

## Sample Portfolio (Level 1 Merit)

NCFE Level 1 Technical Award in Music Technology  
(601/6777/4)

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## Introduction

The material within this portfolio relates to:

**Unit 01 – Using a Digital Audio Workstation**

**Unit 02 – Creating Music**

**Unit 03 – Studio Recording**

**Unit 04 – Sound Creation**

This portfolio is designed to demonstrate an example of the evidence that could be produced for all units of the Level 1. It's designed to provide guidance on how a portfolio could look, rather than being prescriptive.

In this example there are written accounts and audio/visual evidence, but the evidence could also be presented in alternative forms such as videos with commentary. Where the learner has provided visual evidence (for example screen grabs, copies of research), this has been clearly annotated to give context as to why it has been included. Each piece of evidence has been presented with the assessment criteria number shown at the top of the page.

This portfolio contains manufactured learner evidence and assessor feedback produced by NCFE.

## Internal Assessment Sample Tasks

Each unit will still be internally assessed, there will be contextualised sample internal assessments for you to use. These will be scenario based to ensure a strong vocational context.

Alternatively you can devise your own internal assessments and have them checked by the assessment checking service. See our website [www.ncfe.org.uk](http://www.ncfe.org.uk) for more information on this service.

The evidence in the sample portfolio is based on the Internal Assessment Sample Tasks available on the NCFE website.

## Unit 01 – Using a Digital Audio Workstation

### Task 1

Learning outcome 1: Outline the hardware components and software function of a (DAW).

## Learner Evidence:

### Hardware Components of a DAW

L1M



#### Computer Peripherals/Hardware

**OS** - Manages the computer hardware and software

**Processor** - The speed of the processor affects the computer's performance

**Hard disk** - This is where projects are saved

**RAM** - Stores data for open programs.

**Keyboard/Mouse** - Allows the user to control the computer.



#### Audio Interface

The audio interface is used to connect instruments and/or microphones to your DAW.



#### MIDI Controller Keyboard

The controller keyboard allows you to send notes to the computer.

L1M

## Software Functions of a DAW

### Track Types

#### Audio

Audio tracks are for audio files only.

#### Software Instrument

Software instrument tracks are used for playing the instruments built-in to the DAW.

### Software Instruments

Software instruments are software versions of real instruments that you can use in your DAW.

You can trigger the software instrument by pressing down keys on the MIDI keyboard



### Editing Tools

Editing tools such as the scissors tool can be used to cut audio/MIDI files.

Scissors Tool

The glue tool can be used to stick files together.

Glue Tool



Two audio files can be joined together smoothly using the X-Fade function.

You can also use the fade tool to add a fade-in, or fade-out to the start or end of an audio file.

Fade Tool

### Plug-ins

Plug-ins are effects that you can add to your tracks.

This plugin adds a delay effect.



L1M

## Software Functions of a DAW

### Synthesiser

This is the ESP instrument. It is a software synthesiser which can be used to create electronic-type sounds.



### Sampler

You can use the sampler to sample and play back real recorded instruments or voices.



### EQ

EQ can be used to adjust the tone of a sound. You can use EQ to boost or cut bass for example.



### Dynamics

You can use tools like the Noise Gate to cut out unwanted sounds.



### Task 2

Learning outcome 2: Create a musical project that will include MIDI and audio

Learning outcome 3: Review a musical project

## Learner Evidence:

I have decided to use the source material that I was supplied with to produce an EDM (electronic dance music remix). I was given two vocal audio files and one guitar audio file. I added three audio loops and one MIDI loop of my own choice. I will present my process of creating a musical project and explain the technical skills that I used.

Refer to: U1 L1M Audio File

### Creating a Musical Project

L1M

#### Configuring Software Preferences



I made sure I could hear playback by setting the audio output to my audio interface in the preferences box.

#### Software Instruments

I started by creating 5 audio tracks. These are for the audio files I was given and also so I can add extra audio loops.



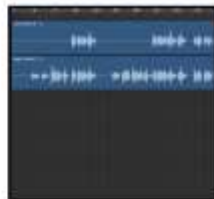
I then clicked on 'track' > 'new software instrument track' so that I could add a MIDI loop.



#### Importing Audio

I added the supplied audio files by dragging them onto the empty audio tracks in Logic.

