



Evaluation of the Instrumental Tuition  
by Video Conferencing Project  
2CV/P 002/068

Final Report

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### **Acknowledgements**

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## **INTRODUCTION**

### **1.1 Background**

The Instrumental Tuition by Video Conferencing (ITVC) Project, which is funded through Scottish Executive's Future Learning and Teaching (FLaT) Programme, began in April 2005. The project, which was initially intended to run for two years (since extended to June 2007), proposed the development of an innovative approach to the delivery of instrumental music lessons using the medium of video conferencing. Organised by the Dumfries & Galloway (D&G) Education & Community Service, it focused on providing access to instrumental lessons for pupils in rurally isolated primary schools across the region.

Prior to the ITVC Project, delivery of all instrumental lessons for D&G primary pupils has taken place outside the school day at the nearest local secondary school. Resources have not normally permitted music instructors to visit individual schools to deliver lessons which, at the primary stages, are delivered in small groups. Although equal access has been offered to all pupils from P6 upwards who wish to participate in instrumental lessons, those pupils in rural schools have clearly not enjoyed the same level of opportunity as they are unlikely to live within close proximity of a local secondary school. In addition, a contribution of £30 per term has also tended to deter these pupils and their parents as the cost of transport to and from lessons is often considerable to start with.

A summary of the ITVC proposal is presented below and forms the basis for the design and development of the evaluation strategy, which is the subject of this report.

### **1.2 Intended Project Outcomes**

The rationale behind the ITVC proposal was that a longitudinal research project into the possibility of using high quality video conferencing technology (ISDN6) for instrumental tuition would provide the necessary evidence to confirm its value in readiness for the anticipated move to Internet Protocol (IP). With Broadband Connectivity via IP likely to become available soon after the project's conclusion, this would create a far cheaper means of extending video conference instrumental lessons to a wider number of D&G schools, should the pilot project have been deemed a success.

At the outset, it was not the intention of the project organisers to stipulate the type of instruments to be taught but rather to appoint the most suitable candidate for the post of tutor, regardless of their professional discipline. Thus, the fact that lessons have focused exclusively on brass instruments – trumpet, horn and trombone – was entirely coincidental.

The intended outcomes of the pilot project are as follows:

- to improve access for rurally isolated primary pupils to learn a musical instrument;
- to increase participation in instrumental music making for schools in Dumfries & Galloway;
- to provide opportunity for research information to be shared nationally;
- to explore potential for the development of a cost- effective method of teaching delivery to rural communities;
- to develop the skills and methodology of staff using ICT;
- to meet the National Priorities for Education;
- to develop other new musical opportunities, such as masterclasses.

In summary, the following components were seen as integral to the achievement of these outcomes:

- Installation of high quality video conference and audio technology at 4 selected primary schools;
- Provision of instruments and lessons (at no cost to pupils/parents for at least the first year of the project);
- Development and delivery of an initial training programme for practitioners;
- Development of an ongoing support system, integrated as part of the Music Service, available for participating schools;
- Appointment of an instrumental tutor (0.2 staffing equivalent over 2 years).

(Source: ITVC Project – FLaT Fund Application)

### **1.3 The ITVC pilot schools**

During the pilot project, a total of 4 primary schools have been involved. All are located in remote areas of Dumfries and Galloway and have maintained their involvement throughout the life of the project. Links between the schools already

exist in that the headteachers are regularly in contact with each other and pupils from all 4 schools transfer to one of only 2 local secondary schools.

Selection of suitable schools was made by the project manager in consultation with Education Officers responsible for primary education and ICT, and headteachers. In addition to geographical location, important factors in the selection process included the commitment to the project of the headteacher and staff, and suitability of the available accommodation. Staff expertise in terms of ICT and musical/instrumental skills was not specifically taken into account. However, potential participants were expected to demonstrate interest and enthusiasm in developing these areas within their school and a willingness to learn a range of basic skills essential to the project.

During the pilot phase, each school agreed to:

- identify a named person to have oversight of the programme, to liaise with the project manager, instrumental tutor and technical support consultant as required;
- find a suitable location for the video conferencing equipment;
- release at least one member of staff to receive rudimentary training in the use of video conferencing equipment and maintenance of instruments;
- recruit pupils from P6 and P7 and allow them release time for instrumental lesson of approximately 30 minutes duration on a weekly basis;
- provide ongoing support and encouragement for pupils during and outside lesson times, particularly with regard to maintenance of instruments, attendance at lessons, instrument practice and liaison with parents;
- develop staff expertise in the use of video conferencing technology in a variety of curriculum and other contexts;
- evaluate and reflect on the experience and provide feedback on an ongoing basis regarding progress of pupils and the overall impact of the project on the school.

At the outset of the project, pilot schools were equipped with screens, trolleys and VSX 7000 Video Conferencing Systems incorporating an audio box, together with ISDN modules for running sessions via ISDN6. In addition, blue background screens were purchased for each school in order to remove distracting items behind the pupils and schools were encouraged to reduce glare from windows near to the screens by using blackout curtains.

Since lessons commenced in November 2005, approximately 30 children have received weekly instrumental tuition in groups of up to 5 pupils. The number of pupils learning at each school has tended to mirror the overall size of the respective cohort.

#### **1.4 The role of Dumfries & Galloway Education & Community Service**

The specific role of Education Officers within the D&G Education & Community Service has been to devise and develop the project, including the identification of appropriate high quality hardware, appointment of the instrumental tutor and selection of the technical support consultant responsible for supervising the installation and ongoing maintenance of the video conference equipment. The consultant was also responsible for running initial training sessions at all four schools.

Oversight of the project has been the responsibility of the Education Officer with responsibility for the Schools' Music Service. In addition, the Instrumental Music Service and Senior Music Instructor team have contributed to the project as required.

The project manager has undertaken a broad range of responsibilities, including:

- providing ongoing advice and support for schools, both personally - by remote means, during termly visits and via Heads' Meetings – and via consultants;
- training teachers in the use of video conferencing technology linked to instrumental tuition;
- monitoring the supply of suitable brass instruments via the Instrumental Service, and (where necessary) arranging repairs or replacements;
- monitoring and supporting the instrumental tutor;
- ensuring that the project progresses in line with initial plans in order to ensure objectives are fully achieved;
- regularly consulting Local Authority colleagues and keeping them informed of the project's progress;
- publicising the project, in particular via the media, national and international conference presentations and liaison with Scottish Executive / Learning & Teaching Scotland (LTS);
- organising access for schools to additional video conferencing opportunities provided by organisations such as the London Symphony Orchestra, BBC Scottish Symphony Orchestra and Global Leap.

In addition, the project manager's role is crucial in terms of monitoring and supporting the instrumental tutor.

## **2 THE EVALUATION**

### **2.1 Terms of reference**

In March 2006, the Centre for Education and Industry (CEI) at the University of Warwick commenced evaluation of the ITVC Project on behalf of the Scottish Executive. The evaluation team involved consultants from the Royal College of Music (RCM) and the Royal Scottish Academy of Music and Drama (RSAMD). Specifically, the evaluation objectives were to identify and assess perceptions of:

- the overall impact of the ITVC Project on participating pupils;
- the impact the project has had on the musical skills of the pupils involved;
- the impact on motivation to learn a musical instrument and attitudes to music;
- the overall cost effectiveness of delivering instrumental tuition by video conferencing.

An interim report was presented in August 2006, setting out the findings of the evaluation at its midway point and indicating possible ways forward for the second year of the project. The purpose of this final report is to draw conclusions from the findings of the evaluation in its entirety.

### **2.2 Methodology**

Because of the small numbers of schools and staff/pupil participants involved in the pilot project it was decided that the research would adopt a primarily qualitative method of evidence collection over two distinct phases. The design included:

- desk research, including review of the project structure and background documentation, and research into examples of the use of video conferencing in musical and non-musical contexts;
- discussions with colleagues at the RCM and RSAMD;
- in-depth, one-to-one interviews (6) with the project manager, instrumental tutor and technical support consultant;
- in-depth interviews (6) conducted at all 4 participating schools with heads (n=4) and school-based project organisers (n=3);
- in-depth interviews (4) with a sample of parents (n=6) representing all 4 schools;

- semi-structured focus group discussions (5) conducted at all 4 schools with participating pupils (n=29) and with a group of ex-pupils (n=5) from 1 school;
- follow-up semi-structured focus group discussions (4) conducted via video link with participating pupils (n=28);
- observation of instrumental lessons (4) taking place with small groups of pupils (n=11) from 2 schools;
- follow-up observation of instrumental lessons (4) via video link with pupils (n=16) from 2 schools
- follow-up in-depth group discussion with headteachers (n=4) and the project manager.

## **2.3 Fieldwork**

### **2.3.1 Phase 1**

Following desk research into project documentation and participating organisations, as well as other examples of the use of video conferencing in musical and non-musical contexts, a series of meetings was organised. These included initial discussions with colleagues at the RCM and RSAMD to scope their contributions to the evaluation. In addition, the evaluation team visited Dumfries to meet the project coordinator, technical support consultant (via video conference link) and the instrumental tutor. It was also possible to observe lessons taking place with one school from the central base, St Teresa's Primary School.

