Full STEAM Ahead

Improving Literacy and Numeracy Through Film

Evaluation 2016-2017

INTO FILM

nerve centre

phf Paul Hamlyn Foundation

CMWorks

Report Contents

Section 1 – A Framework to Begin

1.1 Background

Into Film and the Nerve Centre, funded through the Paul Hamlyn Foundation's Teacher Development Fund, are delivering Full STEAM Ahead (FSA), a training and professional development project for teachers to support their teaching and learning with the aim of raising pupils' attainment in literacy, numeracy and developing skills in using ICT. The project was open to Key Stage 2 teachers working with disadvantaged and/or vulnerable children, to support delivery of a curriculum-linked training programme in analytical film watching and filmmaking as learning interventions/tools for pupils.

The Centre for the Use of Research and Evidence in Education (CUREE) are evaluating the impact of all 7 of the Teacher Development Fund projects across the UK on behalf of the funder. Into Film wished to also commission an independent evaluation[1] to consider particular aspects of the project within Northern Ireland. This was the pilot year (2016-2017) of the Into Film FSA project. This programme operated in 8 schools throughout Northern Ireland over the year and was delivered in partnership with The Nerve Centre. This evaluation will supplement the report by CUREE to contribute to the review and findings of the impact of film use in the classroom.

Section 1.2 sets out the evaluation methodology.

1.2 Evaluation Methodology

The terms of reference (TOR) for the evaluation report set out the main focus of the work to be completed, i.e.:

- The impact on pupils' literacy skills, numeracy skills, UICT skills, "soft" skills
- The impact on teachers' confidence using film for analysis in the classroom
- The impact on teachers' technical skills for use in the classroom including filmmaking skills, editing skills and animation skills
- The impact of the project from senior leaders/wider school point of view on pupils

The framework used by the evaluation team for the FSA evaluation is based on 3 key components – logic, impact and development (LID). The use of the LID methodology seeks from the outset to:

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[1] Evaluation from CMWorks Ltd

- Understand the context of need that shaped the project
- Outline the nature of the response including process, activities and resources
- Understand results and offer conclusions including implications for future planning and development
- Offer recommendations

The process and tools used to carry out the evaluation included:

- Reviewing previous information gathered on the benefits of promoting film as a method for teaching literacy and skills attainment
- Reviewing the findings and conclusions information from previous and current evaluations including the interim FSA report, specific reports on literacy and numeracy based on the NI Curriculum and a short video of qualitative responses from senior leaders, teachers and pupils
- Capturing and analyzing the quantitative and qualitative data gathered from key stakeholders from diverse evaluation resources i.e. teachers, senior leaders, parents, children, and staff involved in the FSA project. Evidence gathering tools used included observation logs, surveys, focus groups, video interviews and staff feedback
- Direct research carrying out interviews with teachers and senior leaders and project staff
- Desk research carried out to identify emerging trends relating to the unanticipated benefits of the project. This aspect of the methodology process and analysis of emerging trends and unanticipated data is referenced in detail later in the report. A number of evidence-gathering tools and reports have been interrogated in order to support findings and to assist conclusions and have been referenced where used.
- Understanding the monitoring and evaluation processes used for the literacy and numeracy attainment results

The main focus of this evaluation element was to measure the impact of the project on pupils' literacy skills, numeracy skills, ICT skills and "soft" skills (for example, talking, listening; more broadly speaking, executive function[2], etc.) These were based on criteria set in place by the Northern Ireland Statutory Curriculum for Language & Literacy at Key Stage 2:

- **Talking & Listening**: "Listen and respond to a range of fiction, poetry, drama and media texts through the use of traditional and digital resources"

[2] Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child development*, *78*(2), 647-663.

- **Reading**: "Read, explore, represent their understanding of texts in a range of ways, including visual, oral, dramatic and digital" while "[understanding] and [making] use of a wide range of traditional and digital texts"
- **Writing**: "Create, organise, refine and present ideas using traditional and digital means, combining text, sound or graphics"

As the evaluation team began to review results, and in particular the qualitative data, it became clear that a trend was emerging of project benefits that had been identified briefly within the anticipated specific attainments related to literacy and numeracy i.e. "*There was a clear overlap in this area with Thinking Skills & Personal Capabilities. These focused on: Children's abilities to make and justify decisions, problem-solving language and ability to interact in group situations.*"

The qualitative results from the parents and senior leaders' surveys in the independent evaluation indicated a strong trend towards improvements in Thinking Skills and Personal Capabilities (TS&PC). While these were not initially considered for measurement in the evaluation TOR, the strength of these responses provoked further investigation into the hidden benefits of FSA in terms of TS&PC. The process of identifying the trend, leading to further investigation and then reporting on results is a major aspect of this evaluation which is addressed in all the sections that follow, including the final recommendations.

One of the most innovative aspects of the project was to design and use specific tools that would assist teachers and Into Film staff to measure the impact of the project on attainment. An overview of the evaluative tools used and their effectiveness is outlined in the sub-section that follows.

1.3 Measuring Tools for Attainment

The measurement tools used for literacy attainment assessment included a quiz based on knowledge of the 3Cs (Character, Colour & Camera) and the 3Ss (Setting, Sound & Story) which was carried out as a baseline in September and repeated in term 3. To assess writing, an assessment grid in line with the Northern Ireland Curriculum was devised focusing on elements of Narrative writing with a scoring grid covering aspects of Story/Narrative writing. This was used to mark a term 1 piece of narrative writing against a piece form term 3. Talking & listening skills were also assessed through teacher observation[3].

The measurement tool used for numeracy attainment assessment was designed to be used to mark a numeracy activity based on more traditional texts with a film then created by children to demonstrate their understanding of a mathematical concept. Teachers were supplied with an assessment grid based on the NI Levels of

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[3] Full Steam Ahead-Literacy Evaluation (Joan Ann Wilson)

Progression for Processes in Mathematics. More details can be found in the numeracy assessment produced for Film NI.

1.3.1 Literacy Attainment Measurement

The evaluation process used the interviews with teachers and senior leaders to capture their response to the assessment tools. When asked to consider the successful ways of measuring the impact of the project on literacy attainment, they stated:

Mostly qualitative at this stage. It definitely made an impact on engagement, children engaged fully with the process. Evidence in books showing explicit reference to learning process.

Observation of children working together, writing, editing and producing pieces of work.

Talking and listening proved very easy to measure impact - children are more confident to answer questions and give opinions. ETI [Education Training Inspector] observed one lesson and commented on the children's enthusiasm and commitment to the tasks they were undertaking in literacy.

Observation of pupils, informal assessments and IEP [Individual Education Plan] targets.

Classroom observations - can see, hear and feel the difference, i.e. their behaviour, concentration and engagement. Listening to the dialogue between pupils and with adults - language used and greater detail. Pupils are now much more aware when reading a text, watching film clip of 3cs and 3s

Observation enabled to see attitude etc…. Rather than scores.

Staff did agree that the Marking Grid for narrative writing was useful.

1.3.2 Numeracy Attainment Measurement

When asked to consider the success of the tools for measuring the impact of the project on numeracy attainment teachers and senior leaders reported:

As in literacy measurement responses these were again more qualitative in nature – but definitely had an impact on understanding especially for lower and middle ability children as it focused heavily on the process of learning to enable them to put together videos. Engagement, interaction and completion of tasks improved overall. Feedback from pupils included - "I had to understand what I was saying before I could make a movie about it", "I am good at persevering and finishing long tasks", "Getting help from others", "noticing what others were good at", "sharing jobs".