I deleted the guitar part because I didn't like it



#### Importing Audio/MIDI Loops

I used the loop browser to find some loops I liked to add to the song.

I added two audio loops: a drum part and a synth bass part. I also added a MIDI loop which I dragged onto my software instrument track.

I then looped the looped audio files to make them repeat.

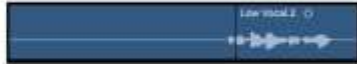


## Creating a Musical Project

L1M

### Using Audio/MIDI Editing Tools

I noticed that there was a lot of silence in the vocal audio file. I used the scissors tool to cut some of this out.



I highlighted all of the notes in the MIDI part after bar 33 and dragged them up to the next note.



### Selecting and Editing Software Instruments

I selected the 'ESP' software instrument in Logic for my MIDI loop.

I then opened the instrument and turned up the chorus effect.

I adjusted the envelope filter to make the notes last longer.



### Extending My Ideas

I have used the loop tool and copy and paste functions for both MIDI and Audio parts to extend my ideas and make the piece longer.

### Exporting my Piece as a Stereo Audio File

I selected a range of 0:00>2:30 of my piece and clicked on File>Bounce>Project or Selection.

I then selected a file format and clicked 'bounce'



### Review:

I was able to load up the correct preferences to get myself going and I did not have any problems loading the correct preferences. I was able to drag the required files into Logic, I added audio loops onto the correct tracks. I couldn't find a way to make the guitar part work so I decided to delete it altogether. I added a MIDI loop but the MIDI loop didn't sound perfect next to the vocal.

I used the looping tool well to extend some of the parts. I also got rid of some empty audio using the scissors tool successfully. I changed the MIDI notes by selecting them all in the piano roll and moving them up but I couldn't find a way to make this sound right. I was able to find the software instrument settings and changed the chorus setting in the ESP synthesiser.

I was able to locate the correct settings for bouncing down my file into a stereo format and bounced down my track by cycling the required length of song and then clicking on 'bounce'.



## Unit 01 - Assessor Feedback to Learner

Please state the grade the learner has achieved

**Grade: L1 Merit**

**LO1 – L1 Merit**

**LO2 – L1 Merit**

**LO3 – L1 Merit**

Feedback from Assessor to Learner

You have used some technical terms, but this has not been sustained throughout the response.

You have completed stages of tasks, with some direction, following the brief mostly accurately showing some technical skills when approaching each stage.

You identified what worked and what did not work within each task.

### UNIT 2 – Creating Music

#### Task 1

#### Learning outcome 1: Understand the musical elements of a chosen style

The chosen style of music for my blog is EDM which stands for Electronic Dance Music. I am going to identify three key elements of this style of music:

#### Structure

#### Rhythm

#### Instrumentation

I am also going to look at how music technology developments have potentially influenced my chosen style.

#### Structure

Early EDM styles such as house music featured repeated instrumental breaks from disco songs. "Taking just the instrumental break of a disco record, (Frankie) Knuckles would splice and loop it onto reel-to-reel tape, or boost the bottom-end rhythm section of dance records with a drum machine this 4/4 kick-drum house music is still maintained today." (*The Illustrated Encyclopaedia of Music, Flame Tree Publishing, 2003*).

The structure of an EDM track may not feature verses and choruses or a typical pop music structure.

#### Rhythm

The time signature of 4/4 is common in EDM.

A 4/4 kick drum (4 to the floor) is an important rhythmic element of EDM. (you can hear this in "Your Love" by Frankie Knuckles featuring Jamie Principle (<https://www.youtube.com/watch?v=WH5C1Fh53IO>))

#### Instrumentation

Use of electronic instruments such as synthesisers or drum machines are key musical elements of house music.

#### Music Technology Developments

An important technological development which had an impact on EDM was the introduction of the MIDI communications protocol. "The rising popularity of home computers like the AtariST introduced MIDI technology to a wide audience of producers." (<https://blog.udemy.com/history-of-electronic-music/>)

## Task 2

### Learning outcome 2: Create a piece in the style identified in learning outcome 1

This is my tutorial showing you how I created my EDM (house) piece of music:

Here is a screenshot showing an overview of my DAW session. You can see I have used 3 software instrument tracks and 2 audio tracks. You can also see the structure of the piece.