A second visit to Dumfries took place in mid-May 2006, during which the evaluation team had the opportunity to conduct in-depth interviews with the project coordinator and the technical support consultant (again, via video conference link). In addition, half-day visits were arranged to all four of the participating schools. Following these visits, telephone interviews were conducted with two head teachers who had not previously been available and also with the instrumental tutor. A further lesson observation by the RSAMD consultants took place at St Teresa's in June.

### **2.3.2 Phase 2**

Phase 2 fieldwork occurred between November 2006 and January 2007, the intention being to allow sufficient time for new and existing pupils to settle into the new academic year before commencing the second round of focus groups and observations. Much of this research – project manager interview, pupil focus groups

and lesson observations – was conducted via the video conferencing facilities at the University of Warwick.

Other elements of the research included an in-depth telephone interview with the brass tutor and a face-to-face discussion conducted by the RSAMD with a small group of ex-players (n=4 S1 pupils) who had recently transferred to secondary school but had chosen not to continue their brass lessons. However, of particular importance to the evaluation was the final meeting between the evaluation team and all four head teachers, together with the project manager, which took place in January at the Local Authority offices in Dumfries.

Since that time, brief follow-up telephone and email contact has continued between the evaluation team and the project manager until March 2007.

### **3 MAIN FINDINGS FROM THE EVALUATION**

The purpose of this section is to provide a summary of key findings and observations from the qualitative survey. Each of the four evaluation objectives is considered in turn and findings are illustrated by comments taken from the data sources identified in Section 2.

In order to protect respondents' anonymity, it is proposed that quoted remarks will be attributed to staff, pupil or parent from School A, B, C or D; or to Project Team Member (PTM) 1, 2 or 3.

#### **3.1 Overall impact of the project on pupils**

Consideration of findings regarding the project's overall impact on pupils is loosely set within the context of the five Scottish National Priorities in Education and in line with the project objectives stated in the original FLAT Fund application form (p.7).

##### **3.1.1 Achievement and attainment**

###### **General progress**

From the perspective of both the project manager and the instrumental tutor, pupils appear to be progressing on a par with or better than they would have done in 'normal' music lessons:

*“I would say that pupils’ progress is a lot better than standard because they have more time to practise (and they do), and more support.” (PTM2)*

*“My impression is that the youngsters are making at least as good progress as if (the tutor) had been going to the schools to teach them...” (PTM1)*

This is borne out anecdotally by the opinions of other professional musicians who have worked with the children. The reasons for such rapid progress are still unclear, although learning music via video conferencing presents a more challenging environment for pupils in which:

*“...they’ve got to listen and they’ve got to watch a lot more, so they’ve got to focus a lot more.” (PTM2)*

Progress may also be affected by group dynamics or by the whole school dynamic but is difficult to benchmark as no similar projects are currently taking place with which to make a comparison.

### **Development of numeracy and literacy skills**

It is self-evident that, when playing an instrument, pupils will need to apply a range of basic **numeracy** skills such as counting, number patterns and sequences and calculations in relation to bars, beats and note values. In addition, the ITVC project has acted as a catalyst for some pupils in terms of encouraging them to develop **literacy** skills, with particular emphasis on listening and speaking. Multilinking with pupils from different schools and participation in video conferenced ‘masterclasses’ with professional musicians have widened pupils’ interaction with people from outside their immediate community and have helped to improve their communication skills.

### **Measures of achievement**

To date, no formal means of measuring achievement has been incorporated into the project, although the tutor is responsible for monitoring and assessing individual attainment on an ongoing basis. However, a recent development has been the participation of 7 pupils from 2 of the pilot schools in the Galloway Music Festival where 3 pupils attained 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> places in the ‘Beginners’ Brass’ category. As pupils continue to develop their enthusiasm for performance, a possible way forward might be to introduce the ‘Music Medals’ system run by the Associated Board of the

Royal Schools of Music (ABRSM)<sup>1</sup> as a nationally-recognised measurement of achievement.

### **3.1.2 Framework for learning**

#### **Teacher skills development**

Pupils have benefited greatly from the willingness to learn shown by headteachers and other staff responsible for school-based project co-ordination, both in terms of developing a basic awareness of brass instruments and the skills necessary for operating the video conferencing equipment. In respect of the latter, the initial on-site training provided by the technical support consultant was of paramount importance for boosting confidence and allaying fears that the video conferencing equipment is a *“Big Brother installation that has come in to look at what you are doing”* (PTM3).

Nervousness of a new delivery method may be understandable, but:

*“If you explain to them how to use it, that it is not going to endanger them in any way, that they are in control of how it operates, and in fact it’s just a telephone call with pictures, it is amazing how quickly you can get their co-operation.”* (PTM3)

Through discussion with the project manager and the tutor, teachers have also developed understanding regarding effective practice methods, performance techniques and instrumental maintenance which has enabled them to provide appropriate, informed support for pupils in all of these areas.

#### **Pupil self-discipline**

A marked characteristic of almost all lessons observed by the evaluation team has been the high standards of engagement and levels of self-discipline demonstrated by pupils. They have rapidly recognised the need to take responsibility for their own learning in this particular context, where the tutor is not expected to be physically present in order to deal with a problem:

*“...they can’t rely on this person who’s there – you know, if something goes wrong with their trumpet or trombone, they can’t think ‘Och, well, I’ll wait until next week and X will fix it’ because there’s no ‘next week’ ... so they’re going to have to learn or*

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<sup>1</sup> Pupils entered for Music Medals are assessed in groups by the teacher, with each assessed performance being videoed and sent to the ABRSM for moderation. [www.musicmedals.org](http://www.musicmedals.org)

*they're going to have to ask someone who they know can do something for them..."*  
(School B: staff)

Many adults have remarked on the excellent behaviour of pupils who are not always known for this quality in normal classroom contexts. For some parents, this may be

*"...because it's in school, they follow the rules, don't they?"* (School C: parent)

Pupils have realised that good attendance is important for achieving high standards and the general level of attendance across all 4 schools is very high:

*"I think it's worthwhile going because if you didn't go you wouldn't really enjoy being able to play your instrument if you know you didn't have a chance with it."* (School B: pupil)

This attitude has extended beyond lesson times and most pupils regularly engage in self-directed learning sessions, including instrument practice and working through the resources on the tutor's website. Moreover:

*"I find that S and C (P7 pupils) have now developed the lovely knack of helping younger children, not only with the music – they help them with their instruments, put them together and take them apart again."* (School A: staff)

### **Enhanced school environment**

Provision of the video conferencing equipment has made a substantial – and lasting - impact on the infrastructure of the pilot schools. Depending on the level of use that schools make of these resources (outside brass lessons), so the teaching and learning experience can be enhanced for the whole school and potentially for the community within which it is located. As yet, this is at an early stage of development.

#### **3.1.3 Inclusion and equality**

In this model of the use of video conferencing in education, known as 'substitution' (see Becta 2004: 24)<sup>2</sup>, the introduction of video conferencing has enabled the Local Authority and the pilot schools to engage in activities that would otherwise be

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<sup>2</sup> Becta (2004) – Evaluation for the DfES video conferencing in the classroom project – <http://www.becta.org.uk>

organisationally difficult and/or prohibitively expensive. There are a number of key findings with regard to the impact of the ITVC project on inclusion and equality.

### **Equality of access**

In all 4 pilot schools, the project has enabled considerably more pupils (30 per year) to learn instruments than would normally be the case; this is particularly significant in terms of brass tuition for primary pupils in which the usual take-up is very low. The fact that the selection of pupils *and* pilot schools has been made on the basis of enthusiasm and commitment rather than on aptitude or musical reputation has increased the inclusive nature of the initiative.

The 'normal' system of accessing instrumental lessons at the local secondary school has always necessitated parental willingness to take their child on a long and expensive journey after school each week (impossible for parents who are working or have limited funds or no means of transport in areas poorly served by public transport). The ITVC Project has allowed equality of access for these pupils, regardless of their financial background or family circumstances:

*"I mean, the children who are there at the moment I would say, perhaps, at most 3 of them would have taken it (instrumental lessons) up. The rest certainly would not have... Because their parents really don't have the (financial) means..."* (School B: staff)

### **Opening up the world to the school/community**

Although the project has only been 'active' for a relatively short time, it has already promoted considerable interest both locally and nationally/internationally, mainly through the efforts of the project manager. This, plus the use of video conferencing for developing links with organisations such as the LSO, has begun to help break down some of the barriers for communities in such remote locations and to assist the younger generation in making its way in the world.

*"With schools like ours, we always say 'You can't always take the school to the world but you have to bring the world into the school' and it's a great medium to bring the world – museums, parliament whatever..."* (School A: staff)

### **Musical accessibility**

Of the 28 children interviewed by the evaluation team during Phase 2, 13 are trumpeters, 7 trombonists, 2 horn players and 6 are cornet players. During Phase 1

research, some pupils expressed disappointment that their choice of instruments was limited to brass but the evaluation team found no evidence that this attitude had persisted into the second year.