The numeracy I observed involved camera angle, measurement as well as estimation -all these areas were evident throughout children's work and participation. The staff showed me other examples of the development of numeracy within the project such as estimation, measuring distance, scale etc.

Again classroom observations during lessons and watching the films created to assess understanding, skills and knowledge.

Mainly observation - listening to the language used as children worked through a task - problem solving, Talking to the pupils - and parents, Completed Questionnaires.

As the project develops further it may be useful to refocus on the numeracy assessment tools in order to capture a similar quality of evidence as is presented in the literacy attainment results.

1.4 Context of Need

A logic model approach which was used as the underpinning structure for this evaluation begins with a clear understanding of the context of need underpinning the project. There are a number of key drivers for this project resulting from ongoing internal Into Film development and the external strategic developments of educational and creative arts sectors. Previous evaluations of Into Film activities over a three year period have been reviewed to examine internal environmental strategic imperatives and operational responses. The relevance of the context for FSA project rationale, activities and anticipated benefits are outlined briefly in the information that follows.

1.4.1 Assisting Teachers

Strategic Priority One for the British Film Institute [BFI] 2012-2017 is "Expanding education and learning opportunities and boosting audience choice across the UK."[4] [Illustrated below].
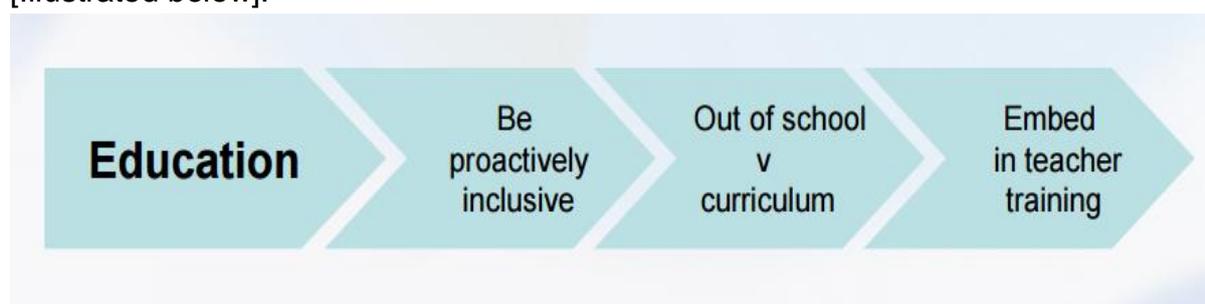
The opportunity to *'map together education, learning, and skills development that will be more relevant to young people'* set out in the BFI strategy reflects a Northern Ireland Screen key priority. Northern Ireland Screen and its creative partners, including Into Film, have been leading the way with this approach of integrating the use of film with education and training for over a decade. This is stated in Into Film's primary purpose: "*to embed film in the curriculum by exploring the various resources and topics covered within the hundreds of resources available.*"

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[4] New Horizons for UK Film BFI Future Plan 2012-2017

Into Film had developed and piloted a Continuing Professional Development (CPD) for teachers in schools, delivering across the curricula framework. The development of the CPD offering within schools sought, as with the Film Club, to reach two audiences; primarily the teachers and, through them, the children and young people who benefit from the teachers' increasing confidence and competence in increasing and unlocking the potential use of film for learning.

Initial monitoring and evaluation of the pilot programme by Into Film provided clear evidence of the rationale and drive for ongoing CPD development in response to emerging needs:

- To build capacity, competence, confidence and enhance motivation for teachers through a CPD programme that addresses the process and principles of using film to enhance children's education in a supportive environment
- To use film as a medium for education providing children and young people with opportunities to develop "soft" intrapersonal, artistic skills and behaviours such as motivation, self-efficiency, literacy, self-confidence, and creativity
- To provide training in filmmaking skills to aid children facing economic disadvantage to shine a light on film based career opportunities in N.I.

The FSA project that emerged provided opportunities for developing the range of Into Film's CPD "offerings", increasing the audience base and developing increasingly effective and efficient ways to capture learning, its impact and outcomes[5]. The rationale for the use of film and filmmaking in the classroom to support and develop pupils learning attainments is outlined below.

1.4.2 Assisting Pupils

The effectiveness and efficiency of film, digital and creative arts as a method of teaching and improving literacy has been well documented in recent years. The desk research undertaken for the report found validating evidence of the value of film, digital and creative arts to increase the attainment of pupils.

In 2006 research in NI suggested that children retain and re-use information delivered through creative or "play" strategies.[6] Similarly, the work of the Bradford Primary Film Literacy Project[7] and the Leeds Partnership Project[8] have examined the ways in which film in schools helped raise pupils literacy attainment levels and encouraged/enabled

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[5] Into Film NI Evaluation Report 2015-2016

[6] Walsh, G., Sproule, L., McGuinness, C., Trew, K., Rafferty, H., & Sheehy, N. (2006). An appropriate curriculum for 4–5-year-old children in Northern Ireland: comparing play-based and formal approaches. *Early Years*, *26*(2), 201-221.

[7] http://bradford-city-of-film.com/institute-of-film-visual-literacy/

[8] http://www.betafilmworks.org/wp-content/uploads/2015/09/180815_Interim_Evaluation.pdf

teachers to use media literacy to strengthen the connections for pupils between film, emotion and education.

The Bradford Primary Film Literacy Project suggests that film education:

- Provides children and young people with opportunities to watch a wide range of film – in cinemas, schools and elsewhere, using new technologies and platforms
- Encourages learning, critical understanding, writing, speaking, listening, debate and conversation about films and the issues and emotions they raise
- Enables children and young people to use film as a vehicle for their own creativity, and encourages the film industry to respect their voices

These findings are also reflected in evidence from the Leeds Partnership Project, who recorded a number of improvements in pupils who were regularly engaged in film watching and filmmaking. It reported:

- 96% improvement in average points progress in reading
- 60% improvement in average points progress in writing
- 75% improvement in attitude to learning

Within NI, the effectiveness and efficiency of film as a method of teaching and improving literacy has been detailed in previous Into Film evaluation reports. These reported that:

- 96% of teachers who used film in class stated it increases pupils' levels of engagement
- 74% stated that it improves critical thinking skills
- 70% stated that it boosts literacy

The FSA project response designed by Into Film and the Nerve Centre, sought then to maximise learning attainment opportunities for pupils, through supporting the professional development of teachers and minimising any barriers to their utilisation of the project and its resources.

1.4.3 Assisting Schools

Based on this strategic response, and in order to develop the role of "traditional and digital means, including text, sounds and graphics," the FSA project specific aims and objectives were articulated, i.e.

- To examine the use of film as a tool for learning and assessment
- To introduce literacy strategies and frameworks for use with pupils
- To develop introductory practical film skills

- "To devise a process for measuring raised attainment […] To develop planning & storytelling skills"[9]
- To improve skills in exhibition & discussion

A film-centric curriculum was thus designed for FSA which addressed film literacy ("reading" and interpreting films), writing (writing reviews, creating storyboards and scripts) and practical filmmaking skills (including editing software use and training in animation).

