video. Quick-links also allow the user to go to the video page of a particular video for more detailed information.

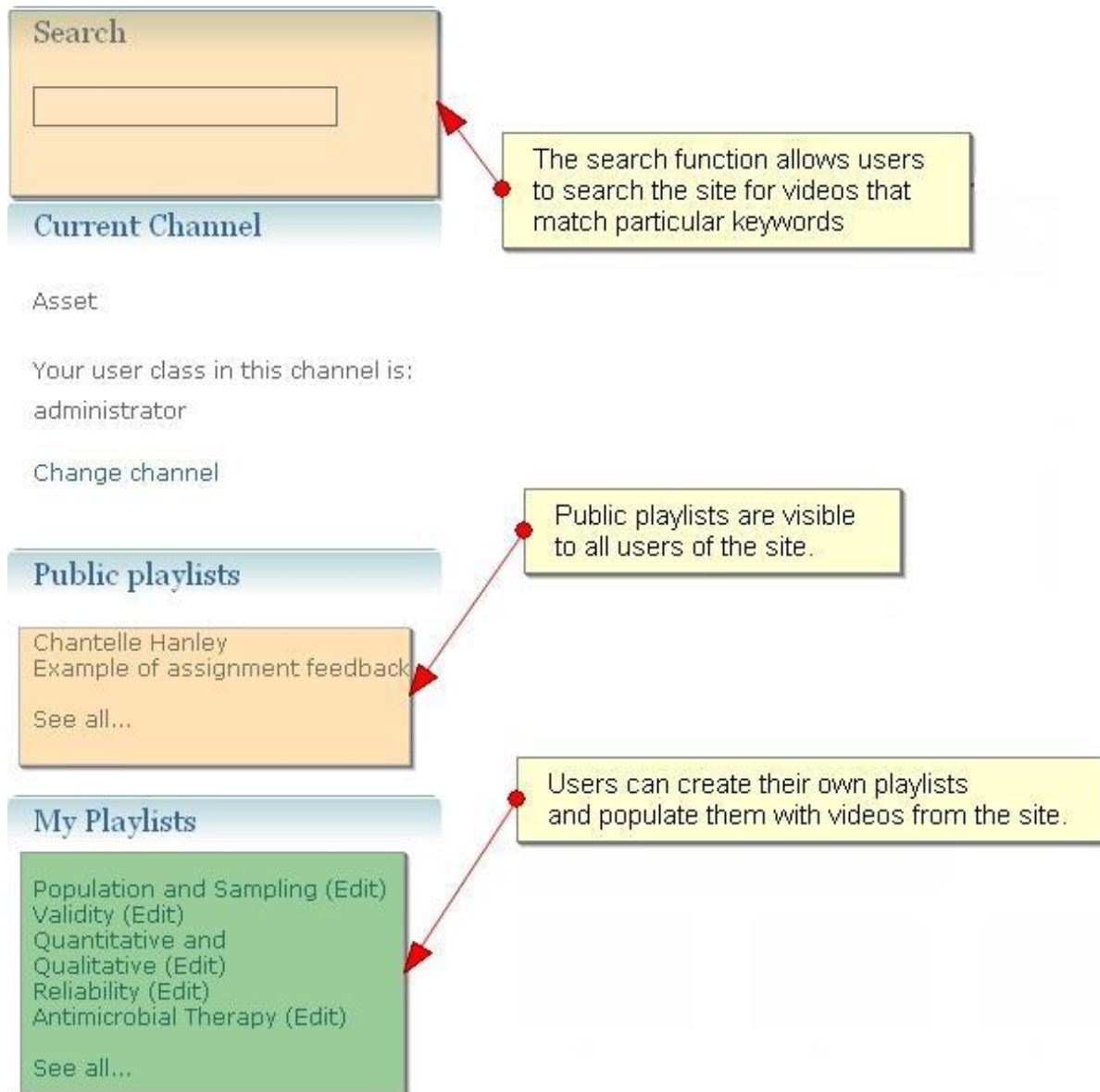


Figure 4 The menu bar pictured is always visible on the left hand side of the page. It allows the users quick access to the search function, as well as the playlists, split into two categories: public and private playlists. The public playlists are created by the site moderators, and are visible to all users; the private playlists are only visible to the user who created them.

Video Upload

Required information

Title

Description

Tags (space separated)

Channel

Category

Options

Allow users to **leave comments** on this video? Yes or No

Files to upload

Your video

 (Maximum size: 750mb)

Your video consent

 (Not required)

Figure 5 The system allows users to upload their own audio or video content. The user is required to provide some basic information about the video, before it is uploaded. The video will not become visible on the main site until it has been approved by a moderator. The moderator also has the option to alter the information provided by the user during the upload.