Although pupils are encouraged to express a preference for the type of instrument they would like to learn, allocation is fairly random and does not depend on physical characteristics such as height or shape of mouth. The entire pupil cohort is fairly evenly split between boys (n=13) and girls (n=17) and neither sex tends to dominate with regard to any specific instrument:

*"...I think being brass has helped. ...they (the girls) didn't find it masculine and the boys didn't find it feminine – it seems to stand alone for both boys and girls."*

(School A: staff)

### **Technical accessibility**

No reports were received of any difficulties encountered by pupils – or teachers – regarding the management of the video conference technology. Underpinning this has been the appropriateness of the selected system:

*"If the systems are set up correctly, if they are set up well enough for the application that's in mind, then I think there is very little difficulty in people coming to terms with how to actually drive this digital television application."* (PTM3)

In fact, schools are clear that the project has taught them never to underestimate the technical capacity of children. Pupils *"do love the technology"* but in this project, because of its simplicity and the skills and confidence of the tutor in handling it, it does not impede progress or distract attention from the main purpose of sessions – to learn an instrument.

### **3.1.4 Values and citizenship**

#### **Parental involvement**

All 4 schools have worked hard to develop positive links with the parents of children involved, ensuring that from the outset they were fully informed of project expectations and procedures and the part they might play in developing the skills of their child. In the first year, all parents were invited to observe lessons and some at each school took advantage of this opportunity:

*“...they couldn’t quite believe what they were seeing!”* (School A: staff)

Details of pupil progress and achievements are communicated to parents on a 6-monthly basis, in line with the Instrumental Services reporting system:

*“The progress isn’t so much about ticking the box of playing such and such a note as ticking the box of achieving a presentational opportunity or of sharing...”* (PTM1)

All schools actively encourage feedback from parents on progress and achievements occurring outside the school, or specific needs of their child – important information which can then be relayed to the tutor:

*“One of my P7 girls was bought a trumpet for Christmas by her granny and is going to be joining the town’s Silver Band.”* (School C: staff)

### **Respect for self and others**

A particular benefit of the ITVC project has been the opportunity for pupils to learn co-operatively in small groups, through which they have come to understand that many of the outcomes they and/or their tutor might desire during lessons (and performance/practice times) can only be achieved through positive interdependence. Children’s self-esteem is enhanced because they feel valued by their peers (see Cohen, Manion & Morrison, 2005: 180)<sup>3</sup> and the consistent acknowledgement of their achievements by the tutor:

*“Children don’t normally want to show off anything that’s not perfect... but they’re quite proud of their progress...”* (School A: staff – comment following an assembly performance)

During an observed lesson, it was noted that trumpeters in a group wanted to stay on to listen to the trombonists even though they were given the option of leaving:

*“...I suppose they’re also assessing how the other youngsters are getting on and so they’re (developing) critical skills – seeing where they’re placed in the scheme of things - and I think it’s providing a stimulus and challenge for them to do better, to constantly be working...”* (PTM1)

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<sup>3</sup> Cohen, L. Manion, L. & Morrison, K. (2005) – A Guide to Teaching Practice: London, RoutledgeFalmer

*“We’ve got a girl who is making very slow progress but for her, it’s absolutely wonderful... this child is trying but ability-wise across the board is not just up there. But it has given her a great deal of confidence in other areas of the curriculum as well... she feels important, she’s got this instrument and she’s only one of a few...”*

(School B: staff)

### **Social and interpersonal skills**

There is clear evidence that the project is helping to develop a range of social and interpersonal skills and an awareness of their responsibilities as ‘citizens’. These range from the basic adoption of appropriate and courteous behaviour:

*“That’s the thing about video conferencing – because the pupils know they have to be visual when they’re trying to express an emotion, they will put their hand up, or they’ll wave or they will do something but they’ll do it more obviously than they’d normally do it.”* (PTM2)

to mutually supporting each other

*“The children are keen to practise, especially when they’re practising together... I think they support each other. One of them’s quite a lot better than the others and he likes to help.”* (School D: staff)

*“If somebody’s maybe not quite getting the hang of it, I’ve heard things like ‘Tighten your lips!’”* (School C: staff)

### **3.1.5 Learning for life**

#### **Pupil confidence**

It may be tentatively suggested that the ITVC project has done most for developing pupils’ confidence:

*“...because we’re asking them to do something which is challenging for adults; to learn through an unusual medium but to do it in a public way, in front of their peers.”* (PTM1)

This is of particular importance in the case of pupils who are less able academically:

*“They really can do something that these other children can’t... ”* (School B: staff).

*“I didn’t realise it until she started playing the trumpet; every time she made a mistake she stopped. So she would never actually get any further at any point than this mistake – she had to go back to the beginning again all the time and it took her ages to get any further. I talked to her - and the tutor talked to her - about just playing through the mistake and not bothering about the mistake and you’ll know the next note so just carry on further, and she eventually did that. And I’m sure she did that, for example, in her language work and she’d be writing something and make a mistake and more or less stop there... but I think it actually helped her to see that she could make mistakes and still go on...”* (School B: staff)

### **Developing student autonomy for learning**

As demonstrated during lessons observed by the evaluation team, it is evident that the tutor’s approach to teaching and learning is basically constructivist in nature. As such, he encourages his pupils to become independent learners, “capable of standing on their own and thinking for themselves” (see Cohen, Manion & Morrison, 2005: 169-171)<sup>4</sup>:

*“I do actually now get the pupils to – most of the pupils know how to use the handset... have basic control over the handset to change the picture size and things. But they all do it... they don’t mess around with it.”* (PTM2)

Pupils have gradually taken on some of the technical responsibilities that originally belonged to headteachers and support staff – setting up the equipment, making the connection, handing over to the next group – and this has been reinforced by the tutor no longer requiring an adult to be present at every lesson. This approach reflects the philosophy of most small schools to actively encourage children to become independent learners and take responsibility:

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<sup>4</sup> Cohen, L. Manion, L. & Morrison, K. (2005) – A Guide to Teaching Practice: London, RoutledgeFalmer

*"I think the whole learning environment is key to the thing because I think the youngsters take ownership of their learning. OK, they're being encouraged and supported... but they're not being badgered."* (PTM1)

Pupils have been enabled to take on 'jobs' such as starting the CDs of backing music at their end instead of waiting for the tutor to do this and basic maintenance skills such as knowing how to release a stuck valve. As a result, lessons tend to run more smoothly and maintain a steady pace.

### **Creativity and ambition**

*"Music's quite important in our school... one of the wee girls has made a wee tune of her own and she wanted to let others hear it. She hadn't written it down or anything but was just what she had in her head..."* (School B: staff)

The introduction of masterclasses involving players from the London Symphony Orchestra (LSO) and the BBC Scottish Symphony Orchestra (BBC SSO) has presented pupils with regular opportunities to meet, listen to and perform for professional musicians who present themselves as inspirational role models. These sessions have generated considerable media interest, exposing pupils to situations well outside the scope of their everyday lives:

*"The children did amazingly well, with cameras and microphones coming at them from all angles – and yet they were engaged in this."* (PTM1)

The masterclass format could be extended to include more opportunities for interactive, creative music making. Pupils might particularly benefit from activities based around improvisation, the exploration of instruments other than the trumpet and/or ensemble playing with a range of different instruments. Even so:

*"They're good sessions; the kids look forward to them."* (PTM2)

### **3.2 Impact on musical skills development**

More than 40% of the current ITVC pupil cohort also learn another instrument such as recorder, piano, keyboard or drums. When asked to rate their playing overall (in November 2006), 4 rated themselves as 'very good', 19 as 'fairly good', 4 as 'OK' and 1 as 'could be better'.

Since the start of the current academic year, the tutor has introduced a new collection of tunes to replace the previously used Standard of Excellence method. Graded according to difficulty into six Levels, the new tunes have been selected to introduce pupils to a range of musical concepts such as slurring, legato and Scotch 'snaps'. They provide the tutor with an opportunity to encourage pupils to talk about each concept – to elicit musical opinions and to explore different ways of playing – so that *“when it comes to the transition to high school, they’re going to recognise things from their (brass) music lessons”*. (PTM2)

The collection also contains pieces from different historical periods, together with information on *“what was going on in the world while that piece was a popular piece of music”*. The tutor’s choice is gradually being supplemented by suggestions from pupils regarding music they would like to play.

### **Progress in musical skills**

**Performance skills:** all pupils regularly perform in front of each other via multilink and all 4 schools have organised performance opportunities outside lesson times, including Christmas concerts, assemblies and entertaining community groups. Most pupils have become more relaxed about performing during lessons and are beginning to play expressively. They are encouraged to listen carefully to the backing tracks for ideas on how to play and to experiment with different styles. In addition, all pupils are developing skills in conducting, counting each other in, playing in sequence, playing in time and in tune with each other and listening to one another.

**Instrumental technique:** in general, pupils are making excellent progress in technical skills such as slurring, tonguing, fingering, breathing and good posture and a great deal of time is spent during lessons on these aspects. Pupils are conscious of the importance of developing good habits:

*“I’ve learnt I’ve got to use my wrist more than my elbow – because I have to be able to move my slide a bit faster.”* (School D: pupil)

In a very few cases, this is reinforced by parents during practice time:

*“My dad – he used to play the trumpet... He tells me always to stand up straight... keep my trumpet straight and not pointing to the ground.”* (School A: pupil)

**Creative skills:** during observed lessons, pupils were encouraged to improvise short solo phrases against a backing track and to explore creating different types of sounds. However, the limited time available in group lessons makes it difficult to introduce improvisation on a regular basis. Nevertheless, in future it is hoped to make use of the website for extending and sharing pupils' composing skills and achievements.