A series of resources and learning opportunities for teachers were then designed and presented that focused on the film-centric curriculum to maximise positive attainment for teachers and pupils alike.

The core learning areas for the teachers were: Teaching with film, analysing and deconstructing film, using film as a stimulus for writing, using filmmaking and stop motion animation as teaching and learning tools, using 3Cs & 3Ss, storyboarding, scriptwriting, knowledge of differing camera shots/positions/movements, adding narrative to number, using film as a tool for assessment, and active learning strategies.

Teachers were encouraged to use and increase their confidence and skills in using iPads, interactive whiteboards (with sound) and tripods.

Within the logic framework used for the evaluation, it is the film-centric curriculum opportunities and resources, allied with the assessment tools, that are the focus of teachers' CPD outputs and activities for the FSA project. However the anticipated impact is much wider than the teachers' skills attainment and includes:

- Pupils' literacy skills, numeracy skills, ICT skills, "soft" skills
- Teachers' confidence using film for analysis in the classroom, technical skills for use in the classroom including filmmaking skills, editing skills and animation skills
- Senior leaders observations of the impact on the wider school

Evidence and results to support impact findings follows in Section 2.

1.5 Section 1: Summary

The evaluation methodology, based on direct research and the interrogation of the evidence of parallel evaluations, found a clear rationale for the FSA project purpose, identifying several key drivers:

1. To increase pupils' attainment levels in literacy, numeracy and "soft" skills through the design and delivery of a film-centric curriculum

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[9] Full Steam Ahead-Literacy Evaluation (Joan Ann Wilson)

2. To build upon the Into Film CPD and offerings available for teachers in participating schools, including teaching and assessment resources and skills developing for the teachers to enable them to deliver the FSA film-centric curriculum within their own classroom settings with confidence and competence
3. To devise and pilot assessment tools to capture evidence and results including the use of parents and school senior leaders observations
4. To validate and strengthen the connections for pupils, between film, and education, and for teachers, the opportunities available to meet curriculum requirements while utilising developmental resources available through film, digital and creative arts

In terms of the evidence and analysis provided in regard to the assessment tools used across the different evaluations, it might be productive to re-examine ways to ensure that the completion of baseline and final self-assessments is robust, to strengthen the numeracy attainment assessment tools and to avoid duplication of effort in gathering evidence of particular results, particularly the overall levels of satisfaction with the project experience. In addition to the literacy, numeracy and soft skills attainment for pupils this independent evaluation found a strong trend towards improvements in TS&PC. These "invisible" skills and the consequences for the pupils' executive function are addressed later in this report.

Evidence and results based on the evaluation framework of logic, impact and development strands are outlined in the sections that follow.

Section 2 – Evidence and Results

While the primary activities for the FSA project were delivered to teachers, there is no doubt that the focus was and remains the positive impact upon pupils. This is outlined in the sub-section that follows.

2.1. The Impact on Different Children in Diverse Settings

The involvement and commitment of parents to participate in the monitoring and review of the impact upon children is a significant factor informing the project evidence, findings and conclusions.

Parents were acutely aware of their own "assessment" of their children's attitudes and attainment levels with literacy and numeracy outside a classroom setting. The evaluation found (based on the parents' evidence) that there was a positive impact for the children transferable to their home settings.

To aid identification, the evaluation analysis has differentiated these in terms of skills and practice encompassing children's attitude and frequency of skills practice at home, i.e.:

- "Regular" skills-practice groups are children who were already comfortable with literacy and numeracy and associated activities. They are also more likely to be self –motivating.
- "Sometimes" or "No" skills-practice groups are children who do not, by inclination, enthusiastically participate in literacy and numeracy activities either in school or at home. They may be motivated through teachers' encouragement to participate in and complete activities which they may end up enjoying but by and large they are not self-motivating.

In the sub-section that follows the findings and analysis for the impact on children is based on the parents' assessment at home and the teachers and senior leaders' assessment in classroom settings.

2.1.1   Impact on Children's Attainments and Skills

Based on parental surveys, the evaluation found that, based on quantitative results, and qualitative comments, positively affected groups are:

(a) Children who were already comfortable with literacy and numeracy, who showed a moderate positive effect in all areas. Senior leaders suggested project activities "stretched" higher ability pupils.

(b) Children who "sometimes" enjoyed and participated in literacy/numeracy/filmmaking activities, who showed stronger positive trends especially in skills relating to filmmaking and literary analysis.

Effects on literacy and numeracy were pronounced on children who already had a grasp of the subjects, with the percentage of children who regularly enjoyed creative writing and literacy rising by 5% and 10% respectively. Similarly, the number of pupils who regularly made films at home more than doubled, rising from 18% to 39%.

The effect on literacy was divided by parents into two strands: the first was the effect of the project on frequency of reading for pleasure, for example "*[My child] enjoys reading before he goes to sleep*" or "*She has started to read more at bedtime, something she has stopped doing.*" The second effect on literacy was the effect on creativity, especially for creative writing; for example, "*Definitely an interest in storylines, developing a story- potential endings*" or "*Her creative writing has improved a lot and she is enjoying it more.*"

The effect on literacy was reinforced by teachers who commented on the increased use of literature techniques in filmmaking in the classroom:

Their narrative has developed 3C and 3S - what characters, what settings what colours you can imagine- we have seen a much bigger impact on their language skills.

Language and team-bonding- they are working with each other- literacy and speech- emotions as well.

Much more engagement in literacy lessons, increased attention spans, inclusive in terms of all pupils being able to take part (at their own level), interested in learning, development of a whole new set of language and ICT skills.

This was re-iterated in senior leaders' observations on a class-wide level:

Deepened understanding and development of writing process (area of development) and in numeracy it was fascinating to watch children of all abilities deconstruct learning to explain process to others.

Evidence in books showing explicit reference to learning process. Observation of children working together, writing, editing and producing pieces of work.

Teachers reported improvements in vocabulary, idea sharing and willingness to engage in public speaking, for example "*getting them to act and speaking to the camera- have really come out of themselves- doing things in front of the cameras*" and "*one child in particular improved because they know they are performing for others- they were more engaged in listening because they had a project. Specific reference to positive impact of boy with Asperger's.*"

Many parents mentioned that their child talked more, or more enthusiastically, about their day at school. For example: " *[My child] talked more about his film activities, he was excited to get into school on the days he was doing them"* o r *"[My child] shares her ideas and asks a lot of questions."*

The effect of the project on confidence in maths was prevalent, with many parents remarking that enjoyment of maths had also risen; for example, "*more logical approach when solving problems"* or *"great increase in maths confidence and competence."*

Senior leaders and teachers also noticed an improvement in maths performance and enjoyment of maths:

The [improvements in] numeracy I observed involved camera angle, measurement as well as estimation - all these areas were evident throughout children's work and participation. The staff showed me other examples of the development of numeracy within the project such as estimation, measuring distance, scale etc.

A trend towards increased creativity was also reflected in the comments on film-making. Notably, talking about film and film analysis improved among the "sometimes" group; 13% showed an improvement in talking about films they watched, 14% showed an improvement in analysis and 26% watched more films and animations at home.