I started by searching for a drum loop that would form the basis of the track. I struggled to find something that matched a house style. I then used the loop browser to narrow down the options and found a loop that worked.



I used the same experimental process to find a bass part.

I looped the loop and built in sections where the drums would drop out.

### Structure

I have an introduction which is a synthesiser part I performed on the MIDI controller keyboard.

I then have an 'A' section which is just bass and drums.

This goes into a 'B' section which is two software instruments. One was a loop and the other part (chords) were played in via the MIDI keyboard.

The 'A' section returns as is the same as before.

Then the 'B' section returns. I changed this section slightly by shortening and editing the drum loop and then looping it towards the end of 'B' just before the 'A' section returns for the final time.

I then drop out the drums and leave the bass part playing as a sort of outro section.

### Rhythm

I set the BPM to 125 and made sure that I only used loops which were in a 4/4 time signature. I felt it was important to find rhythmic loops which had a 4 to the floor kick drum pattern.

### Instrumentation

I chose all electronic instruments for my EDM track. The audio loops couldn't be changed but the software instruments could.

I used the ES1 synthesiser for two of my tracks. The first one (intro part) was the default patch. The second one ('B' section chords) was a different patch, I chose a pad sound from the pre-set menu.



### Task 3

#### Learning outcome 3: Review the musical piece

One strength was my ability to play the MIDI keyboard which helped me create two of the parts quickly and easily.

One weakness was that I wasted too much time searching for drum loops to use before I remembered to use the loop browser search functions. Next time I would make sure to use the loop browser search functions before trying to find a sound in a specific style.

I feel that my piece of EDM music was largely successful in meeting the requirements of the brief. I feel this is the case as I utilised structural, rhythmic and instrumental elements from EDM when putting the track together.

**Refer to: U2 L1M Audio File**

## Unit 02 - Assessor Feedback to Learner

Please state the grade the learner has achieved

**Grade: L1 Merit**

**LO1 – L1 Merit**

**LO2 – L1 Merit**

**LO3 – L1 Merit**

Feedback from Assessor to Learner

You have successfully identified 6 points relating to musical elements and music technology developments. You used three references to support your research including 2 written sources and one audio example.

You completed your piece mostly accurately using a range of materials. The result continued some audible stylistic features of your chosen style and it is clear from the evidence that you undertook some experimentation with a range of materials.

You identified one strength and one weakness and make a simple statement about the success of your piece.

## UNIT 3 – Studio Recording

### Task 1

Learning outcome 1: Plan a recording session in response to a given scenario

I am planning to record a band with a cajon (percussion), acoustic guitar and bass guitar.

#### *Health and Safety (risk assessment):*

Risk	How to Minimise
<i>Exposure to noise</i>	<i>Use ear defenders</i>
<i>Display screens</i>	<i>Take regular breaks</i>
<i>Trip Hazards</i>	<i>Tape cables down</i>

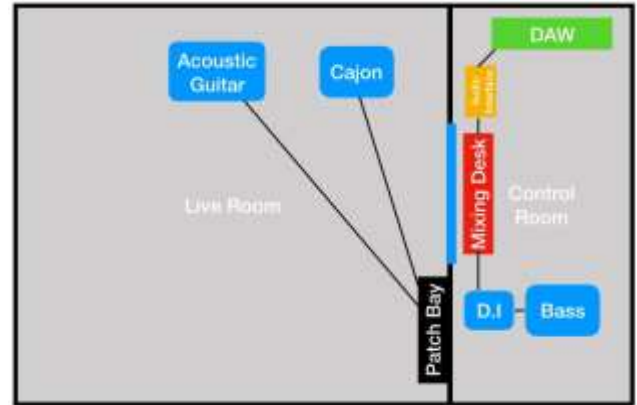
#### *Choosing the Right Equipment:*

Instrument	Microphone Type/D.I
<i>Acoustic Guitar</i>	<i>Shure SM57 Dynamic Microphone</i>
<i>Cajon</i>	<i>Audix D6 Dynamic Microphone</i>
<i>Bass guitar</i>	<i>D.I (direct inject) box.</i>

### *How my equipment will be placed:*

Here is a diagram of the studio live room and control room. I'm going to record the acoustic instruments in the live room and the bass guitar in the control room.

I plan to place the SM57 microphone in front of the acoustic guitar sound hole. I will set it up on a microphone stand with a chair for the performer to sit on.