**Evaluation:** during lessons, the tutor's use of questions such as 'What was good about that?' is enabling children to develop the ability to critically appraise both their own and each other's playing in a constructive manner.

**Pitch and Rhythm:** several parents and teachers commented on the progress children have made with regard to developing accuracy in both pitch and rhythm. This was borne out during observed lessons – most children are clearly able to discriminate between different sounds and can accurately clap simple rhythms. Most of the children who have learnt since November 2005 can play at least an octave. The tutor has recently approached the percussion tutor with a view to developing work based around dance rhythms such as the samba.

**Reading music:** most pupils who have learnt since November 2005 are able to read the notes C-C and are familiar with minims, crotchets and quavers. It was noted that some children may have found learning to read music a little difficult:

*"...not because of the way (the tutor is) teaching it but because of the way that they've probably been taught in the past."* (School B: parent)

*"I think (in the past) there has been a tendency to learn... by the name of the note and they learn the position of their fingers rather than actually reading the music..."* (School C: parent)

However, interactive resources on the website have acted as a major incentive for all pupils to learn to read music:

*"I think it's about having to get away from textbooks is the important thing. Because most of them can respond to a screen, whether it be a TV or a computer game, when it comes to learning from a screen, I think that they accept that medium a lot more than they can a book."* (PTM2)

For the tutor, teaching pupils how to count bars is particularly important when teaching music via video conference:

*“...because you can’t obviously point to a piece of music and say ‘Right, we’re there’ without having to count them in and muck around.” (PTM2)*

**Music theory:** pupils’ vocabulary and understanding of basic musical terms is already well developed and continually being extended by the tutor who is careful to embed theoretical learning within practical activities, making this a meaningful and worthwhile experience. The introduction of interactive music theory quizzes and information on the website has made learning expression marks and terms an enjoyable experience rather than an arduous chore of memorisation:

*“It’s more fun than reading out of a book.” (School C: pupil)*

During focus group discussions, pupils were relaxed about discussing musical concepts and using technical terms with the evaluation team:

*“We’ve learnt how to play the repeat marks quite well!” (School B: pupil)*

**Ensemble playing:** the tutor puts great value on developing the ability of individual pupils to play with others in their group. However, their experience of playing with other instruments is limited to brass – in all cases – and to a single type of brass instrument, such as the trumpet, in some cases. One school is aiming to overcome this limitation:

*“We’re also trying to get a wee band going with brass section, drums, keyboard – (the tutor’s) going to help with that as well. He’s going to write us out a wee arrangement that we could do...” (School B: staff)*

### **Matching the teaching to pupils’ needs**

Over time, the tutor has gained experience in working via the video conference medium and has developed ways of addressing specific learning needs. In particular, he ensures that lesson activities are varied to appeal to different learning styles and to maintain pupil focus and engagement. Above all he is concerned that they should enjoy the experience and ‘have fun’ in a meaningful way.

Group size is an important factor – an ideal number appears to be 3 pupils – although this is not always possible to achieve. Recently, it has become necessary to introduce additional 15 minute, one-to-one sessions for more advanced pupils in order to sustain their interest, motivation and rate of progress. The benefits have been noticeable for the individual:

*“It encourages that child to try even harder.”* (School B: staff)

*“I get my lessons alone without everyone else and I can get ahead and do what things I’ve been doing.”* (School B: pupil)

and also for other pupils:

*“I don’t think it’s fair on them that she’s sat there playing it through perfectly and they’re just going to feel defeated so I take her out of that situation for everyone’s benefit.”* (PTM2)

Another example of paying attention to individual needs includes provision of music for a pair of twins who both attend brass lessons so that they can practise together:

*“...so he does all those extra bits – I couldn’t arrange things for the different brass instruments...”* (School C: staff)

*“I have a P6 who hasn’t had lessons from about November because he has behavioural difficulties and is at a support unit outwith the school every morning so has to miss his lessons. But I’ve spoken to the tutor about it and he was keen that we don’t want to take away that music from him. Because we’ve got the wee club and everything, he still gets his lessons and the secretary helps him because she sees bits and pieces of the lessons with other children, and he gets that ... (the tutor’s) reaction to it was so good: ‘Well, you cant just like stop – it wont be a forever thing.’ This boy, his self esteem is so low anyway but when he gets his instrument and actually gets some notes out, it’s actually like you can see the change in him.”*

(School C: staff)

### 3.3. Impact on motivation to learn an instrument and attitudes to music

Parents and teachers alike have expressed surprise at the enthusiasm and sustained motivation of virtually all pupils involved in the project; many did not expect the children to be so successful in such a short time:

*"...it's lovely to see three children who I would say weren't musical really, you know, achieving this and feeling so pleased with themselves."* (School D: staff)

In most cases, **children's levels of motivation** have steadily increased over time:

*"I think it is rising... obviously at the start... they would miss out (practice) and sometimes they would forget their instrument. But that's actually improving... and as they begin to play recognisable tunes... as a child begins to have success, it breeds more success."* (School B: staff)

**Satisfaction levels:** when asked whether they were enjoying lessons more or less than before the summer break, all 28 pupils interviewed were unanimous in their opinion that they were enjoying them **more**. Most were satisfied because they were learning more things than before:

*"We know what the notes are and it's easier to get ahead more; we can now play the songs better than we used to."* (School B: pupils)

When asked what they enjoyed **most** about learning an instrument, pupils highlighted learning new tunes, learning new notes and using the website as being particularly important to them, plus:

*"Not having to go to town (for lessons at the high school)."* (School A: pupil)

In addition, playing together in not-too-large a group was very motivational for some:

*"I like being in a group with my friends... and I wouldn't like it if... the boys and the girls were in one big group because somebody might go too far ahead or people might stay behind."* (School A: pupil)

*"If you get lost or something or you forget the note, you can just look at the person next to you's fingers so you know the right notes."* (School A: pupil)

However, in keeping with the overall opinion that brass lessons are fun and worth attending – and that the tutor is “a good teacher and he’s quite funny” – hardly any pupils could identify something they liked doing **least**:

*“When you’re trying to learn a new tune, it sometimes gets frustrating because you can’t play the right note.”* (School A: pupil)

When asked about ways in which lessons might be improved, many pupils commented that they would like longer lessons - to learn more notes, practise a whole tune “instead of doing it in bits” and learn to read notes better. Some would also like the tutor to visit their school more regularly, even though they had not yet experienced a face-to-face lesson with him:

*“because it’s very different when he’s at the school from the videolink – because if you’re trying to put your note and you canna get it in place, he can help like get to the instrument.”* (School B: pupil)

Overall, the pupils are greatly motivated by the quality and personality of their tutor who has developed a strong rapport with individuals and combines excellent instrumental teaching skills with complete mastery of the technology. In particular:

*“He does what he promises – if he says he’s going to have something for them next week, it’s always there for them.”* (School C: staff)

*“And that’s very, very important because that’s the first way that you put children off.”* (School B: staff)

**Impact of technology:** from children’s comments in several schools, it would appear that most, if not all, are more motivated to learn an instrument for its own sake than because of the presence of video conferencing technology. This finding tends to contradict the initial expectations of teachers and project team members but is endorsed by observations that:

*“We’re definitely out of the stage of it being ‘gimmicky’ for the children. They’re not doing it because it’s a gimmick...”* (PTM2)

Even so, the level of children’s interest runs particularly high when opportunities arise for multilinking with other schools.

The dedicated website recently launched by the tutor has had a major impact on pupils' motivation to learn. It adds value and status to the project in the eyes of the pupils, has been made easily accessible in most schools and is also available at home for many pupils. Its interactive nature is also preferred by most:

*"The children, they can have the same tune in a book and they have the same tune coming off on a computer screen and the one they go to is the computer screen in my experience."* (School B: staff)

**Pupil recruitment and retention:** apart from one school in the early stages of the project, pupil drop out rate has been exceptionally low across all schools in comparison with the usual rate for primary pupils taking lessons under 'normal' circumstances. Primary children and the recently transferred S1 pupils (none of whom had continued lessons) cited similar reasons for ceasing tuition: inability to practice because of conflict with homework, time for other activities, e.g. football team practice, socialising with friends; or practice on other instruments. However, almost all the primary pupils interviewed were keen to try another instrument when they reached secondary school or to continue learning their other instrument/s. In terms of pupil recruitment for places in the second year, it was noticeable that many more aspiring new players put themselves forward than there were places available. Interest arose from P6, P5 and even younger pupils as a result of awareness raised by performance activities and admiration of existing players:

*"...because the children can see it's quite cool to be able to play – and they're hearing the positive feedback from players and parents in the community..."*  
(School C: staff)

When asked whether they would like to continue learning a brass instrument at secondary school, a total of 22 pupils indicated they would definitely want to do so.