Parents report a high variety of filmmaking methods being used by children, as well as a high level of sophistication regarding filmmaking techniques. Subjects are also varied, ranging from videos of family and friends to recordings of dance and song to informative videos on video games. Parents report a high level of knowledge regarding apps and software used to make films, and the ability to find, download and use these apps confidently, following their participation in the programme

Many respondents mention that the children enjoy making these films, and take pleasure in watching them. They were completed independently, and often involve complex recording processes that require patience and the ability to plan ahead, E.G. animation. Increased practice of filmmaking is reinforced by display of increased film knowledge. Parents mention displays of sophisticated film knowledge, and an interest in the construction of filmed narratives that requires higher-level thinking.

Parents reported a universal improvement among all the children in soft skills, including organization of work and willingness to discuss both films, their work, and other ideas.

Among the "Sometimes" or "No" skills-practice groups", soft skills showed an improvement among the middle groups, with children who "sometimes" shared ideas with parents improving by 8%, and children who "sometimes" organised their own work rising by 11%.

Multiple parents mentioned the independent willingness and desire to begin organising their own work "*More mature and more interested in independence"* or "*starting to organise her work more and listening to others opinions more.*"

The FSA project also had positive outcomes for pupils who had been reluctant to make creative projects independently; for example, the percentage of children who did not make films at home reducing by 6%. Qualitative evidence from parents, teachers and senior leaders alike reinforced the enthusiastic nature of this improvement. One senior leader noted "*Middle and lower ability children had opportunities to shine, some with natural leadership skills, patience as well as the impact on curriculum understanding".*

In addition to the evidence and results outlined in this sub section a review was also undertaken of the results from the NI curriculum based literacy and numeracy attainment measures.

2.1.2. NI Curriculum-Based Literacy and Numeracy Attainment Results for Pupils

As referenced previously (1.3.) the NI curriculum-based evaluation review[10] used assessment tools specifically in relation to aspects of literacy and numeracy attainment for pupils.

It reported in terms of literacy that a substantial majority of the children involved entered the project with good visual reading skills, and results showed that development of understanding of the 3Cs and 3Sc was appropriate for the age of the children involved. However, there was no development in any of the schools in the area of camera shots and the reason why filmmakers chose these shots. Moods from Sounds showed little subtlety of perception, with the majority of answers divided between being in a Good mood or Bad mood – perhaps reflecting their own understanding of what mood meant to them.

Similarly, the children who had watched the film were unable to predict, and resorted to re-telling the story of the film. This primary analyst attributed this to confusing choice of images and that the concept of Mood created by Sounds may be too sophisticated for primary-aged children. However, children's evaluations pointed to enjoyment, effective group work, increased skills and an ability to reflect on how improvements could be made.

Teachers also reflected on the impact of the course on their pupils, with 100% of the teachers reporting that the children enjoyed being involved in the project, were highly motivated by learning new skills, and collaborated well with one another. The teachers' evaluations all referred to children's increased understanding of film language, of children's improved abilities in framing, lighting and editing, which led to a sense of

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[10] Author:Joan Ann Wilson

fulfilment and increased confidence. Quantitative responses were also positive, with a significant majority of the schools meeting the aim of the project to improve planning and storytelling skills.

In terms of numeracy, analysis showed an improvement in mathematical topic, technique and filmmaking skill; for example, children were aware of their audience (i.e. someone who needed to be informed better on their mathematical topic), and their purpose (to inform, to deepen knowledge and to entertain). Dialogue used by the children in their films demonstrated an understanding of both film and mathematical language. The children showed mastery and understanding of editing and the purposes of filmmaking techniques by selecting and skilfully using appropriate tools.

In a significant majority of the results submitted, there is clear evidence of progression, with approximately 80% of children showing signs of progression to the next level. However, there was no evidence in the evaluations from the teachers of the lower-ability children making significant progress against the aspects in the assessment grid. The features which demonstrated the greatest improvements were Using Mathematics, Communicating Mathematically and Mathematical Reasoning.

In addition, literacy and numeracy teachers reported some increase in soft skills; for example, that the children worked collaboratively. In some cases they self-managed so well that little teacher supervision was required. Talking & Listening proved central to the approach for developing confidence, ensuring children listened to one another's suggestions, tried out ideas and evaluated their successes.

There is ample evidence available for the analysis of results for the positive, progressive impact of the FSA project on pupils' literacy and numeracy attainment. However, as referenced previously (1.2) a series of project benefits emerged in relation to TS&PC. Further details on function and impact are outlined in the sub section that follows.

2.2. Learning Invisible Skills: The Impact of Full STEAM Ahead on Pupils' Executive Function

As the evaluation report stated previously, the hidden benefits of FSA in terms of TS&PC[11] became identified for analysis by the evaluation team. Given the value of these benefits for pupils and their relevance to the NI Curriculum and those within the education sector, this sub section of the report has been expanded to outline an understanding of Executive Function and TS&PC.

2.2.1 Executive Function and its Relevance to the Project Impact

[11] http://www.nicurriculum.org.uk/curriculum_microsite/TSPC/what_are_tspc/index.asp

Executive functions are an important element of what makes us adaptable, thinking human beings.

"*By engaging pupils in active learning contexts across all areas of the curriculum, [...] teachers can develop pupils' personal and interpersonal skills, capabilities and dispositions, and their ability to think both creatively and critically*" [9]

These are various mental tasks that include our ability to organize, monitor, and direct our own mental processes. Examples of executive functions include self-awareness and monitoring of our own behaviour and its consequences, making a plan and sticking to it, choosing a new plan when we experience a set-back, problem-solving, forming new ideas and abstract reasoning[12].

The stated aims of the FSA project were to develop and increase literacy and numeracy through the use of film in the classroom; specifically, to "develop and support learning through filmmaking, develop advanced critical and creative skills, increase teacher confidence in using film, develop an approach to learning to encourage children to Think, Plan, Create and Evaluate [and] to support the development of the key Thinking Skills of Decision Making, Problem-Solving, Recognising patterns and relationships, Justifying conclusion"[13].

The literacy aims included "[examining] the use of film as a tool for learning and assessment, introduce literacy strategies and frameworks for use with pupils, develop introductory practical film skills, devise a process for measuring raised attainment, develop planning & storytelling skills [and] improve skills in exhibition & discussion."[14] These were measured using 3Cs/3Ss questionnaires and assessment grids with results indicated previously in this report (2.2).

In addition to these results parents and teachers, who were asked about other changes in their children's behaviour after participating in the FSA project, identified behaviours that could be defined as changes in executive function:

- *More mature and more interested in independence*
- *This project stretched the higher ability children, especially in relation to their personal capabilities – working in teams, handing over leadership to others, being patient, supporting others and asking for advice*
- *Classroom observations - can see, hear and feel the difference. i.e. their behaviour, concentration and engagement*
- *Definitely an interest in storylines, developing a story- potential endings*
- *Language and team-bonding- they are working with each other- literacy and speech- emotions as well*

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[12] Roebers, C. M., Cimeli, P., Röthlisberger, M., & Neuenschwander, R. (2012). Executive functioning, metacognition, and self-perceived competence in elementary school children: An explorative study on their interrelations and their role for school achievement. *Metacognition and Learning*, *7*(3), 151-173.
[13] Full Steam Ahead: Numeracy Evaluation
[14] Full Steam Ahead: Literacy Evaluation

- *Much more engagement in literacy lessons, increased attention spans, inclusive in terms of all pupils being able to take part (at their own level), interested in learning, development of a whole new set of language and ICT skills*
- *A creative project which helped deepen learning and provide [ways for] children to think outside the box in many ways*
- *In numeracy it was fascinating to watch children of all abilities deconstruct learning to explain process to others*

Using the current Key Stage 2 guidelines on personal development for children, it is possible to argue that the FSA project, as well as making positive changes in literacy, numeracy and ICT skills, has also had a positive impact on pupils' executive function; which is to say, their psychological ability to regulate and monitor their own learning.

