

ISLE OF WIGHT BRIDGE FOR SCHOOLS PROJECT INITIAL EVALUATION STUDY

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RATIONALE

There are 7 bridge clubs on the Isle of Wight. The membership of the bridge clubs is mainly people over 60 years of age. Over the last few years, the majority of clubs have been experiencing dwindling numbers. This has been thought to occur because the number of members who cease playing bridge, for any number of reasons, is higher than the number of individuals who commence playing bridge on the Island.

If this problem is not to continue, resulting in bridge clubs having to close, it requires a range of strategies. There are already bridge classes on the Island for those who want to learn to play the game, or for those who want to improve their abilities. What was missing on the Island, in common with most other areas of the country, was an influx of young players who wanted to start playing the game.

It was noted that none of the schools on the Isle of Wight offered bridge as part of their extra-curricular activities. Therefore, one person, Dave Bessant, decided to take up the challenge of introducing bridge into Island schools.

BACKGROUND

Fortunately, a number of bridge players on the Isle of Wight are current teachers or ex-teachers. After an initial consultation between the teachers and the project leader, an assessment of how bridge might be introduced to schools on the Island concluded that it should be introduced at key stage 2, preferably to years 5 and 6 pupils of primary schools, and preferably as part of the maths curriculum and/or as an optional activity within a school club. An early decision was that the project would teach mini-bridge (a simplified form of bridge that has been introduced by the English Bridge Union [EBU] for children).

The EBU was provided with details of the project before it started and they were very supportive. Alison Nicolson, the EBU officer responsible for the development of the game with children, visited the Isle of Wight to provide her support. Also, John Pain, Head of education at the EBU, has been a continuing source of support and encouragement. The local Sports Council was contacted and they provided a further contact at the local council, who had responsibility for education. Both of these organisations have provided ongoing support. Fortunately, there was a local ongoing project that focussed on children undertaking activities within school time at one local school. This was the opening that was required into the maths lessons.

The head teacher or head of maths at each school involved in the project was initially contacted to see if they were interested in being involved in the project. The project leader then recruited a number of experienced bridge players from around the Island as volunteer teaching assistants who would provide an important role in helping the children to handle the cards. After 2 or 3 weeks, these volunteers were no longer needed, although a couple of them were happy to be kept on for use on an occasional basis. The project leader and assistants involved in the project were required to undergo a background check with the Criminal

Records Board Disclosure Procedure prior to being allowed to help with the introduction of bridge into the schools. The initial idea was, at the outset, that there should be one assistant at each table of four children who were learning bridge. The assistants were required to provide immediate 'hands-on' explanations, help and advice to the pupils, which was not available from the majority of maths teachers, who themselves could not play bridge. It was assumed at the start of the project that, in subsequent weeks, fewer assistants would be required in class, as it was expected that the initial enthusiasm of the majority of helpers might wane. This has partly been offset by participating maths teachers slowly learning the game and being able to provide more help in class.

The project commenced at the start of the 2004/5 school year. The children chosen in the early schools were average and above average at maths. Although the children in the first school contacted were introduced to mini-bridge, it became obvious that this form of bridge does not require a great deal of maths. This was a problem as the 9 and 10 year old children chosen for the project were average or above average in their maths sets. After a few weeks of listening to, and observing, the children in class, it was obvious that the children were interested in, and could cope with, wider aspects of bridge. Therefore, the sessions moved on to using trumps, finessing, probabilities, vulnerabilities and scoring. Surprisingly, the kids seemed to understand the concepts without too much difficulty, although they did need to be reinforced and utilised in practice. Thus, on the Isle of Wight, because it was found that the children could cope conceptually with all the basics of bridge, the decision was made to introduce children to the full concepts of bridge, albeit in a rather basic form that was suitable for beginners to learn the game.

Until Easter in this first year of the project, the project leader had used his own copies of Bridge Baron (a bridge playing programme) and Bridge Manager (a personal play library of bridge hands) as teaching resources. After Easter, an offer from the company that produces the software, allowed for each school included in the project to be provided with free copies of the software for inclusion onto the school file servers. This enabled the software to be used in-class as teaching resources and enabled the keener pupils to be able to learn and play outside the formal classroom sessions. In addition, each school was provided with extensive bridge notes that provided the essential information that was to be delivered in class via the PowerPoint presentation software. Subsequently, the project leader has been developing additional software that can be used with Bridge Baron that can enable anyone to learn the basics of bridge from scratch. This software will be available to the schools in the next school year.