**Pupils' willingness to perform:** many pupils involved in the ITVC project have been highly motivated to take part in performances, despite their limited skills levels and the fact that they found it sometimes 'scary', 'embarrassing' or even painful:

*"In fact, X's lips were quite sore at Christmas; she wouldn't stop because she wanted to do this piece perfectly for everybody."* (School D: staff)

It was evident in all 4 schools that pupils' performance efforts were increasingly being rewarded by the admiration of their peers:

*"...and it's amazing with the other children that don't play, are not at the age to play yet, when something actually comes out of that room that sounds like a tune... we all have to give them a round of applause!"* (School A: staff)

The tutor has begun to develop a range of performance opportunities linked to the website, including a 'virtual Christmas concert' for which pupils can create their own video clips or podcast and which will *"give them something to work for"* (PTM2).

**Pupils' willingness to practise:** the average time that pupils spend practising is between 10 and 20 minutes every other day, and a number of children are already establishing efficient practice routines (see Mills, 2005: 221)<sup>5</sup> for themselves:

*"I do a warm-up first and do all the notes and then I just start using the tune."* (School A: pupil)

Commitment has been boosted by support from schools, including the establishment of a weekly lunchtime club in the computer suite of one school and regular monitoring of practice diaries in another, as well as parental encouragement. Where parental support is not forthcoming, schools have made special provision to encourage pupils:

*"Mine will not practise at all – they have no support from home – so the homework club is a bonus for them and also practising together."* (School D: staff)

In addition, pupils have found the introduction of resources such as the website, supplemented by a spiral-bound copy of its contents, and CD ROM of backing tracks particularly helpful:

*"You can practise with the backing tracks at home"; "You practise more."* (School B: pupils)

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<sup>5</sup> Mills, J. (2005) – Music in the School: London, OUP

In the few cases where pupils have been less keen to practice, this may be for reasons other than not wanting to learn their instrument:

*"...the children who don't practise probably don't always do their homework on time..."* (School B: staff)

With regard to the impact of the ITVC project on pupils' **attitudes to music**, it is generally too early to make any accurate assessment. Even so, there are isolated examples of changes observed by adults:

*"X, he's got a mobile phone and you can make up ring tones... and he's hours making up his ring tones. He never really did that before, that's probably come from the trumpet."* (School B: parent)

*"One parent said to me... that she (a P7 pupil) had really, really hooked into this. Not only had she got a drum kit but also a keyboard and she's really thinking of music as a career."* (School A: staff)

### **3.4 Overall cost effectiveness of the delivery method**

*"But you're talking about it being cost effective against not having any instrumental lessons at all... you wouldn't have had any of these children at all."* (School A: staff)

It has always been acknowledged by the project team that the high cost of using ISDN6 would be unsustainable beyond the life of the project (currently, the line rental is £600 per month). However, it was hoped that this initial investment would enable D&G Council to ascertain whether instrumental tuition via video conferencing might be a viable option for the future in readiness for the anticipated move to Broadband connectivity via IP. The challenge for the technical consultant was to source the right technical specifications via the most economically viable suppliers. He was also keen to ensure that any equipment selected would be open to updating and sufficiently resilient to last for at least 5 years:

*"I am looking for continuity; if they have continuity, people have confidence."* (PTM3)

**Savings** were made in terms of choice of ISDN line supplier and equipment manufacturer, as well as in the purchase of basic equipment stands where what matters most is that *"it's robust, it is solid, it is safe"*.

Other elements which may also have helped to offset the initial substantial outlay and ongoing line rental charges include:

- use of the central accommodation at St Teresa's Primary School at no extra cost to the project;
- provision and maintenance of brass instruments by Instrumental Services;
- removal of costs associated with transport and time incurred by tutors travelling to remote schools:

*“and not only are they driving about racking up considerable travel expenses but they're also living in their car when they should be teaching” (PTM1)*

- the amount of personal time given by the tutor to constructing the website and to training teachers at the central site who are now interested in using the video conferencing equipment;
- the amount of time invested in developing and supporting the project by heads and other school staff;
- production costs of CDs, music books and practice diaries covered by the Council;
- the fact that, by reaching so many schools at the same time, the tutor has the capacity to far exceed the average number of pupils other instrumental tutors can teach under normal circumstances, i.e. 30 pupils per day x 5 days = 150 pupils (a few D&G tutors teach less than 60 pupils in a week).

In addition, it is noticeable that virtually no costs have been incurred for technical faults over the past two years due to the careful selection of hardware prior to installation, and the basic training in its use provided for schools. In effect:

*“Video conferencing, approached right, it's definitely beneficial – it's more financially beneficial than splashing out as much money as they do on some other things.”*

(PTM2)

Justification for using a more expensive medium for the ITVC project can be found in schools' reactions to the quality of ISDN2 reception as experienced during sessions involving external providers:

*“It’s not impossible to use or anything but I think ours is really good so that when you step back, you notice it... (the pupils) have to learn to slow down a little bit more because they’ve got speed absolutely spot on... (when having brass lessons)”*  
(School A: staff)

## **4 CONCLUSIONS AND RECOMMENDATIONS**

Based on the findings presented in section 3, this section draws conclusions with regard to the overall impact and effectiveness of the ITVC project and makes recommendations concerning possible future directions. It highlights priorities identified during the pilot phase which can help sustain the good practice already developed and ensure the successful extension of instrumental tuition by video conferencing into other schools.

### **4.1 Factors underpinning overall project success**

#### **4.1.1 Leadership and management**

From the research undertaken so far, it is clear that the ITVC project is an extremely successful initiative which is popular with pupils, parents, teachers and head teachers alike and has brought benefits on the pilot schools and individual participants. Respondents are full of praise for the way that children have achieved such excellent results in a relatively short space of time and with little or no disruption or extra work incurred by the schools. This is due in particular to the **project vision** shared by all partners; namely, that its success is dependent on:

*“...having the child at the centre of the whole thing and having the learning experience of the youngster as number one.”* (PTM1)

together with the **high levels of consistent support** and **quality of technology**:

*“Having youngsters who are supported by their parents and their teachers... and the fact that the technology itself has 98% of the time worked fine.”* (PTM1)

Above all, **the way the project has been managed** from its inception to the present time is in many respects a model of excellence. Anticipated schedules have been maintained, goals achieved – and exceeded - milestones met and expenditure has been kept within budget. Effective support systems and lines of communication have been established and sustained and problems dealt with immediately. Of special

note is the amount of time, care and effort invested in the planning and research stage of the project which has paid dividends in terms of ensuring smooth running and successful outcomes.

**Council support** has been consistent throughout and continued interest has been shown at the highest levels in the project's progress which has added to its image in the region and beyond. It is encouraging that the Council appears to be keen to financially support extension of the model once the project has concluded.

The **role of the headteachers** as 'project champions' has been fundamental to ensuring the continued involvement and interest of pupils, parents and other staff. By demonstrating personal commitment to, understanding of and active support for the project they have helped to secure the overall success of the project and brought lasting benefits to their schools:

*"...the head teachers have taken forward things with enthusiasm and with genuine interest..."* (PTM1)

Over time, heads' responsibilities at delivery level have altered in that pupils have taken over many of the practical aspects of lesson organisation and instrumental maintenance. Instead, they are now more involved in developing performance opportunities such as concerts and assemblies. However, the amount of time they support pupils, monitor their progress and encourage regular practice has remained the same. The fact that the tutor does not come to the school may actually have influenced the level of involvement shown by heads. They might not, for example, have undertaken some duties such as checking practice diaries, *"...so we would be further removed from that."*

Excellent efforts have been made to ensure the **dissemination** of project outcomes. Publicity has been gained for the project via news and media coverage and conference presentations. Contact has been established with Learning & Teaching Scotland, as well as with conservatoires, international colleagues and orchestras with, wherever possible, subsequent investment into pupils' learning. Overall, every opportunity has been exploited to disseminate project outcomes and celebrate achievements.

#### 4.1.2 Policy and strategy

Judicious use of **finances** has resulted in an underspend which has meant that registration fees to Global Leap have been paid on behalf of pilot schools, thus encouraging them to look for new ways of utilising the video conference facilities in other curricular areas. In addition, the funding has enabled the extension of the project to the end of June 2007.

With reference to **teaching and learning approaches** that permeate the project, many aspects are of note, including:

- the policy of developing student autonomy;
- the practice policy which places emphasis on content, quality and regularity rather than quantity.

In terms of the policy adopted by the project team regarding **selection for schools and pupils to the project**, far greater inclusion has been achieved by placing emphasis on enthusiasm levels rather than on musical experience or aptitude.

Finally, encouraging **parental involvement** through a variety of means has meant that the project has played a major part in reinforcing home-school relationships for some pupils.

#### 4.1.3 People management and development

The style adopted by the project manager in his dealings with schools and with the instrumental tutor has been welcomed by all partners:

*“He’s been there to support and we’ve talked through a few things, you know, but he hasn’t poked his nose in... I think if there’d been somebody there looking over your shoulder all the time... that would have been pressure and we haven’t had that. We’ve kind of grown.”* (School B: staff)

Development of **the tutor as a trainer** of other instrumental tutors has established an excellent resource in preparation for wider roll-out of the project. In turn, the tutor’s use of 2 pupils to assist him in illustrating for tutors how the project works and the progress made to date was particularly beneficial to these more able players.

The **initial training sessions** for schools have instilled a confident, competent and relaxed attitude towards video conferencing and instrumental tuition into teachers and pupils alike.

#### 4.1.4 Resources

The **high quality and reliability of the video conferencing equipment** means that it is 'fit for purpose' and in keeping with the complex demands of the project.