I will put the excess microphone cable under the stand, so it is out of the way of the performer.

I will mic up the cajon by putting a D6 dynamic microphone in the instruments sound hole at the back. This is out of the way of the performer who sits on the drum to play it.



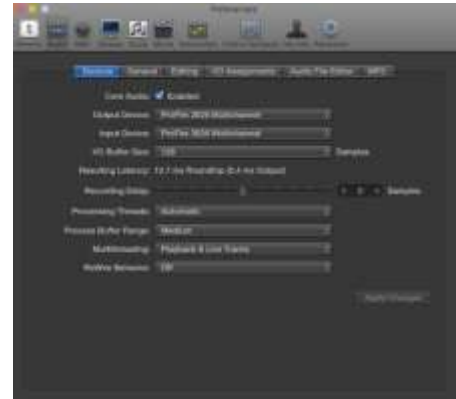
I will put the bass player in the control room and plug the bass guitar into a DI box. This will then connect to the mixing desk through a balanced input.



### **Setting up the Audio Interface:**



*My audio interface is an M-Audio Profire. It is hard-wired in to the desk and requires no changes to the settings. I have to make sure that I select this audio interface in my Logic audio preferences as depicted in the screenshot.*



### **Multitrack recorder**

*I will be using the first 3 channels of my mixing desk to send a signal to my multi-track recorder which is a computer-based DAW.*



*I will check the gain setting which controls the recording level.*

*I will then set up 4 audio tracks in my DAW.*



*I will then need to make sure each input is correct for each instrument. In my case I am using inputs 1-3.*

*When the performers are ready, I will ask them to play and then set the gain levels so that I record a good signal.*

### **Monitoring**

*I will be using studio monitors in the control room to monitor the sounds.*

*I will set up a headphone mix for the performers using auxiliary sends on the mixing desk.*



### Planning the studio session:

I will ensure that I arrive at the studio early to set up stands and microphones. I will make sure the DAW and mixing desk are working properly before the band arrive.

When they arrive, I will record the guitar part first. I will record an overdub of the guitar part second before moving on to the cajon. The last item I will record will be the bass guitar. I have planned 30 mins to set up and 1 hour to record with a further 30 mins to pack the equipment down and tidy the equipment away.

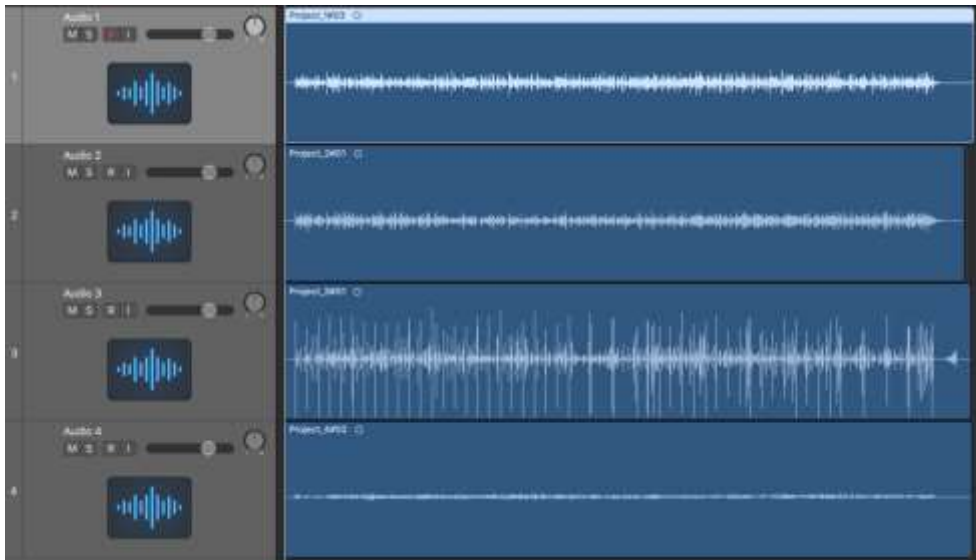
### Task 2:

#### Learning outcome 2: Undertake a studio recording session

- I have recorded 4 tracks (2 acoustic guitars, 1 cajon and 1 bass)
- As per my plan, I used a Shure SM57 on my acoustic guitar tracks, I used an Audix D6 on my Cajon and a D.I box for my bass guitar.
- I followed my plan from task 1, choosing the correct interface in my DAW, adding 4 audio tracks with the correct inputs and using auxiliary sends for monitoring.
- I set my gain using the gain control on the mixing desk. You can see the sound levels in the screenshot below.
- I ensured that health and safety procedures were followed:

Risk	How to Minimise	Evidence
<i>Exposure to noise</i>	<i>Use ear defenders</i>	<i>The track was performed on mainly acoustic instruments, so the ear defenders were not required. I made sure that the headphone mix and monitoring levels were appropriate.</i>
<i>Display screens</i>	<i>Take regular breaks</i>	<i>We took a 10 min break after 30 mins of recording.</i>
<i>Trip Hazards</i>	<i>Tape cables down</i>	<i>As I was only recording one instrument at a time, I only needed to use one microphone cable. I did not tape this down and instead ensured it ran flat along the floor.</i>

*Screenshot of multi-track recording:*



### Task 3 and task 4

**Learning outcome 3: Demonstrate mixing of a multitrack recording**

**Learning outcome 4: Review their mix down from learning outcomes 2 and 3**

### Review of my final mix against the original recording:

The first changes I made to the track were using EQ.

I applied the following EQ settings to my tracks:

EQ				
Instrument	Guitar 1	Guitar 2	Cajon	Bass
EQ Applied	Boosted the mids	Boosted the highs	Boosted the high-mids	Boosted the bass

These settings helped each instrument stand out more which is a strength of the mix.

I applied the following effects to my multi-track.

Instrument	Guitar 1	Guitar 2	Cajon	Bass
Effect Added	Chorus Modulation	No effect	Reverb	No effect

The reverb helped make the cajon sound more 'live', I feel that this is a strength of the mix.

I applied the following dynamics processors to my mix.

Instrument	Guitar 1	Guitar 2	Cajon	Bass
Dynamics	No change	Noise gate added	Compressor	No change

The compressor helped take out some of the 'punch' of the cajon which was a bit of a problem. The gate did not seem to make much of an effect on the guitar and I could have looked at more of the settings so improve its function.

### Balance and Panning:

To the right is a screenshot of my panning and levels. You can see how I've panned my guitars left and right which has improved the sound of the guitar. I turned down the cajon as it was too loud. I also turned up the bass as it was too quiet in the mix.

### Monitoring:

I made sure to check my mix on both headphones and speakers to make sure it would work on both.



### Key strengths:

I feel that I have improved the mix over the dry recording by using the above tools

### Key weaknesses:

I still don't like the cajon sound and couldn't fix the 'popping' sound it was making.

### Conclusion:

I feel that I have met the requirements of brief and completed a recording. I then created a mix of that recording and this resulted in an improvement.

***Refer to: U3 L1M (Mixed) and U3 L1M (Unmixed) Audio Files***

## Unit 03 - Assessor Feedback to Learner

Please state the grade the learner has achieved

**Grade: L1 Merit**

**LO1 – L1 Merit**

**LO2 – L1 Merit**

**LO3 – L1 Merit**

**LO4 – L1 Merit**

### Feedback from Assessor to Learner

You used some technical terms in your planning, supporting your points with straightforward examples that related to the scenario.

Your outcome (unmixed multitrack recording) demonstrated the application of some technical skills. It is evident that you have taken health and safety into consideration in your planning.

Your outcome (mixed multitrack recording) demonstrated some technical skills and some simple experimentation across the range of techniques required. You used EQ, effects, dynamics, stereo field and monitoring in creation of your mixed piece.

You make simple conclusions when comparing the unmixed recordings and the final mix. You consider the use of EQ, effects, dynamics, stereo field and monitoring in creation of your mixed piece. You provide one strength and one weakness of your approach/outcome.

## Unit 04 – Using a Digital Audio Workstation

### Task 1


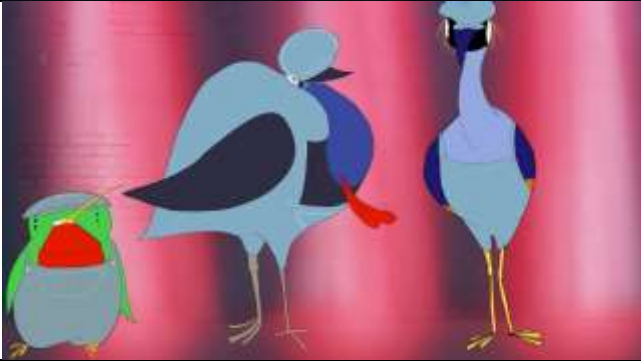

Learning outcome 1: Explain sound creation using examples.