From the project leader's point of view, the project has been a great success in terms of the number of schools and number of children who have been introduced to bridge over a small period of time. It is anticipated that all the schools that are participating in the project will want to continue offering bridge in their schools, both to the children who can already play bridge (this will be used as a reward for students who complete the required work) and to the new year 5 children. The bridge lessons in the new school year will all be delivered by the maths teachers, using the resources that will be made available to them and, where appropriate, contacting the project leader for advice and support.

Of course, there have been a number of problems to overcome along the way. These include the following:

- Glitches due to compatibility problems between the Bridge Baron software and school file servers.
- At the start of the project, there were some reservations of maths teachers as to whether bridge should be included within the maths curriculum.
- The majority of children found it difficult to manage 13 playing cards in their hands. We thought that the card handling would develop naturally, but it did not. The problem was overcome by offering the children free copies of a Bridge Baron 15 demonstration disk to all those who could sort their cards within 30 seconds.
- Maintaining the interest of pupils when bridge is offered as an extra-curricular activity, due to the conflicting interests of other clubs and the need to be available to catch the bus home after school.

The initial impressions of the project leader on the positive aspects of introducing bridge into schools was that:

- The majority of pupils enjoy learning bridge
- For a good percentage of pupils there is some improvement in their mental maths ability
- For some pupils there appeared to be a more positive attitude to maths.
- There are additional benefits to be learned from playing bridge, eg. cooperating with users, learning to play by the rules, etc.
- The keenness of some of the pupils resulted in a Saturday morning bridge club being commenced at one of the local bridge clubs

Therefore, over the past school year, this has resulted in 8 schools being involved in the project, with one school being dropped from the project due to a lack of commitment from the teaching staff. All the schools agreed for years 5 and/or 6 pupils to be included, with one school also including years 7 and 8 pupils. The end result is that the project has included 276 children from the 7 primary schools with a range of between 20 and 79 children taking part in learning bridge at the individual schools.

Towards the end of the academic year, after the introduction to bridge classes had been completed, there were 3 schools that are still offering their pupils the opportunity to play bridge within their schools. Some of the schools (but not all, yet) have indicated that they wanted to continue offering bridge within their schools in the next school year. Although there was a lot of anecdotal evidence that the project had achieved some notable successes, it was imperative to undertake a formal evaluation of the project that could be completed and fed back to the schools before they broke up for their school holidays. It is in the light of these issues that this initial evaluation project has been undertaken.

AIMS AND OBJECTIVES

Aim

To evaluate the overall success of the Isle of Wight Bridge for Schools Project.

Objectives

1. To evaluate whether the bridge lessons have had any effect on the maths abilities of the children.

2. To discover if the bridge lessons have had any other effects on the abilities of the children.
3. To evaluate whether the maths teachers feel that the maths lesson is the best place to introduce bridge.
4. To identify any initial or ongoing problems with the introduction of bridge to year 5 and above primary school children.
5. After its introduction, to identify any potential problems with the maintenance of bridge within primary schools.
6. To explore the maths teachers' feelings of being involved in bridge sessions at their schools.

METHODOLOGY

It was agreed that this evaluation project should start at the end of June and be completed by the middle of July 2005, so that the results could be fed back to the schools before they started their summer holidays. The timescale for the evaluation project and the nature of the aim and objectives meant that it would be most appropriate to collect information from the teachers involved in the project.

It was decided to use a simple, descriptive, quantitative research design that utilised a questionnaire to collect the required data. A questionnaire was constructed, based on the objectives of the study – this can be seen in appendix 2.

RESULTS

All 7 schools involved in the project returned questionnaires – one school returned two questionnaires, as there were two teachers involved in the project. The raw data that has been collected from the returned questionnaires can be seen in appendix 1.

DISCUSSION

Each of the objectives of the project has been converted into a question and will be discussed individually.

What are the effects of bridge lessons on the maths abilities of children?