The exceptionally **high quality of the instrumental tutor** – his teaching style, ability to engage and empathise with the children, together with his instrumental and technological expertise – has been a tremendous bonus to the project. He engages well with the children, is very enthusiastic but also very focused on quality learning and teaching. Moreover, he welcomes advice, is a good learner:

*"I think he recognises that he can continually be challenged to do the thing well. I don't think he would claim to have 'arrived' in terms of having cracked it..."* (PTM1)

and is an inspiration to all:

*"Well – he's like a tidal wave! ... One minute it's (his ideas) just going along and the next minute you're washed away with it!"* (PTM1)

The **technical support consultant** has also proved to be a superb resource:

*"Whenever we've had a major problem like a screen going down... it's been fixed within a week..."* (PTM2)

Other resources such as the **website and CD ROMs** of backing music have made an outstanding contribution to pupil motivation and their enthusiasm for learning:

*"If you've got the backing track and you lose your place you can find your place and it keeps you in tune."* (School B: pupil)

Neither of these developments was part of the original project specifications but came about through the enthusiasm of the tutor:

*“...the tutor himself has been seriously stimulated by the whole environment to go forward with further support materials through that electronic medium... a big plus.”*  
(PTM1)

The website provides an excellent means of sustaining communications between pupils / school staff and the tutor between lessons. As well as exploring the site, pupils are encouraged to email him and schools can have instant access to additional materials instead of having to wait for them to arrive via the usual mailing system.

#### **4.1.5 Processes**

**Communication systems** established in the schools have continued to work well throughout the life of the project; there has been consistent good will from staff and no complaints, even where lessons have had to take place in the staff room. This has been because of good negotiation skills and heads keeping staff aware at all stages:

*“I feel timetabling has a lot to do with it... you have to make sure all members of staff are taken into account when you’re timetabling when and where the lessons are going to take place. It makes quite a lot of noise – especially when they start.”*  
(School A: staff)

*“I think the smaller the school, the more difficult it becomes... I think in a larger school there’s always a room that can be timetabled.”* (School B: staff)

*“You’ve really got to think very carefully about where you site the equipment...”*  
(School D: staff)

**School visits by the tutor** have taken place on a fairly regular basis – *“so they could see he was real, he wasn’t a virtual person...”* (PTM1).

#### **4.2 Issues for consideration**

**Measures for increasing cost effectiveness:** the current means of providing video conferencing facilities through ISDN 6 is expensive and probably unsustainable once the project funding has ceased and schools are expected to cover costs for themselves. Schools need encouragement to identify ways of ‘making the technology pay’ as the more often the video conferencing equipment is made use of

for activities other than instrumental tuition, the more this can help to offset the initial outlay on the technology.:

*“Obviously, you could bring in other subjects, e.g. languages; that would offset the cost.”* (School D: staff)

*“The sky’s the limit, really – the limit of your own imagination. And there are a lot of sites, when you start looking at the sites – particularly for our remote schools. Even the fact that we had somebody else telling these little children a story – it’s a different way of doing it... it’s good for getting the breadth.”* (School D: staff)

They also need advice and further training on how to utilise the medium in other curriculum contexts, for school management purposes or in partnership with the local community. Some use of the equipment has been made already in 2 schools through membership of Global Leap, such as a storytelling session, and other examples of links with schools are gradually emerging but the general opinion is that getting other teachers involved is a slow process:

*“I think this is where our (heads’) time might be required and there might be an increase in the amount of time you have to devote to this, because obviously these things don’t just happen.”* (School B: staff)

Other uses to explore might include contact by video conference between Education Officers and remote schools which would cut down their travel time.

**Extending the project to new schools and other tutors:** although the current tutor is exceptional, it is generally accepted that other instrumental tutors should also be able to deliver lessons effectively via video conferencing, as long as they receive sufficient and appropriate training. The pilot project has shown that instrumental tuition by video conferencing can work well, but it has also highlighted reasons why it might not work for some tutors:

- being unreceptive to new ideas;
- approaching the medium with a closed mind and preconceived notions of how to use it;
- being unprepared to change one’s style of teaching;
- being insufficiently analytical about one’s own teaching;

- allowing insufficient time for lesson preparation and planning;
- allowing the technology to ‘get in the way’ of the flow of the lesson.

It is essential that new tutors are enabled to ‘find their style’ and learn to ‘teach to their personality’, given that:

*“Teaching music is probably one of the most advanced things that you could do in videoconferencing... trying to get it relaxed and natural feeling and natural sounding is very difficult.” (PTM2)*

**Involving other instruments:** working with brass instruments has brought clear benefits to the project as a pilot. For example:

- they are all constructed in similar ways and therefore share common problems in terms of maintenance - unlike woodwind;
- difficulties encountered are usually easily remedied;
- preparation of instruments prior to playing generally does not take long, unlike wind or strings;
- nor do they require a good ear for tuning, unlike strings.

All these may require greater levels of training for non-music specialists in schools and could also increase levels of frustration and impatience in new pupils.

**Maintaining effective communication with parents:** some parents have mentioned that they would appreciate an opportunity for a 2-way discussion with the music tutor to reassure themselves that they are working appropriately with their children. It would be useful for schools to consider ways of enabling this process to happen.

**Transition to secondary school:** this is a key area for development of the project in that headteachers, parents and the project team members are keen to ensure that systems are in place to enable pupils to continue lessons once they have left their primary schools:

*“We can’t force children to continue if they don’t want to but if they’re going to be in that school and the opportunity is there on site for the lessons to continue then we*

*should really put in a system whereby it's going to be as encouraging as possible.”*  
(PTM1)

Consideration needs to be given to ways of involving the brass tutor at the secondary school into brass lessons for P7s; also:

*“...it would be a good idea to get the children from the 3 schools going to NS used to each other before they go.”* (School B: staff)

There is a potential opportunity for reinstating the tradition of secondary students performing at the primary schools in ‘roadshows’ where there is an opportunity for pupils to talk about the instruments and lessons at secondary schools:

*“The children can see that you can carry on at secondary and this is what you will sound like if you carry on...”* (School A: staff)

**CPD and extension to other curriculum subjects:** although there is much enthusiasm to integrate use of the video conferencing resources more fully into the curriculum and life of the school community, all four schools need support to achieve this.

*“And it’s only a matter of time until teachers become confident that this is an effective way of finding information for bringing the world into the school for the children...”*  
(School B: staff)

Schools would like more training in the use of video conferencing, specifically:

- to enable staff to use the multilinking facility outside lesson times;
- to develop video conferencing skills in other staff members;
- to help extend the use of video conferencing across the curriculum;
- to help teachers come up with innovative ideas for continued use of the resources – most schools had identified possible ways forward but are lacking expertise and confidence to make their plans a reality;
- to equip schools with the skills and knowledge necessary for sustaining the use of video conferencing after the end of the music project.

*“What I do want to do is tell the teachers you’re having this. I want to keep feeding them the information until somebody comes and says ‘look, this looks really good’ – because the worst thing you can do is say ‘you are going in there.’”* (School B: staff)

**Masterclasses:** the inclusion of masterclasses featured within the original project application. These were intended to enhance the musical experience of the young people by providing a link to the ‘real world’ of music and to engage and excite them about the possibility of working with professional musicians. The term ‘masterclass’ is perhaps inappropriate at this level since the sessions were more about inspiration and engagement; however, later in the project the ‘traditional’ masterclass approach was used with more senior pupils. Consideration needs to be given to the preparation of professional musicians involved in the delivery of such masterclasses, particularly at the beginner level.

### 4.3 Next steps

**Embedding into the curriculum:** the use of video conferencing to enhance teaching and learning should be embedded into pilot schools’ development plans in order to demonstrate to staff, parents and pupils where and how it is being used (see Becta, 2004: 10)<sup>6</sup>.

**CPD:** that D&G Instrumental Services develop a suitable programme of training for new instrumental tutors on teaching by video conferencing which is sustained involves opportunities for performance self-review.

**Website development:** that the website be expanded to provide additional resources, such as web-based ‘pupil practice logs’ to replace the current diary system and space for pupils’ views and suggestions to be gathered in a more systematic way. In the longer term, perhaps a similar form of website could be constructed to support the teaching of other instruments via video conferencing?

**Project manager capacity:** that this role be reviewed to ensure that the demands of planning, managing, monitoring and supporting any major project extension can be achieved at the same high standard as was demonstrated in the pilot scheme. This role is only one of the responsibilities of the current project manager who may therefore find it challenging to maintain such a personal level of involvement with more tutors and more schools.

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<sup>6</sup> Becta (2004) – Evaluation for the DfES video conferencing in the classroom project – <http://www.becta.org.uk>

**Wider application of learners' musical skills:** where possible, schools need to be encouraged to provide further opportunities for pupils to utilise musical skills developed during brass tuition (such as reading notation, performing and improvising) within their mainstream music lessons in order to avoid isolating one from the other. This would not only help brass players to make progress as musicians but could also greatly enrich classroom music-making for their peers.

**Assessment:** consider trialling ABRSM Music Medals as a means of monitoring attainment against national standards, providing goals to motivate more advanced pupils and celebrating project-related achievements.