In the following sub-section section, we discuss how to quantify executive function, and create explicit measurements of executive function for future use in FSA projects.

2.2.2 Quantifying Executive Function: Thinking Skills and Personal Capabilities (KS2)

The Revised Curriculum of Northern Ireland places an emphasis on the development of pupils' life skills, their TS&PC with the stated aim of developing pupils' ability for *"lifelong learning and for operating effectively in society"*[15]. According to the guidelines, *"developing personal capabilities allows pupils to experiment with ideas, take initiative, learn from mistakes, work collaboratively and become more self-directed in their learning"*. It is hoped that this will develop children's' abilities to manage their own emotions, to interact effectively with others and eventually to regulate and enhance their own learning- in other words, develop the metacognitive skills that are necessary for later life and work, but that are not explicitly covered in traditional schooling.

In current guidelines for the Northern Ireland Key Stage 2 Curriculum, TS&PC have been divided into the following five strands: managing information (asking, accessing, selecting, recording, integrating, communicating), thinking, problem-solving and decision-making (searching for meaning, deepening understanding, coping with challenges), being creative (imagining, generating, inventing, taking risks for learning), working with others (being collaborative, being sensitive to others' feelings, being fair and responsible) self-management (evaluating strengths and weaknesses, setting goals and targets, managing and regulating self). The detailed description of these strands are outlined in Appendix 1.

Managing Information: It is clear, based on reports from teachers and senior leaders, that pupils were comfortable accessing new sources of information and to use their own and others' ideas to locate sources of information. They were able to talk about film, learning and ask focused questions as well as and to communicate with a sense

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[15] "Thinking Skills and Personal Capabilities", PDF, from Northern Ireland Curriculum website.

of audience and purpose. Evidence from observations also indicated that the pupils' were more able to plan and set goals and break a task into sub-tasks

More enthused, actively involved – pupil ownership in steering the direction of the task and showcasing their learning

This project stretched the higher ability children, especially in relation to their personal capabilities – working in teams, handing over leadership to others, being patient, supporting others and asking for advice.

Deepened understanding and development of writing process (area of development) and in numeracy it was fascinating to watch children of all abilities deconstruct learning to explain process to others.

Talking and listening very easy to measure impact - children are more confident to answer questions and give opinions. ETI observed one lesson and commented on the children's enthusiasm and commitment to the tasks they were undertaking in literacy.

The filmmaking projects that the pupils undertook through FSA prompted many teachers and parents to report increased levels of this type of orderly, sequenced thinking. In order to make their own films, children had to sequence and order shots ahead of time (for example, by drawing a storyboard); they had to make predictions about how different methods would impact the finished film, they had to generate possible solutions when filming was blocked or impeded and try out alternative approaches when solving problems (for example, when light difference over the course of a day would cause inconsistencies in the shot across the course of the finished film):

She loves drawing storyboards

Loved finding small items to make his film with.

Link with TSPC - natural way of developing personal capabilities - problem solving, teamwork, patience, managing information. Many quieter children shone throughout the project as they had natural leadership skills.

One pupil reported: *I had trouble with different stuff in maths like time, and different things, but the time helped me because I could understand it better*

Being Creative: The act of making a film, and learning the filming/animation techniques is in itself a chance to "experiment with ideas and questions"; in scripting, preparing and filming the projects, pupils were allowed to "[experiment] with different designs, actions, and outcomes." They also had to engage in problem-solving and thinking "outside the box" in order to complete their projects. Parents and teachers noted multiple examples of creative thinking and problem-solving among pupils who had completed the course:

[My child] loved creating and the technical aspects of pulling it all together and enjoying the finished film.

Has a [camera] to take photos […] Learning to use. Understands how to take photos, understands that you need an eye to see the photo before taking it. She is aware of use of light when taking photos.

A creative project which helped deepen learning and provide children [with opportunities] to think outside the box in many ways.

Deepened understanding and development of writing process (area of development) and in numeracy it was fascinating to watch children of all abilities deconstruct learning to explain process to others.

Working with Others: Teachers provided multiple examples of the pupils' increased use of language (including specialised technical language) when creating their projects and commented on the "higher instances" of listening to others when generating ideas:

Listening to the dialogue between pupils and with adults - language used and greater detail.

Listening to the language used as children worked through a task - problem solving

Language and team-bonding- they are working with each other- literacy and speech- emotions as well

Much more engagement in literacy lessons, increased attention spans, inclusive in terms of all pupils being able to take part (at their own level)

Observation of children working together, writing, editing and producing pieces of work.

This was also found to be true for children with atypical learning needs:

Got them to act and speak to the camera including a boy with Asperger's. They have really come out of themselves- doing things in front of the cameras

Self-Management: As quotes from some pupils show, they were able to assess their own abilities before and after the programme:

I had trouble with different stuff in maths like time, and different things, but the time helped me because I could understand it better

Quotes from teachers and parents indicated that pupils were able to sustain their attention towards set tasks:

More enthused, actively involved – pupil ownership in steering the direction of the task and showcasing their learning

Benefits for lower ability, again the same - leadership, perseverance, managing information.

Tells me when he does something he is interested in in school. Getting better at organising his school work.

Based on evidence from the evaluation process, it is reasonable to state that the FSA project fulfils the criteria for all five strands of the TS&PC guidelines. for the Northern Ireland Key Stage 2 Curriculum. More detail of evaluation conclusions and implications for the FSA project are set out in Section 3 of this report.

2.3 Summary: Impact on Children

The evaluation has found robust evidence of the positive and meaningful impact of the FSA project upon participating children in school and its transferral to a home setting. The explicit and affirmative positive results are found within all the sub-groups of the participating population. This included the group of self-motivating children who are already comfortable with literacy and numeracy and associated activities who benefitted in all attainment areas.

There was an even more significant impact and positive result upon children who do not, by inclination, enthusiastically participate in literacy and numeracy activities and who had previously displayed reluctance to make creative projects independently. There are clear indications of the success of the project in achieving high level levels of satisfaction with children of all abilities and in providing opportunities to enhance the motivation and skills attainment of pupils who may have additional complex needs that can provide barriers to their success and self-confidence.

Crucially, the evaluation has found that the FSA project has achieved a positive impact in terms of NI Curriculum requirements for Executive Function, TS&PC i.e. pupils' psychological ability to regulate and monitor their own learning, personal and interpersonal skills, capabilities and dispositions, and ability to think both creatively and critically. Evidence and analysis also demonstrated the positive impact of the project upon participating children's technical filmmaking and digital arts skills attainments.

This impact of the project upon the development of participating children's' metacognitive skills on the present and as necessary for later life and work needs to be understood and promoted.

2.4. The Impact of Full STEAM Ahead for Teachers, Senior Leaders and Wider School Environment

The evaluation found that the information gathered and the evidence of results of the FSA project on teachers' professional development, their skills and the confidence to use those skills was significant and positive.