I have created the following presentation to *identify* different types and methods of sound creation for media.

I have selected two clips as examples:

<https://player.bfi.org.uk/free/film/watch-outside-the-box-2018-online> (Cartoon)

[https://www.youtube.com/watch?v=TzM9Q\\_aeJFE](https://www.youtube.com/watch?v=TzM9Q_aeJFE) (Video Game Trailer)

	<p>Underscore (25s) At 25s there is an underscore in the background.</p>
	<p>Dialogue (41s) At 41s there is dialogue in the form of human-created animal noises.</p>
	<p>Foley (Physical Props - 1:18) At 1:18 you can hear foley being used with physical props.</p>

	<p>Ambience (Throughout)</p> <p>During most of clip there is an ambience.</p>
	<p>Sound Synthesis (1:25)</p> <p>A synthesiser has been used to create the beeping noise for the "Boxes Packed" display.</p>
	<p>Voice-over (2s)</p> <p>At the start of the Pirates of the Caribbean game trailer, there is a voice-over announcing the age rating of the game.</p>
	<p>Digital Sample Manipulation (6s)</p> <p>A cymbal has been reversed.</p>
	<p>Environment Noises (20s)</p> <p>At 20s you can hear the wind and the waves which have been added to the clip.</p>





### Special/Spot Effects (38s)

The sound of the monkey has been taken from an effects library and has been added to the clip.

In conclusion, each clip required a different approach. There was more freedom of choice in the Outside the Box clip, but it also required more effort to make the sounds more realistic. In the video game trailer, there was less sounds to make and the sound of the wind and the waves helped fill some of the background detail.

**Refer to: U4 L1M Movie File**

## Task 2

Learning outcome 2: Plan and undertake the sound creation for a given brief.

### Plan:

I am using the *Outside the Box* cartoon as my movie clip.

Here is a plan of which types and methods of sound creation I will use for my project:

Foley	I will foley-in the footsteps of the characters.
Ambience/Sound Synthesis	I will use a synthesiser to create an ambience
Dialogue	I will add some spoken dialogue for the characters
Underscore	I will add some piano parts to create an underscore. It will change depending on what is happening.
Physical Props (to make foley)	I will find some objects that look like the objects in the clip and try to record their sounds at the same time that the character interacts with them in the clip.
Environment Sounds	When the main character looks at the photograph, I will add the sound of wind/waves.
Digital Sample Manipulation	I will trim my files so that they start and end cleanly.
Effects Library	I will use a smashing glass sound for the bit where the character smashes the eye of the claw machine.

### Task 3

**Learning outcome 3: Review their completed sound creation project.**

#### My Review

One strength of my project was my ability to use the MIDI keyboard to play in some of the parts for the video clip. As I knew some basic chords, I was able to quickly create an underscore and even add some sound effects simply by playing the keyboard at the right times.

One weakness of the project was there were some sections where the scene felt a bit 'empty', I struggled with my time management and ran out of ideas for how to fill some of these sections with sounds.

Overall, I am pleased with my project and I feel that most of the sounds are appropriate for the clip. I think my bad time management and lack of ideas let me down.

## Unit 04 - Assessor Feedback to Learner

Please state the grade the learner has achieved

**Grade: Level 1 Merit**

**LO1 – L1 Merit**

**LO2 – L1 Merit**

**LO3 – L1 Merit**

Feedback from Assessor to Learner

You identified types of sound creation and methods of sound creation making links to two different types of media.

You created a plan and video evidence which demonstrated some technical skills in meeting the brief. It is clear from the evidence that you have carried out some experimentation with a range of materials as directed.

You reviewed your completed work identifying one strength and one weakness. You made a concluding statement about the success of your piece in relation to your use of sound creation.

### Marking Guide

**/\** word missing

**sp** spelling

**p** punctuation

**gr** grammar

**ex** poor expression

**T** wrong tense

**?** meaning unclear

**Cp** capital letter

**//** new paragraph

**!** not sure what this is—incoherent