One teacher mentioned that bridge did not benefit the top maths set children, as they already had good maths skills and another teacher was unsure of the benefits of bridge. The other comments from teachers highlighted a range of potential benefits of introducing bridge into maths lessons, eg. improvements in mental maths skills, application of number, probability and logic to problem solving; and a more positive attitude towards maths.

Are there any additional effects of bridge lessons on children?

Several teachers mentioned a range of additional, positive effects of bridge, the main one being the social effect of children working and collaborating together. Other positive outcomes include improved attention span, communication skills and social links between the children.

Is a maths lesson the best place to introduce bridge?

Six teachers answered “yes”, one was uncertain and one answered “no”. Although the majority of teachers mentioned that the maths lesson is the best place to introduce bridge, one teacher qualified that by highlighting only for years 5 and 6 because, in their school, years 7 and 8 only have 3 maths lessons per week. One teacher emphasised that, due to pressure on the curriculum, after the basics of bridge have been taught, that it should then be made available as a club activity to enthusiastic pupils. Another comment was that bridge could be used as an incentive to complete maths work.

Are there any initial or ongoing problems with the introduction of bridge to year 5 and above primary school children?

Two of the teachers highlighted that they had no problems at all in introducing bridge to the pupils. A range of problems was highlighted by the other teachers: difficulties in tracking student learning; the teacher’s lack of bridge knowledge; conflicting pressures of fulfilling curriculum requirements; some children enjoy playing, rather than listening to the theory; some children get bored and drop out.

After its introduction, are there any potential problems with the maintenance of bridge within primary schools?

Again, a range of problems was highlighted by the teachers: children’s commitments to other clubs/activities; teachers’ lack of bridge playing knowledge and experience; pressure on the availability of IT resources for the children; the pressure of delivering the national curriculum; some students lose interest as the bridge concepts become more complex; the pace of teaching bridge in a mixed ability class; the need for a large enough work area.

What are the maths teachers’ feelings of being involved in bridge sessions at their schools?

Three teachers highlighted that they and the children really enjoyed the bridge sessions in class and two teachers highlighted that they needed to learn a lot more about bridge so that they could feel more comfortable when participating in class. The availability of volunteers for in-class support was also appreciated. Two teachers mentioned that bridge could be used as a reward or incentive for pupils. Only one teacher had reservations about introducing bridge into the maths curriculum, preferring for it to be made available as a club activity.

Finally, all the teachers who responded thought that the project was a worthwhile activity because of the perceived benefits to children that have been highlighted previously. Several teachers also indicated that they would like to expand bridge-playing opportunities within the school and one respondent thought that the pupils might be ready for inter-school competition.

CONCLUSIONS/RECOMMENDATIONS

The main aim of this initial evaluation project was to evaluate the overall success of the Isle of Wight Bridge for Schools Project. In reality, the project leader and researcher wanted some detailed feedback on the appropriateness of introducing bridge to year 5 and above

primary school children. This small survey has supplied us with a wealth of information. Although this is only a small, local survey, some tentative conclusions have been drawn:

- The majority of children enjoy learning about, and playing, bridge.
- Bridge is best introduced to primary school children within maths classes.
- The majority of year 5 pupils can cope with the introduction of all the basic concepts of bridge – this mitigates against the introduction of mini-bridge.
- After being introduced, in class, offering it within clubs is probably the best way to continue offering bridge-playing opportunities to pupils, due to the pressure to deliver the national curriculum. Alternatively, some teachers may want to continue offering it in class, but only as a reward for work well done.
- At year 5, bridge is best introduced to average and above average maths pupils. Below average maths pupils can be introduced to bridge in year 6 or later.
- The bridge should be introduced to maths classes where the pupils are at a similar stage in their maths development. This overcomes the problem of delivering the bridge sessions too fast or too slow for mixed ability classes.
- The majority of pupils are likely to see some improvements in their mental manipulation abilities in relation to maths and problem solving.
- For some pupils, there will be improvements in concentration skills, liking for maths, and working with others.
- When introducing bridge to schools, the importance of resources has been highlighted, eg. volunteers to help in class, access to computers and relevant software, a project leader who has a high level of commitment and a lot of time to spare.
- Teachers enjoy the introductory bridge sessions in their class, although some would welcome the opportunity to improve their bridge knowledge.
- After the introductory sessions, the maths teachers (or others) can then take over and continue the bridge teaching and/or offer bridge-playing opportunities for the pupils, as long as there is occasional support and advice available from an experienced bridge player/teacher.
- The company that develops the Bridge Baron and Bridge Manager software should be applauded for developing their software for this project so that it can handle the requirements of English school IT systems.