Teachers who took part in training self-assessed their attainment levels in filmmaking, animation, iMovie, editing, green screening and apps. At baseline, the majority of teachers rated themselves as "not confident" in every category, with figures rising as high as 77% in filmmaking and green screening. After training, teachers who rated themselves as "not confident" dropped to 0% in every category, with the majority considering themselves "quite confident". For example, post-training, 70% of teachers considered themselves quite confident in their skills in editing, and 60% considered themselves quite confident with the skill of animation. 50% considered themselves very confident with iMovie and video-making apps, despite these being fairly specialised skills that require dedicated learning.

Knowledge and experience with filmmaking and analysis of film also rose following participation in the programme. Prior to training, 77% of teachers rating themselves as having no knowledge of analysing and deconstructing film, or of adding narrative to number. 69% of had no knowledge of using filmmaking as a learning tool, and 61% had no knowledge or experience of using film as a tool for assessment, or of differing camera shots/angles when making films. Only 54% had some knowledge of using a film for writing.

This changed significantly following training, Over 70% of teachers rated themselves as quite confident in teaching with film, using animation and filmmaking as a learning tool, storyboarding and scriptwriting. Confidence in the theory of teaching with film increased sharply, with 60% rating themselves as very confident with the 3Cs and 3Ss.

Teachers reported high levels of satisfaction overall with the CPD resources and activities offered. These consisted of 3 teacher development days, 2 online courses, 3 school support days, 1 evaluation clinic day, email and phone support from project coordinator and parent packs, free all-staff CPD training for each school, frameworks and resources, including think-and-plan worksheets, self and peer-evaluation worksheets and the 3Cs & 3Ss prompt card.

Training days were excellent- prepared for what was ahead. The timetable was very beneficial- what to expect, what was ahead and when.

The big thing was the online support training, you could read about how to do an activity then at the bottom was the link to the worksheet- easy to find resources. Resources shared in the training were also good- we shared ideas on the training day.

Positive comments were made on the overall resources offered, which many identified as being valuable both for leading and organizing the course: *"most useful was the resources; suggested apps, etc. - learned a lot on how to complete the activity. The resources shared from the trainers, the work done shared by teachers [also helped]"* and *"the online course was very useful in the first term- the nightshift sequencing prediction exercise, for example it saved all that time researching and trying to plan things."*

Teachers identified that the immediate availability of the resources made the course very quickly usable; *"I made great use of the film clips- a great introduction to the course. Very useful. The sound on-vision off were useful- because we had resources, we were able to pick up and just get started. If we had had to look for those it would have slowed or stopped."*

Feedback on some changes for the future were made by teachers and senior leaders working in schools supporting children with special educational needs (SEN). These are stated in full, including observations, in Appendix 2.

The presence, activities and support by the project co-ordinator and delivery staff were also noted. Staff commented, *"[The project coordinator] was fantastic. I can't sing her praises enough. She delivered in a non-threatening way, because teachers are overwhelmed and time constrained already. She always reassured us and prompted us for the logs in a really nice way. She covered everything. We even began to call her unprompted, and she always emails promptly."* Similarly, others commented *"Couldn't have done it without her. Sometimes it is hard to get in touch with people- Nichola was always available, encouraging, reassuring"* and that she *"answered questions by email, prompt in replying- helped us to rejig the materials."*

The Teacher Development days were noted for the face-to-face help from facilitators while undertaking a new, unfamiliar project- *"Facilitators from the Nerve centre didn't presume that you know things […] We are hoping to have it as a rolling programme next year."* And *the assistance with organizations in crowded classroom scheduling: "training days were excellent - prepared you for what was ahead"* and *"one of the sessions - the timetable was very beneficial - what to expect, what was ahead and when."*

Teachers highlighted their own enjoyment of the course; they praised the literary resources and support received from the Nerve Centre facilitators at school level, which supported teacher professional development. For example, **"***We took an approach that we would explore the app thoroughly with the children, not just tell them what to do- the trainers reflected that, did not just tell them what to do. The kids enjoyed it,"* and *"Extra hands in the class - gave u new ideas and gave suggestions - showed us how to do things on the iPad."*

One senior leader summarised her assessment of the project upon teachers and the practical design of the project to meet the needs of the wider school operations.

We have benefitted greatly from [the project coordinators] 'Help Desk' Support and of course the expertise of the Nerve Centre Staff - in fact I would go as far as suggesting that this would not have been manageable without the calibre of support we enjoyed. I have shared the challenges of the administration - paper work - staff did find this really difficult - however we opted into the pilot and had to see it through. School did have to finance non-class contact time for staff to complete this - I did feel this was an essential – Thank you for the sub cover days provided by INTO Film also. For our school - we will need to see how learning can be transferred in to a Foundation Stage Classroom

Feedback and suggestions for the future were also made by teachers and senior leaders. These, mainly operational suggestions are to be found in Appendix 2.

Perhaps some of the most telling comments on the positive impact of the project comes from two teachers who when asked what they would say to other teachers about the project stated:

Recommend it to them- is extra work, but worth it.

I would strongly recommend this to other teachers- you can plan out, get resources and work at your own level- it's important that if you take it on, you must remember to make it about the learning.

Really need to devote time to it and not see it as an add-on but part of your normal planning for literacy and numeracy.

The commitment and involvement of senior leaders in the schools, as referenced previously, provided an excellent "one step removed" mechanism to assess project impact upon pupils, teachers and the overall school environment.

Senior leaders' comments based on their observations of the positive impact upon teachers validated and strengthened teachers own self-assessment:

Enthusiasm to learn new skills. Teachers and Classroom Assistants were involved in the CPDL training days in addition to the additional training for focus teachers in Year 6 and 7. They saw the benefits of how it can enhance engagement in learning for pupils. Simple ideas enriching lessons.

The teachers have seen the potential use of film and animation to greatly enhance literacy outcomes for our pupils (all of whom have Severe Learning Difficulties). The teachers have become enthused to use film in their weekly teaching. They have developed new skills in terms of filmmaking and animation and are keen to further develop these.

Greater confidence and competence - difference in teaching strategies and approaches: more creative. Tasks more open ended and focused on the process and not necessarily the outcome/finished article.

Using media to affect standards- clearly a very different approach

Increased confidence in using film and animation, willingness to 'try out', step out of comfort zone - take a risk.

The skills and confidence of our teachers has been extended and enhanced through high quality professional development and opportunities to network with teachers from other schools.

Senior leaders recognized the value of the project activities and impact for themselves.

Helping me realise the school vision (ongoing) to develop more creative ways to bring learning alive in the classroom. I want to create a school where doing things like this is the norm.

I feel my role was vital. I supported staff by giving them space, allowing them to "have a go" removing the fear of doing something wrong. It was through the approach that we saw so much success. Excellent professional development for staff and myself. Into Film links very neatly into the school's curriculum. Lessons are well planned and this is verified through monitoring and visiting classrooms and lessons by principal

Attending the Professional Development Days along with the teachers involved in the project, gave me greater awareness of the potential of our involvement in the project to positively impact on our approach to teaching and learning at a whole school level. Opportunities to engage in professional dialogue with the Senior leaders of other schools was also highly beneficial, as we were able to share effective practice and give consideration to future opportunities and challenges.

The summary of the impact upon the overall school environment, including participating teachers, pupils and for themselves is perhaps best captured by these senior teachers' observations:

A creative project which helped deepen learning and provide children [opportunities] to think outside the box in many ways. I was reassured by the enthusiasm of staff and pupils to embrace all aspects and have observed (formally and informally) evidence of all teachers using elements of movie making/soundtrack/film clips in their classrooms.

Children embraced it. Deepened understanding and development of writing process (area of development) and in numeracy it was fascinating to watch children of all abilities deconstruct learning to explain process to others.

This project stretched the higher ability children, especially in relation to their personal capabilities – working in teams, handing over leadership to others, being patient, supporting others and asking for advice. Middle and lower ability children had opportunities to shine, some with natural leadership skills, patience as well as the impact on curriculum understanding.

There was a real buzz in the classes during the project. The teachers and classroom assistants all got involved and were genuinely motivated to learn and develop new skills. I loved visiting the rooms to observe the teaching and learning and see just how much the pupils were engaged with the lessons. Their ability to answer, quite difficult questions was fantastic and I was so impressed at the filmmaking skills and language they developed. Amazing!

[There was an] open door when I went to observe staff were keen for me to see firsthand tasks and new work undertaken. Lesson observations were encouraged and staff were in no rush for me to leave.

Sharing of expertise within the school - other staff were curious and keen to trial some of the work.

Whole school Staff Development Days were a real catalyst for staff to tryout some of the new learning.

Very positive professional development opportunity to discuss issues with other teachers. Training has provided packs that can be used in the classroom. Preparation time reduced, a new approach to literacy, numeracy and other curricular areas.

New creative approaches to core skills with focused objectives. Greater pupil involvement - 'feel good' factor. Truly cross curricular approach - TSPC very much being developed and those higher order thinking skills. Positive end outcomes.

While the evaluation process has used a significant number of qualitative comments to measure impact upon teachers, senior leaders' and the overall schools' environment, it has done so to illustrate the work invested and the significant value of the impact for key stakeholders.

The brief summary of the impact on teachers, senior leaders and the wider school environment that follows cannot even begin to reflect the quality and richness of the FSA project activities, impact and potential for longer term impact inside and outside school settings currently and for the future.

2.5 Summary Impact on Teachers and the Wider School Environment

In conclusion, the evaluation process and analysis has found robust evidence of the positive impact of the FSA project upon teachers and the wider school environment.

As an intervention and mechanism for CPD to increase teachers' confidence in using film for analysis in the classroom and in increasing their technical filmmaking and digital skills for use in the classroom including filmmaking, editing and animation skills, it has proved positively robust in its' effectiveness and efficiency.

There is evidence of a "contagion" effect upon others within the wider school environment and endorsements from senior leaders that should be captured and harnessed to sustain the project for the future.

As experienced and expert educational practitioners, the evaluation found senior leaders' assessments' as particularly significant and valuable in understanding the impact of the project upon the whole school environment. Of note is the comment of one principal who stated in her assessment of the FSA project;

[It] helped me realise the school vision (ongoing) to develop more creative ways to bring learning alive in the classroom. I want to create a school where doing things like this is the norm.

The evaluation process and analysis has concluded that the FSA project, as carried out in Northern Ireland, has fulfilled its primary drivers to map together film culture, literacy, numeracy and UICT education, learning and technical skills attainment to be more relevant to pupils and teachers alike and assist in the current and future development of all. In the final section that follows evaluation conclusions are offered alongside recommendations for FSA project development.

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Section 3: Conclusions Summary and Recommendations

3.1 Conclusions Summary

Based on information gathering and analysis of evidence, as set out in the main body of the report, the independent evaluation has generated a series of conclusions based on the focus of the project and the additional project benefits that were identified through the methodology and stages of analysis from context of need to the development of recommendations.

The main focus of the evaluation element was to measure the impact of the project on pupils' literacy skills, numeracy skills, ICT skills and "soft" skills, based on criteria set in place by the Northern Ireland statutory Curriculum for Language & Literacy at Key Stage 2.

There are clear indications of the success of the project in achieving high level levels of satisfaction with children of all abilities and in providing opportunities to enhance the motivation and skills attainment of pupils who may have additional complex needs that can provide barriers to their success and self–confidence.

There is robust evidence of the successful impact of the project in meeting its' primary objectives to increase children's literacy, numeracy and soft skills attainment levels.

The evaluation found additional benefits and positive impact of the project upon children in areas identified by the Northern Ireland statutory Curriculum for Language & Literacy at Key Stage 2. These relate to executive function, thinking skills and personal capabilities including problem-solving and decision-making. Based on the impact on pupils' psychological ability to regulate and monitor their own learning, personal and interpersonal skills, capabilities and dispositions, and ability to think both creatively and critically, the project has had a positive impact upon the development of participating children's' metacognitive skills in the present and potentially for longer term outcomes for later life and work.

The evaluation process has concluded that:

- The project "stretched" children comfortable with literacy and numeracy and associated activities and more likely to be self –motivating in all attainment areas
- The project had an even more notable positive impact upon children, for whom self –motivation can be a challenge and who do not, by inclination, enthusiastically participate in literacy and numeracy activities either in school or at home
- The project had a positive impact on children at all levels of abilities

- Specific examples of literacy, numeracy and soft skills attainment have been identified and assessed with skills levels and confidence to use those skills increased for participating pupils
- Specific examples of filmmaking and digital arts skills attainment have been identified, assessed and skills levels increased for participating pupils
- The project activities and process had a positive impact for pupils across the five strands of the NI Curriculum concerned with the development of Executive Function, TS&PC
- The positive impacts upon children was transferable outside a classroom setting and was apparent in their home setting

The evaluation found that the information gathered and the evidence of results of the FSA project on teachers' professional development, their skills and the confidence to use those skills was positive.

The impact of the project on participating teachers' capacity, competence, confidence and enhanced motivation to use film and film making as a medium to enhance children's skills attainments was also analysed. The evaluation process has concluded that:

- The project increased the knowledge, experience and understanding of participating teachers in film-watching and filmmaking as learning interventions and tools for pupils
- The increase in competence was paralleled with increasing confidence and motivation to use the skills, knowledge and understanding attained through participation in the project
- CPD aspects of the project including process, activities, resources and assistance from the project coordinator and staff resulted in high levels of satisfaction and value assigned by participating teachers
- Teachers would recommend it to their colleagues

The commitment and involvement of senior leaders in the schools, provided an excellent "one step removed" mechanism to assess project impact upon pupils, teachers and the overall school environment. Based on their evidence and assessment, the evaluation process has concluded that:

- The positive impact of the project upon pupils and teachers competence, confidence and motivation has been validated and strengthened by the observations of senior leaders in schools.
- The links with the curriculum, the lessons and resources available were of significant value, verified through monitoring and visiting classrooms and lessons by school principals and senior leaders
- Whole school development days, CPD activities and resources, opportunities to meet other teachers and school leaders resulted in the sharing of best practice among and between diverse schools and individuals involved in children's education and development

- The project "buzz" generated had a contagion effect that resulted in schools and individuals including pupils, their parents, teachers, classroom assistants and senior leaders wanting more

The assessments of experienced and expert educational practitioners are particularly significant and valuable in understanding the impact of the FSA project upon all participants. Though referenced previously, in the project findings they validate the full impact of the project upon educational attainment criteria of pupils, the professional development of teachers and the creative culture of schools as experienced through the first year of the FSA project:

A creative project which helped deepen learning and enabled children to think outside the box in many ways

Creative approaches to core skills with focused objectives. Greater pupil involvement - 'feel good' factor. Truly cross curricular approach - TSPC very much being developed and those higher order thinking skills. Positive end outcomes

Helped me realise the school vision (ongoing) to develop more creative ways to bring learning alive in the classroom. I want to create a school where doing things like this is the norm.