## **5 APPENDIX - 5.1 Interview Topic Guides**

### **51.1. Topic Guide (Phase 2) – ITVC Project Manager**

#### **Role and responsibilities**

- How has your role as project coordinator changed, if at all?
- What percentage of time is devoted to the project?
- How much time do you give to supporting the tutor / monitoring and supporting the schools / raising awareness or publicity for the project?
- With regard to brass lessons, how did you manage the secondary transition of P7 pupils?

#### **Overall perception of the project**

- Overall, how well do you feel the project aims and objectives have been fulfilled?
- What factors have helped or hindered the project this year?
- Have the technical systems proved to be adequate over time?
- How has Iain Smith been involved in supporting the project this year?
- Have the procedures you set in place with the schools continued to work successfully?
- Have any unexpected problems or issues arisen over the past 9 months - not necessarily technical aspects of the project – what has happened as a result?

#### **Relationship with key participants**

##### **a) Schools -**

- How are the four pilot schools doing this year?
- Any changes made to their role or responsibilities?
- Have any specific issues arisen with any of them?
- What about their level of commitment? Have you had to intervene to sustain momentum?
- How were new pupils recruited this year – how did this differ compared with last year?
- Were there more recruits than places available – if so, what happened?
- What about the level of parental commitment this year? How have they been involved or inducted into the project by schools?

##### **b) Tutor -**

- How is your relationship progressing – what development opportunities have arisen?
- Apart from the actual teaching, has he been involved in anything else for you?
- How would you say that the tutor has developed as a teacher through the project?
- What about his personal development?
- Has his role changed in any ways? If so, why?

##### **c) Other key partners –**

- Comments on, e.g. FLAT, project's 'critical friend'?
- How is the relationship with the LSO progressing? What about the benefits to pupils?
- Have any other organisations become involved?
- To what extent is the Local Authority supporting the project now?
- How is it linking into the LTS national strategic plans for IT?

#### **Outcomes**

- Opinion on levels of success/progress achieved to date (compared with traditional means of delivering instrumental tuition), related to:
  - overall impact of the project on pupils
  - impact on musical skills

- impact on motivation to learn a musical instrument
  - impact on pupils' attitudes to music
  - overall cost effectiveness of this method of delivery of instrumental tuition
- Feedback received from schools on the effectiveness of the project and about the tutor?
- Has any further CPD been organised for school staff regarding video conferencing?
- What about CPD for other instrumental tutors?

### **Future plans**

- At this point in the 2<sup>nd</sup> year, what is your exit strategy for the project?
- If the project were to be extended, how would you do this – would you apply the model to other instruments?
- If you were to run the project again, how might you change things?
- Is video conferencing still as appropriate for all pupils?
- How will the schools be equipped with sufficient skills to continue to use the video conferencing resources effectively?

## 5.1.2 Topic Guide (Phase 2) – ITVC Instrumental Tutor

### Role and responsibilities

- Any changes over time (give reasons) in terms of:
  - Role and/or responsibilities – is it adding value to children's learning?
  - Time commitment (over and above teaching sessions)
  - Procedures for ensuring smooth running and maintenance
  - Strategies for keeping up to date / dealing with the unexpected

### Overall perception of project progress

- To what extent has the project lived up to your expectations?
- Have the overall aims and objectives been fulfilled?
- Limitations – how have your opinions altered regarding, e.g. the extent to which higher level pupils are engaging with the project?

### Relationship with key partners

#### a) Schools

- Any changes in level of personal contact / involvement with each school?
- Opinion on:
  - individual school progress
  - pupil / group progress
  - use of support resources provided for schools
  - involvement of parents

#### b) Relationship with project manager

- Any changes over time regarding:
  - relationship with AC
  - level of support available
  - level to which tutor is monitored and feedback provided

#### c) Other key partners

- Progress/involvement with:
  - ICT consultant
  - Local Authority and Instrumental Services
  - Links with orchestras – benefits to the pupils?

### Delivery

- Any changes this year:
  - in the way the project is being implemented
  - in process of induction for new pupils
  - in aspects such as group size & structure / resources / instruments / music
  - teaching style – how has it adapted/developed over time
  - monitoring and reporting of pupil progress

### Outcomes

- What do you perceive as the key outcomes to date in terms of:
  - overall impact of project on pupils/the pilot schools/you as the tutor
  - impact on musical skills – a) musical performance skills; b) other musical skills, e.g. singing, composing, improvising; c) aural skills; d) reading music
  - impact on pupil motivation to learn a musical instrument and attitudes to music
  - overall cost effectiveness of this method of delivery of instrumental tuition

- personal development including your development as a teacher
- lessons learnt from this project that can be used to enhance provision of instrumental tuition/videoconferencing across the Authority

### **Future plans**

- Planned changes to the delivery of project over this academic year
- Plans for additional resources or new developments in the project
- Use of the tutor as a resource for the Authority
- Key issues to be considered as the project comes to an end:
  - continuity and sustainability
  - replication with other instruments
  - what changes might the tutor wish to introduce?

### **5.1.3 Topic Guide (Phase 1) – ITVC Technical Support Consultant**

#### **Background**

- Perceptions of role as ICT/VC Consultant – input with regard to:
  - planning and preparation stages
  - selection and purchase of equipment
  - setting up of equipment in schools and at centre
  - briefing/training staff to operate the resources
  - delivery of the project – current involvement
- Time commitment given to the project
- Level of involvement with project participants – coordinator/ tutor/schools
- How this role is funded

#### **Overall perception of the project**

- Perceptions on what makes this project special compared with other educational uses of videoconferencing – examples
- Main challenges of using videoconferencing for instrumental tuition (compared with other contexts) - issues relating to:
  - visual and sound systems
  - cost
  - accessibility of appropriate resources/equipment
  - age of pupils
  - teaching and learning styles
- Perceived limitations

#### **Delivery**

- Key logistical problems encountered to date - how have these been addressed?
- Changes made to technological aspects of the project since it started

#### **Outcomes**

- Example of most effective technological aspect
- Example of least effective technological aspect
- Opinion on overall cost effectiveness of this method of delivering instrumental tuition

#### **Future plans**

- Planned changes to technological aspects of the project – reasons
- Cost effective recommendations for improving the resources/project
- Opinions on move to broadband – implications for the project/Authority
- Opinions on extending use of videoconferencing in the schools

## 5.1.4 Topic Guide (Phase 2) – Headteachers' Meeting

### Roles and responsibilities

- Any changes over time (give reasons) in terms of:
  - Personal role and/or responsibilities with regard to the project
  - Time commitment
  - Role and/or responsibilities of other members of staff
  - Procedures for ensuring smooth running, monitoring and maintenance
  - Accommodation
  - Number / type of pupils involved

### Overall perceptions of project progress

- Has the project lived up to your expectations – have the overall aims and objectives been fulfilled?
- What factors have particularly helped or hindered progress this year?
- Limitations – have your opinions altered regarding, e.g. the positive impact of the project on your school / staff / pupils?

### Relationship with key partners

#### a) Project manager / technical advisor

- Opinion on:
  - quality and regularity of support received
  - technical (ICT) support received
  - response to requests for help/advice

#### b) Tutor

- Any change in level of personal contact / involvement with each school
- Opinion on:
  - provision of additional support resources for pupils
  - technical (music related) support for staff
  - response to requests for help/advice

#### c) Other key partners

- Progress/involvement with:
  - parents
  - other pilot primary schools
  - local secondary schools (Stranraer / Douglas Ewart)
  - Local Authority

### Delivery

- Any changes this year:
  - in the way the project is being implemented
  - in teaching and learning styles – how have they adapted/developed over time?
  - in the way new pupils were selected
  - in ways of sustaining pupil motivation and regular practice
  - in monitoring and reporting of pupil progress
- Opinion on:
  - quality of teaching provision
  - benefits to the pupils – is it adding value to children's learning?

## Outcomes

- What do you perceive as the key outcomes to date in terms of:
  - overall impact of project on pupils/staff and your school in general
  - impact on pupils' musical skills – a) performance skills; b) other musical skills, e.g. singing, composing, improvising; c) listening skills; d) reading music
  - impact on pupil motivation to learn a musical instrument and attitudes to music
  - overall cost effectiveness of this method of delivery of instrumental tuition
  - development of the use of VC in other areas of the curriculum/school life
  - lessons learnt from this project that can be used to enhance provision of instrumental tuition/videoconferencing across the Authority

## Future plans

- Any planned changes or developments over this academic year, regarding:
  - delivery of the project
  - CPD for staff
  - further involvement of parents
  - resources
  - use of VC with pupils/staff
- Key issues to be considered as the project comes to an end:
  - how to ensure the VC resources continue to be of benefit to the school
  - continuation of on-site brass lessons for existing and new pupils
  - cost implications
  - successful transition to brass lessons in the secondary schools for current P7 players
- If you were to be involved again as a pilot school, how might you change things?
- What advice would you give to a new school interested in getting involved?

### 5.1.5 Topic Guide (Phase 2) – ITVC Pupil Focus Groups

Hello, my name is xxxx, and we would like to ask you some questions today about your brass instrument lessons with xxx.

- First of all, could you each tell us who you are and which brass instrument you are learning with xxx?
- Are any of you learning a different instrument as well as brass? If so, can you tell us what it is?

#### LESSONS

- Could you tell us about some of the things you have been doing in your lessons recently? For example, what new things have you learnt this term?
- Are you still enjoying your brass lessons with your tutor? Would you say you enjoy them MORE or LESS than before the summer? (*probe for reasons*)
- What things do you like doing MOST? What do you like doing LEAST?
- Is learning to play your instrument EASIER or HARDER now? (*probe for reasons*)
- What things are HELPING you to learn? Is anything making it DIFFICULT for you? (*e.g. check for impact of relationships within the groups / attitudes to having lessons alone, technical problems with their instruments, continuing/waning enthusiasm for learning the instrument, use of multilinking sessions, regular direct contact with the tutor*)
- What do you think about the tunes you are learning to play?

#### BETWEEN LESSONS

- How often do you practise your instrument? (*probe for when, where, how long, with whom*)
- What things do you do when practising? (*e.g. special routines, anyone to help, parental involvement, use of CD backing music, practice diaries*)
- How often have you used xxx's website – what do you think of it?
- Outside lesson times, are there any occasions when you have played your instrument for other people? What did you enjoy about this? (*probe for reasons*)

#### SUMMING UP

- How would you rate your playing overall? (*explain there are 4 levels - very good / fairly good / OK / could be better – ask to put hand up for the one that fits best*)
- When you leave your primary school, would you still like to carry on learning your brass instrument even if this wasn't by video conferencing or with your present tutor?
- Are there any ways in which your lessons could be improved?
- Is there anything else that you would like to tell us about your video music lessons?

### 5.1.6 Topic Guide (Phase 1) – ITVC ex-Pupil Focus Group

Hello, my name is xxxx, and we have come to talk to you today about the music lessons you used to have with xxx using the video. Could you perhaps tell us who you are and which brass instrument you used to learn?

- When did you start your video music lessons?
- Have you ever played any instrument(s) before?
- What were they?
- What made you want to get involved with the video lessons? (*Probe for free choice, teacher suggested it, no option*)
- Can you tell me a little bit about the sort of things you were doing? For example, can you remember what you did first of all?
- Then, after that, what did you do next (*probe for specifics, e.g. learning what the notes were, how to recognise them, technique, learning a tune, etc.*)
- Did you do any practice at home in between lessons? (*probe for how often/long, on own/with parent, what they did*)
- Did you do any practice in school in between lessons?
- How easy/difficult was it to learn to play your instrument via the video link? (*probe for examples – having someone to ask, close by; having someone to show us; only seeing xxx once a week; having to watch the screen*)
- Did you enjoy the video lessons? (*probe for specific things they enjoyed, try to elicit information around the technology v. the music making*)
- What sort of things did you enjoy most?
- Were there any things that you did not like about the video lessons? What were they?
- What made you decide to stop going to lessons?
- If you had the opportunity, would you like to learn an instrument again at some point? (*probe for which instrument, when, why*)
- Is there anything else that you would like to tell us about the video music lessons?

## **5.1.7 Topic Guide (Phase 2) – S1 Pupil Focus Group**

### **Current experiences at secondary school**

- How they are finding having 8 subjects a day?
- Changing class rooms?
- Travelling?
- Class sizes – how do they compare?
- Different teachers/different building?
- Making new friends etc.

### **Comparison between primary and secondary**

- What do they miss/prefer?
- Any other differences they have noticed?
- What about differences in playing a musical instrument?

### **Background to playing an instrument at primary school**

- Frequency of lessons / practising;
- Type of instrument
- What did they enjoy about lessons via video conferencing?
- What about their tutor?
- Did the video link make it easier/harder/feel strange at first?
- Are any of them learning another instrument (in or out of secondary school)?
- Link this in with whether they see music as a subject that plays a part in their life in the future/how it influenced them.

### **Playing an instrument at secondary school**

- Were they offered an opportunity to play an instrument at the new school?
- Would they like to have tried out another type of instrument apart from the Horn?
- Is it expensive to play an instrument at their new school?
- What do they feel about the change in lesson type (from group to individual lessons)?
- How does the school organise lessons, e.g. class time or outside school time?
- How have any of these factors affected their decision to continue lessons, if at all?
- What are their first impressions of the school music department?
- Do other friends play an instrument, or other family members?
- If there was one instrument they could play in the whole world what would that instrument be?

Thank students for attending. Mention that the information will be useful for future students who might want to continue taking music lessons when they move from primary to secondary school.

## 5.1.8 Topic Guide (Phase 1) – Parents of ITVC Pupils

### Background

- School
- Names of respondents/children
- Information on children:
  - when they started lessons
  - perceived progress to date
  - perceived level of motivation
  - possible positive or negative factors affecting progress/motivation (e.g. piano at home, parental support)

### Overall perceptions of the project

- Perceptions of the aims and objectives of the project
- Perceptions on what makes this project special – examples of musical/ICT values, or any other benefits to participating children
- Perceived limitations – for parents/children

### Delivery

- Opinion on quality and range of teaching provision/learning experience
- Any problems encountered to date and how these have been addressed
- Monitoring, reporting and evaluation systems in place

### Outcomes

- Involvement of parents – at home, at school
- Opinion on levels of success/progress achieved to date - examples related to:
  - overall impact of the project on children (including ICT skills development)
  - impact on musical skills
  - impact on motivation to learn a musical instrument
  - impact on pupils' attitudes to music
  - overall cost effectiveness of this method of delivery of instrumental tuition
- Perceptions of skills/attitudes/motivation related to learning an instrument applied in other contexts

### Future plans

- Recommendations for improving the project – including lesson delivery and parental involvement – in order to enhance pupil progress/motivation

## 5 APPENDIX - 5.2 Lesson Observation Grids

### 5.2.1 Observation of ITVC Instrumental Lessons – TEACHING & LEARNING ASPECTS

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<b>School</b>	<b>Tutor</b>
<b>Instruments</b>	<b>Venue</b>
<b>Year group</b>	<b>Group size</b>
<b>Observer</b>	<b>Date</b>

---

**Session / Lesson Objectives** (describe the purpose(s) of the lesson, i.e. aspects of technique, performance/improvisation skills, sight-reading skills)

**Other Information** (record anything else you consider relevant, either to understanding the observation that will follow, e.g. approx. length of time pupils have been learning; or that can help to illustrate the relationship between pupils and tutor via videoconferencing)

## ITVC Project

Observation Grid		√	X	NOTES
Evident: √ Not evident: X				
Group Organisation	Individual pupils working alone			
	Pairs of pupils			
	Whole group			
Cognitive Activity	<b>Facilitator input</b> (e.g. describing, explaining, questioning, using notation, demonstrating, performing)			
	<b>Opportunities for knowledge construction</b> (e.g. inventing, clarifying questions, collaboration activities, problem solving, organising, revising, observing and describing, planning)			
	<b>Opportunities to <u>apply</u> knowledge</b> (e.g. skill building and performance)			
	<b>Other (specify)</b>			
Group Interaction	<b>Tutor Led</b> (Tutor dominates interactions. Little interaction by pupils with the tutor or with each other)			
	<b>Pupil led</b> (Pupils dominate interactions. Interact with each other about lesson activities. Discussions may be wide ranging but on topic)			
Pupil Role	<b>Passive / little response</b> (Pupils mainly receiving knowledge through activities such as observation, instructions)			
	<b>Active response</b> (In tutor-led discussions, students provide input to open-ended questions and elaborated talk occurs. Can include presentations and engagement in solitary activity)			
	<b>Other (please specify)</b>			

**Additional comments:**

### 5.2.2 Observation of ITVC Instrumental Lessons – MUSICAL ASPECTS

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<b>School</b>	<b>Tutor</b>
<b>Instruments</b>	<b>Venue</b>
<b>Year group</b>	<b>Group size</b>
<b>Observer</b>	<b>Date</b>

---

**Session / Lesson Objectives** (describe the purpose(s) of the lesson, i.e. aspects of technique, performance/improvisation skills, sight-reading skills)

**Other Information** (record anything else you consider relevant, either to understanding the observation that will follow, e.g. approx. length of time pupils have been learning; or that can help to illustrate the relationship between pupils and tutor via videoconferencing)

## ITVC Project

Observation Grid - Evident: √ Not evident: X		√	X	NOTES
Musical performance skills	<b>Playing music expressively</b> (In a way that communicates something to a listener)			
	<b>Opportunities for creative experiment</b> (Improvisation, trying out different sounds and ways of creating them)			
	<b>Instrumental technique</b> (Breathing, fingering, correct use of embouchure, slide position, etc.)			
	<b>Different timbres</b> (Ways of exploring and using in different contexts)			
	<b>Rhythm and pitch</b> (Accuracy in performance)			
	<b>Evaluation</b> (Self-evaluation and critical appraisal of others' performances)			
Related musical skills	<b>Singing</b>			
	<b>Composing</b>			
	<b>Responding to music and interpreting it</b>			
Aural skills	<b>Playing by ear</b>			
	<b>Pitch discrimination</b>			
	<b>Tuning</b>			
	<b>Playing with others</b>			
Reading music	<b>Using staff notation</b> (Range of notes being used – pitch and rhythm; accidentals)			
	<b>Sight-reading</b>			
	<b>Other (please specify)</b>			