It is expected that all the schools involved in this project will again offer an introduction to bridge programme as part of their maths curriculum for year 5 pupils. In addition, it is hoped that bridge opportunities will be made available to those pupils who have already learned bridge.

A range of recommendations have arisen from this initial evaluation project:

- A more in-depth evaluation of the introduction of bridge to year 5 pupils is needed. Possibly, using a double blind technique, this should focus on the measurable benefits of introducing bridge. The proposed project, though, would be time consuming and require some collaboration between the participating schools. For the next Academic year there is a testable hypothesis based on methods to enable non-bridge playing teachers to present bridge to pupils.
- If bridge is going to continue and expand within schools on the Isle of Wight, as we expect it to, at some point in the future, the local education authority should explore the possibility of employing a part-time, peripatetic bridge teacher/consultant, who

can make him or herself available to all the schools that are offering bridge opportunities.

- The software that is currently being developed by the project leader to enable individuals to learn bridge from scratch should be piloted in the primary schools on both the pupils and the teachers in the new school year. This software package will also address the need of interested parents to learn the game with their children. This might be a source of new members for the bridge clubs.
- For other areas of the country that would like to undertake the same or a similar project, it should be possible to develop a comprehensive package of resources for them, perhaps in conjunction with the EBU. From the way that the current maths teachers have picked up the delivery of the bridge sessions in class, it leads us to believe that they are capable of functioning independently, with the appropriate support mechanisms in place.

APPENDIX 1: RESULTS

Response rate: 100% - all 7 schools responded, one school completed 2 questionnaires.

Q1. Year groups involved in the project:

Year 5:	6 schools
Year 6:	3 schools
Year 7:	2 schools

All but one school offered bridge to year 5s
2 schools offered bridge to Years 5, 6 and 7

Q2. How many children involved in the project?

A total of 311 children are included in the project with a range of between 20 and 79 at the different schools.

Q3. Any effect on their maths abilities?

- Uncertain
- Mental maths (quick addition has improved) x5
- Increased levels of concentration in class
- Number sequencing and probability have developed
- For those who had a solid mastery of the subject, bridge has enhanced their ability and given maths application a purpose
- No, top set year 5 are very able children – if tried with lower ability children, it may impact on mental maths skills
- Helped children to think more logically and improved their deduction skills

Q4. Any effect on their attitude towards maths?

- Yes, very enthusiastic
- Improved logical thinking/tactics
- They like maths more because they get to use it and they think bridge is fun
- Bridge has been introduced outside the curriculum – those who enjoy bridge, probably also enjoy maths
- No, they liked the ICT element, some enjoyed the game, but only some have an understanding of the game when played with cards
- All had a good attitude before, so difficult to tell
- More positive
- For some of them, it has given them a greater sense of confidence/ achievement

Q5. Is the maths class the most appropriate place for bridge?

Yes = 6 No = 1 Uncertain = 1

- There is pressure to deliver the curriculum – after the initial input; it might be more appropriate to develop with the more enthusiastic pupils as a club activity

- Yes, fine for year 5 or 6, but difficult in year 7 and 8 due to only having 3 maths lessons a week.
- Yes, it can be cross-linked in. A skilled maths teacher can use bridge to introduce new ideas and concepts. It is also a good social/teamwork game that could be well used in PSHE time.
- If schools are looking to elevate maths across the curriculum it would be good to see it outside the maths lessons, but at this stage, it is in the right place.
- No, not for the teaching of the game, but it could be used as an incentive to complete work
- The social side of bridge is more citizenship
- To learn the basics, yes
- Yes, but the skills involved are not simply limited to maths/numeracy

Q6. Has bridge had any other effects on the children?

- Bridge has had a positive social effect – children have bonded with others who they might not have had any social links with.
- Attention has improved and children have been involving parents and sisters/brothers at home
- Team work and communication skills have benefited x2
- Year 5 have a greater understanding of cooperation and teamwork

Q7. Any problems encountered in starting up the bridge sessions in the school?