The evaluation process and analysis has concluded that the FSA project, as carried out in Northern Ireland, has fulfilled its primary drivers to map together film culture, education, learning and technical skills attainment to be more relevant to pupils and teachers alike and assist in the current and future development of all. It has achieved significant positive impact related to NI Curriculum requirements that need to be articulated and promoted to key stakeholders.

There is no doubt that the value of the project's resources and subsequent impact needs to be sustained and available to more schools and their pupils in Northern Ireland.

The recommendations that follow reflect the effectiveness and efficiency of the original project while seeking to sustain and further develop the FSA project as a model and framework for best practice to connect film culture, education, and learning for pupils and teachers.

3.2 Recommendations

Promote the existing and potential benefit for educational sector including links to NI Curriculum requirements to develop metacognitive skills using evaluation conclusions and evidence generated

Revisit opportunities to analyse higher order impact for pupils and CPD contagion impact upon teachers for the whole school environment and in sharing best practice among networks of schools and teachers in future evaluations

Reviewed teachers and senior leaders' feedback on suggested operational amendments

Review evaluation tools, including numeracy attainment assessment to strengthen information gathering and analysis

Seek opportunities and resources to support the project as a priority to sustain current and future positive impact and potential longer term outcomes for pupils and teachers and the wider school environment.

Appendix 1 – Thinking Skills and Personal Capabilities (TSPC)

The Revised Curriculum of Northern Ireland places an emphasis on the development of pupils' life skills, their TS&PC. This section of the curriculum has the stated aim of developing pupils' ability for "lifelong learning and for operating effectively in society"[16]. According to the guidelines, "developing personal capabilities allows pupils to experiment with ideas, take initiative, learn from mistakes, work collaboratively and become more self-directed in their learning". It is hoped that this will develop childrens' abilities to manage their own emotions, to interact effectively with others and eventually to regulate and enhance their own learning- In other words, develop the metacognitive skills that are necessary for later life and work, but that are not explicitly covered in traditional schooling.

In current guidelines for the Northern Ireland Key Stage 2 Curriculum, TS&PC have been divided into the following five strands:

- Managing Information (Asking, Accessing, Selecting, Recording, Integrating, Communicating)
- Thinking, Problem-Solving and Decision-Making (Searching for Meaning, Deepening Understanding, Coping with Challenges)
- Being Creative (Imagining, Generating, Inventing, Taking Risks for Learning)
- Working with Others(Being Collaborative, Being Sensitive to Others' Feelings, Being Fair and Responsible)
- Self-Management (Evaluating Strengths and Weaknesses, Setting Goals and Targets, Managing and Regulating Self)

Managing Information states that pupils should be able to "ask focused questions, plan and set goals and break a task into sub-tasks, use their own and others' ideas to locate sources of information, select the most appropriate method for a task, use a range of methods for collating, recording and representing information, [and] communicate with a sense of audience and purpose."

Thinking, Problem-Solving and Decision-Making has the stated aim of teaching pupils to "be critical of evidence, think flexibly and solve problems, and make reasoned judgments and decisions rather than jumping to immediate conclusions." Critical thinking is a key component in tasks which require scientific or logical skills[17], and is a valuable component in dealing rationally with issues later in life. This strand states that

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[16] "Thinking Skills and Personal Capabilities", PDF, from Northern Ireland Curriculum website.
[17] Kuhn, D. (1993). Science as argument: Implications for teaching and learning scientific thinking. *Science education*, *77*(3), 319-337.

pupils should be able to "sequence, order, classify, and make comparisons; make predictions, examine evidence, and distinguish fact from opinion; make links between cause and effect; justify methods, opinions and conclusions; generate possible solutions, try out alternative approaches, and evaluate outcomes; examine options and weigh up pros and cons; use different types of questions; and make connections between learning in different contexts."

Being Creative This strand emphasises and values pupils' personal responses, and acknowledges that creativity is as important as thinking technique in academic development. While this may seem "soft", the creative process involves generating questions and interrogating and defining problems as well as imagining different possibilities and alternative solutions. Allowing creative risks and expressions of individuality will also allow pupils to become more resilient in their outlook; it will allow them to learn from their mistakes and perceived failures. This strand states that pupils should be able to "seek out questions to explore and problems to solve; experiment with ideas and questions; make new connections between ideas/information; make ideas real by experimenting with different designs, actions, and outcomes; challenge the routine method; see opportunities in mistakes and failures; and take risks for learning."

Working with Others This strand's requirements are concerned with enabling pupils to engage in collaborative activities, develop the confidence/willingness to join in and work in face-to-face groups. In the KS2 guidelines, pupils are required to "listen actively and share opinions; develop routines of turn-taking, sharing and cooperating; give and respond to feedback; understand how actions and words affect others; adapt their behaviour and language to suit different people and situations; take personal responsibility for work with others and evaluate their own contribution to the group; be fair; respect the views and opinions of others and reach agreements using negotiation and compromise; and suggest ways of improving their approach to working collaboratively."

Self-Management The Self-Management strand aims to helps pupils become more self-directed, become more aware of their personal strengths and weaknesses, how they feel about learning, and identify their interests and their limitations. Pupils are required to "be aware of their personal strengths, limitations and interests; set personal targets and review them; manage their behaviour in a range of situations; organise and plan how to go about a task; focus, sustain attention and persist with tasks; review learning and some aspect that might be improved; learn ways to manage their own time; seek advice when necessary; and compare their own approach with others' and in different contexts."

Appendix 2 Teacher and Senior Leaders Suggestions

- A file or memory stick of resources, or a place online to download them, to be made available to teachers. A bank of film clips.
- More focus on one area or the other- literacy or numeracy or animation, or a longer time to spend on each.
- Literacy element was beneficial as a teaching tool, using film was useful, but the numeracy was difficult- pupils couldn't focus on the numeracy for the filming.
- Resource to be adjusted for SEN schools; ex. baseline survey changed into communication prints; pictures, rather than text.
- Reinforce importance of Principal/Senior Leader involvement. Continue to focus on the creative impact and how this can lead to deeper learning in Literacy and numeracy.
- Develop a few video case studies with input from Principal, Teachers and pupils.
- Hold a few information sessions across province. Shared Education clusters - Cohort 1 schools have been asked to set up learning hubs. This may be a good way to reach a wider audience or for a school who is involved in Into Film projects to share practice.
- Expand the programme to include more year groups.
- Develop a baseline of filmmaking/ICT skills and be able to compare pupils' knowledge at the start and then the end of the project. This could include some form of literacy assessment as well.
- Time/support to plan lessons, share good practice - especially if hoping to roll this out across the other classes and year groups.
- Further professional development for teachers and learning support assistants on a whole school level.