- None x2
- It would be more advantageous for the teacher involved with the bridge to track the group's learning, so that there is evidence of progress/improvement
- Teacher's knowledge of the game has hindered further use of bridge
- Fulfilling the curriculum requirements for maths
- The children enjoyed playing, rather than listening to the theory
- About half the children dropped out because they thought it was boring. It needs lots of playing with short intervals of theory. Children, especially boys, need short tasks with outcomes that they can see
- Wide range of abilities involved in class. Small numbers of interested pupils willing to come to the club

Q8. Any problems encountered in maintaining the bridge sessions within the school?

- Time constraints due to the pressure of the numeracy strategy.
- My own inexperience, making it impossible to progress them further without "experts" on hand.
- Resources/timetable for IT use x2
- The needs of the national curriculum limited the time available to spend playing the game
- We have given bridge a year's commitment – it is clear, though, that as the bridge becomes more complex; some children 'drop off the edge'. Therefore, we have taken forward those that understood the concepts.
- A lot of children who would have liked to do bridge had lots of other commitments to other clubs

- None
- The group had a wide spread of ability and the pace for some was too slow or too fast
- Having a large enough area to work in was also a problem

Q9. As a teacher, what are your feelings from taking part in the bridge sessions at your school?

- Very enjoyable and useful experience, but I feel that I need a lot more training in the game and its strategies (and how to teach it) to be more effective.
- I enjoyed the sessions and so did the kids. The kids looked forward to the bridge sessions, so they could be used as a 'carrot'
- Regular commitment is needed and the most dedicated students should be selected after a trial period of 6 weeks – a suggestion would be to promote bridge as a treat
- The start-up was good. The extra support was helpful and I like the idea of bringing in outside contributors to school life
- I really enjoyed my three half-terms of bridge
- I still have reservations in using maths curriculum time for bridge. Would like the bridge to be taught during form-based time or as a club activity with a range of ability children
- A big benefit, something that I would want to continue at the school
- I feel that it is worthwhile and beneficial to the students and would be pleased to continue bridge within the curriculum time next year. I am not sure that that I feel totally confident yet about introducing it all on my own – it was very helpful having the support of bridge players coming in to help.

Q10. Any other comments?

- Very worthwhile, definitely interested in continuing with this project.
- An excellent link with mathematics, promoting logical thinking, probability, addition, etc. Group size needs careful consideration.
- It is a laudable goal. Many children have benefited. The way forward would be to equip key teachers with the skills/software/interest so that the schools can independently support the game
- To cascade bridge knowledge to other pupils needs a teacher who can play bridge well.
- The group of 8, who stayed for the whole length of the course, enjoyed the game, however, none of them has gone to the Saturday Club, although invited.
- The project was worthwhile, but needs to be extended with inter-school competitions
- We have developed a small after-school bridge club and offered it to older pupils and are considering the possibility of a lunch time club and inviting parents/grandparents to participate
- I think that it is a very exciting project and I hope that it will be possible for us to continue, if possible, from early in the autumn term.

Appendix 2: Isle of Wight Bridge for Kids Project Questionnaire

This questionnaire has been put together to evaluate the Isle of Wight Bridge for Kids Project. The information gained from this survey will be used to plan the future structure of the project and, possibly, explore ways that the project might be expanded on the Isle of Wight. All information provided will be treated in the strictest confidence.

We would appreciate it if you would complete this questionnaire, place it in the stamped and addressed envelope provided and place it in the post.

Please

1. Please place a circle around the year groups that have been involved with the project at your school:

Year 5

Year 6

Year 7

Year 8

2. How many children have been involved in the project in each year, at your school, since it started?

Year 5

Year 6

Year 7

Year 8

3. How many teachers at your school have been utilized in the classroom during the bridge sessions?

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4. How have you identified the children to be involved in the bridge sessions?

PLEASE COMMENT:

5. For the children involved in the bridge sessions, in your opinion, has this had any effect on their maths abilities?

PLEASE COMMENT:

6. For the children involved in the bridge sessions, in your opinion, has this had any effect on their attitude towards maths?

PLEASE COMMENT:

