The Name Game: Acceptability, Bonus Information and Group Size

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SUMMARY

Our previous research demonstrated the effectiveness of the name game when learning the names of group members. In three experiments we conclude our study of the name game by demonstrating that it is very acceptable to participants and successful with larger groups. Experiment 1 compared the simple and elaborate name games. In the latter, participants learned a word provided by each person in addition to their full name. This ‘bonus’ information was very well learned without detriment to the name learning. Participants rated both versions of the name game as a good use of time and worth playing again although the elaborate name game was rated as more fun. Experiments 2 and 3 used the name game with groups of around 25, finding very good recall of full names. The role of retrieval in the effectiveness of the name game was again demonstrated to be essential. Copyright © 2004 John Wiley & Sons, Ltd.

Difficulty in learning names is a common complaint and the phenomenon has been the focus of much research (e.g. Cohen & Burke, 1993; Milders, Deelam, & Berg, 1998; Valentine, Brennen, & Brédart, 1996). Names are particularly difficult to remember. For example, McWeeny, Young, Hay, and Ellis (1987) showed that recall of occupations was easier than recall of names even when the same words (e.g. baker, potter) were used as the names or the occupations. Cohen and Faulkner (1986) found that recall of person names was poorer than recall of any other types of information from biographical sketches. Various models to explain the phenomenon have been proposed (e.g. Bruce & Young, 1986; Burton & Bruce, 1992).

In our earlier research (Morris & Fritz, 2000, 2002) we demonstrated the effectiveness of a technique for the learning of the names of members of medium-sized groups. This technique, called the name game, is an application of expanding retrieval practice (e.g. Cull, Shaughnessy, & Zechmeister, 1996; Landauer, & Bjork, 1978). The object of the present paper is to conclude our series of studies of the name game by answering questions about the applicability of the technique. In particular these experiments address the acceptability of the name game to those who play it, the relative benefits of the simple and the elaborate forms of the game and whether the name game is effective with groups as large as 25 members.

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Morris and Fritz (2000) demonstrated that the name game produces very considerable short and long-term benefits. In the original, simple, form of the name game the first member of the group announces his or her full name. The second group member repeats the first person’s name and then gives his or her own. The third group member says the names of the first and second person and adds his or her own. As each person gives their name the tutor writes it on a black or white board for the entire group to see and it is then erased prior to any recall attempt. This procedure is followed for the whole group, with each person recalling all of the names of the previous members of the group. At some point, near the middle of the circuit of the group, the group leader informs the first group member that they will be required to recall all of the names once the circuit has been completed. This both fully involves the first person in attending to the names and suggests to other group members that they may be asked to recall all the names.

In our first study (Morris & Fritz, 2000; Experiment 1) we compared two versions of the name game with a condition in which participants discovered details about one another in pairs and then introduced each other to the full group. The two name game conditions were the simple name game, described above, and the elaborate name game in which each individual not only gave their first and last names but also some term that was relevant to them. For example, they might say that they like swimming, or chocolate, or came from Birmingham. During the game participants then recalled both the names and the term that each participant had given. For participants who played either version of the name game, recall after 30 min and after 2 wk was roughly three times better than in the pairwise introduction condition and the name game groups’ recall remained superior after 11 months. The results after 2 wk indicated that the names had not been learned as a rote list because in most groups the students were in different serial positions. The groups were different from the first week because some students from that week were absent and others had joined the groups. Position within the group when playing the name game made a difference to performance. There was a significant but weak correlation (−0.26) indicating that the names that were repeated more often during playing the game were more likely to be remembered. Also, those students who gave their names later in the game, and had to recall more names, had better recall after 30 min. Even so, despite these differences within the group, the overall improvement for all those who played the game was impressive when compared to the control condition. The name game appeared to be a practical technique that was beneficial to all who took part.

In our second study (Morris & Fritz, 2000; Experiment 2) we adopted a different type of control condition. We equalized the frequency with which the words had been heard in the name game and the control condition by having the group leader write each new name on the board and read out the full list of names before the next person was introduced. Recall in the name game conditions was more than twice that in this repetition condition after both 30 min and 2 wk.

Neither study reported in Morris and Fritz (2000) found a significant difference between the simple and elaborate versions of the name game, despite sample sizes of over 80 participants in each group. It might, therefore, be concluded that the simple name game is to be preferred because the elaborate name game confers no benefit in the recall of the names but adds an unnecessary elaboration. However, one feature of the elaborate name game is that participants, when tested on the names of the members of the group, also appeared to have good recall of the additional information about the group members. One purpose of Experiment 1 was to investigate more formally the recall of this additional
information. Recall following the simple and the elaborate name games was compared; participants in the elaborate name game condition were asked to record not only the full name of each member of the group but also the additional information that each individual had supplied. If, as our earlier experiments suggest, the additional information could be recalled without detriment to the learning of the names, then the additional information is a bonus in terms of observed learning. Pragmatically, it is better to know both the person’s name and something about them than merely knowing their name alone. More generally, our review of the published literature did not discover relevant research on the costs and benefits of introducing an extra element of to-be-remembered information along with each cue. Our earlier studies suggest that the inclusion of extra information does not interfere with learning of people’s names. One aim of the present study was to measure the amount of additional, bonus information that the participants were able to recall and to confirm that the introduction of this bonus information in the elaborate name game condition did not seriously interfere with the learning of the names themselves.

The second purpose of our first experiment was to confirm that the name game is acceptable to participants who are involved in playing the name game as a method of learning the names of members of the group. Our earlier studies have shown that the name game is effective in helping members of groups to acquire the names of their fellow group members. However, the game might be perceived as too demanding or too stressful, or in some other way unpopular with those taking part. Anecdotal evidence has suggested that this is the case for some other effective techniques for learning names (e.g. Morris, Jones, & Hampson, 1978). If so, despite its effectiveness, the name game would not prove to be a practical technique. Reports from the tutors in our earlier studies suggested that the elaborate name game was more popular with group members than was the simple name game. Between the playing of the name game and the testing of recall, we asked our participants to complete a questionnaire that explored their experience of the name game. Analysis of their responses addressed the acceptability of the name game and allowed the identification of any difference in the attitude of participants to the elaborate and the simple name games.

Our demonstrations of the effectiveness of the name game (Morris & Fritz, 2000, 2002) have all involved small groups with a maximum size of 11 members. We have been asked on a number of occasions whether the technique is viable with bigger groups. In non-experimental classroom settings we and others have used the technique to good effect with groups of 20 or more. Although larger groups bring the challenge of more names to be remembered, they also increase the amount of retrieval practice by the same proportion. In the second and third experiments reported below, we explored the effectiveness of the name game with a group size of about 25.

There are considerable practical difficulties in bringing together groups of 25 people who are unknown to each other prior to the experiment. To allow for experimental manipulation of the conditions, several such groups need to be found. Frustrated by unsuccessful attempts to assemble such groups of participants, we developed a video-based simulation for Experiment 2 wherein participants pretended to be part of a group of 25. Two further manipulations tested additional findings from Morris and Fritz (2002): that (a) participants who were able to read the names during name learning had poorer recall and (b) that recalling the names in reverse order from that in which the participants introduced themselves improved performance. In Experiment 3 the study of larger groups was extended to a live, real world context comparing performance on variants of the name game with recall following self-introductions.
EXPERIMENT 1

Students played either the simple or elaborate name game in their first seminar class in the first year psychology course at Lancaster University. It is very unusual for the students in a seminar group to know each other before the beginning of the course. Students are allocated to the seminar groups by procedures that attempt to equalize group size and distribute students from the same residential college across the seminar groups.

After the students had played the name game, they completed a questionnaire on their experience of the name game and continued with the seminar topic. After a further 30 min, at the end of the seminar, their recall of the full names of the members of the group was unexpectedly tested. The aims for this first experiment included documenting participants’ attitudes about the name game and their willingness to play it again in similar circumstances. We also tested the prediction, derived from the reports of the tutors, that the elaborate name game was more fun to play than the simple name game. Another aim was to measure the recall of the bonus information that participants reported about themselves, and to once again compare the effectiveness of the elaborate and the simple name games. This study did not include a baseline condition for ethical reasons. The superiority of the name games for groups of this size has been established (Morris & Fritz, 2000, 2002) and it would be unethical to disadvantage students assigned to a baseline condition given that there is value in knowing colleagues’ names.

Method

Participants
Two hundred and forty nine first year psychology students from Lancaster University took part in the study as part of their first psychology seminar class. Of these, 118 played the simple name game, 131 the elaborate name game and all completed the questionnaire. Because of omissions in the recording of the data during the seminars, data from some of the groups had to be ignored. The data from 24 seminar groups were analysed. Thirteen of these groups played the simple name game and 11 the elaborate name game. The size of these seminar groups varied from five to 11 with a mean of eight. Recall was scored for 100 students who played the simple name game and 92 who played the elaborate name game. Questionnaire data were analysed using all participating students.

Design
Each of the seminar tutors led an equal number of the name games in the two learning conditions (simple name game and elaborate name game). Errors in the recording of the names during testing meant that some of the seminar groups could not be scored, leaving the 13 simple and 11 elaborate name game groups that were analysed. The playing of the name game was followed by the completion of the questionnaire, and after a delay of approximately 30 min, recall of the full names was tested.

Questionnaire
Questions 1–4 are given in Figure 1. Answers were rated on a nine-point scale. Question 5: What percentage of your classmates’ names do you think you will remember at the next seminar in 2 weeks? was rated in 10 percentage points (i.e. 0%, 10% etc.).

Procedure
The seminars took place in a classroom with the students sitting in a semi-circle facing the tutor and the black or white board. In the simple name game condition, after welcoming
the students, the tutor explained the object and procedure of the name game. The game then began with a student across from the tutor being asked to say their first and last names. The tutor wrote these on the board, confirming the spelling with the student. The name was then erased and the student to the left of the first student said the first student’s full name and their own name. The tutor wrote this student’s name on the board and then erased it. Proceeding clockwise, the third student repeated the full names of the first two students in order and then added his or her own name. The game continued in this way, but after a few introductions (depending on the overall size of the group), the tutor warned the student who started the game that he or she would be asked to give the full set of names at the end of the game. When students had difficulty recalling all or part of a name, the tutor asked the other members, as a group, to supply it.

In the elaborate name game condition, the procedure was similar to that in the simple name game condition, but in addition to giving their names, students supplied one word or short phrase that they associated with themselves. They also gave a brief explanation of their reason for choosing the word or phrase. For example, the student might say Manchester United and explain that they supported that soccer team. During the playing of the name game, the participants were asked to recall the associated words or phrases as well as the full names of the group members.

After playing the name game, the students completed the questionnaire before continuing with the seminar. Approximately 30 min after playing the name games the students were given a surprise test. They were asked to draw out the rough layout of the room and to write, in the appropriate places, the names of the members of the group, recalling as much of each name as possible. In the elaborate name game condition, they were also asked to recall the word or phrase associated with each member of the group.

Results

For all statistical analyses reported in this article, an alpha level of 0.05 was used. Recall was analysed for the recall of the full name associated with the correct person. Slight spelling errors were accepted when the offered spelling was phonetically very close to the correct spelling or pronunciation. Recall of the name of the tutor was not included in the scoring. As in Morris and Fritz (2000, 2002) because the groups differed in size, the analysis was performed on the proportions of names that were recalled out of the maximum possible for each group. The recall of the bonus information words and phrases was similarly scored.

Performance in the simple and elaborate name game conditions was similar ($M = 79\%$ and $73\%$ respectively, $SD = 27\%$ and $25\%$). A $t$-test indicated that the small difference between the means was not significant, $t(190) = 1.45$.

The experimental procedures and participant pool for our two previous comparisons of the simple and elaborate name games (Morris & Fritz, 2000) were very similar to those in the present study. In each case, the participants were students taking part in their first psychology seminar who played the name games under the same instructions as those given in the present study. To provide the maximum power to test for any difference between the simple and the elaborate name games we, therefore, combined the three sets of data from the three studies and tested for a difference between the two versions of the name game. Collapsed across the three experiments, 283 participants played the simple name game and 278 the elaborate name game. Mean percentage recall of the full names of group members by the simple name game participants was $73.2\%$ ($SD = 28.4\%$) and by
the elaborate name game participants was 69.9% (SD = 27.9%). This difference was not significant, \( t(559) = 1.39 \), and the effect size was very small, Cohen’s \( d = 0.12 \).

The bonus information was very well recalled by the elaborate name game participants, \( M = 88\% \), \( SD = 20\% \). Indeed, recall of the bonus information was significantly higher than recall of the full names, \( t(91) = 5.62 \), \( p < 0.001 \). There was a significant correlation between the percentage of names and the percentage of bonus information recalled, \( r(90) = 0.40 \), \( p < 0.001 \). On 68% of occasions the participants recalled both the name and the bonus information, failing to recall either on only 6% of occasions. There was, however, a tendency to recall bonus information without the name (21% of occasions) rather than the name without the bonus information (5% of occasions). This difference was statistically significant, \( t(91) = 5.96 \), \( p < 0.001 \).

The questionnaire ratings of the name game are illustrated in Figure 1 showing the mean ratings, standard errors and standard deviations for each of the questions. The ratings for question 3, which required experience of alternative introduction activities, were completed by 101 participants who had played the simple name game and by 115 who had played the elaborate name game. Students playing the two versions of the name game did not differ significantly in their ratings except in terms of fun, \( t(214) = 1.79 \), \( p = 0.037 \) (one-tailed test) with the elaborate name game receiving a higher rating than the simple name game as predicted. The ratings on the scales were correlated with the percentage of full names recalled. There was a significant correlation between the predicted level of recall after 2 wk and actual recall after 30 min, \( r(189) = 0.28 \), \( p < 0.001 \). There was also a significant correlation between the ratings for good use of time and the percentage of names recalled, \( r(189) = 0.17 \), \( p = 0.02 \).

![Figure 1. Questionnaire ratings on a 9-point scale for the simple (white box) and elaborate (shaded box) name games. The means are indicated by short vertical bars; boxes indicate ±1 SE; horizontal lines represent ±SD](image-url)
Discussion

As in our previous research, the two versions of the name game led to very good recall of the full names after a 30-min delay. Also, as we found in our previous two studies comparing the simple and the elaborate name (Morris & Fritz, 2000), the small observed difference in recall between participants using the simple and the elaborate technique was not statistically significant. When the data from our three studies in which we have compared the elaborate and the simple name games are combined producing very large groups of participants the difference between the two conditions remains nonsignificant and the effect size is very small.

As our results have demonstrated, participants using the elaborate name game have very good recall of the extra information provided by each student. Recall of the bonus information is superior to the recall of the full names. Note, though, that the bonus information usually involves only a single word or a short phrase and the name recall requires both the first and second names to be correctly remembered. On the other hand, the bonus information was rarely obviously self-descriptive. Playing the elaborate name game allows participants to acquire some semantic information about the members of their new group without any serious loss in the learning of the names of the group members. It is, therefore, reasonable to call this additional information bonus information. In playing the elaborate name game participants are acquiring not just the names of their companions would also information that could play a role in initiating further social interactions. In the versions of the elaborate name game that we have explored the bonus information has concerned the interests of the group members. It could, however, be any information that was valuable in the group context.

It should be noted that the elaborate name game inevitably takes rather longer to play than the simple name game because both the names and the bonus information have to be recalled. It is possible that the extra time involved may contribute to the learning of the bonus information. However, this small cost may be offset by the practical benefits that might result from acquiring the bonus information.

The responses to the questionnaire indicate a generally positive attitude to the name games. The ratings indicate that they are seen as a good use of class time and there is a particularly high mean rating for the willingness to play the game again in similar circumstances. Clearly, therefore, the name game is not only effective in helping participants to learn the names of members of their group but it also meets with the approval of those who have taken part. The elaborate name game received a higher fun rating than the simple name game, which could provide a reason for selecting the elaborate name game. On the other ratings there were no differences between the two versions. The correlations between the ratings and recall were small and in most cases nonsignificant. We had not predicted any relationships and were not surprised by the lack of significant correlations. Perhaps a relationship between recall and the ratings that indicated a positive or negative attitude to the name game might have occurred if the range of ratings had been greater but there was a general agreement in the level of the ratings. There was a significant correlation between recall and predicted recall that may indicate some insight by the participants into their level of learning.

EXPERIMENT 2

In previous studies of the name game the largest sized groups have had 11 members. Its applicability with larger groups has been supported by anecdotal evidence and by practical
reasoning. Although larger group size entails learning more names, it also provides increased opportunities for retrieval practice as the name game is played. Nevertheless, learning the names of 25 members of a group is a bigger challenge than learning fewer names in smaller groups—one could be qualitatively different.

Early efforts to bring together groups of 25 participants, none of whom knew each other, were unsuccessful. So this research used a procedure that simulated the playing of the name game. Twenty-five individuals were videotaped introducing themselves and names were provided for earlier group members. Participants then viewed the video under instructions to imagine that they were members of the group and were trying to learn the names. This procedure allowed the simulation of the name game for a large group. However, inevitably, some differences from playing the game in the real world occurred. For example, all the cues were visual rather than visual and verbal and the spatial layout normally available when the name game is played could not be simulated.

Morris and Fritz (2002) introduced two conditions that we incorporated in the present study. One condition involved comparing the name game as played in the present Experiment 1’s simple name game condition with what we term the reverse name game. In the simple name game participants begin recall with the first group member who was introduced, then recalling the second person, and so on. As the number of members of the group to be recalled increases so does the delay and the work done by the person recalling before finally recalling the newest name for the first time. Because it is critical that this initial recall should be successful, very long, filled delays are counter-productive. The reverse name game schedules recall of the newest name first to increase the likelihood of success by requiring recall to proceed in reverse order from the most recently introduced group member back around the group to the first group member. Morris and Fritz (2002) found the reverse name game to produce substantially better recall than the simple name game.

The second condition introduced by Morris and Fritz (2002) isolated the contribution of enforced retrieval during practice. In one condition, participants playing the game had the opportunity to consult a list of the names throughout the game, enabling participants to provide the names without retrieval practice. Recall by participants in this condition was considerably poorer than when the name game was played normally. In the present study, the participants in one condition were supplied with a list of the names of all of those taking part in the video that they could consult while playing the name game. The availability of this list was the only difference between the conditions but it permitted participants to avoid the necessity of retrieval during the game.

**Method**

**Participants**
Eighty undergraduate students from Lancaster University were tested. Half of the students in each group were unpaid but were entered in a prize draw for a £10 cinema voucher; the remaining participants were each paid £5 for taking part in the study. A further six participants did not complete the study because they were familiar with one or more of the people shown on the video film.

**Materials**
The video simulation of the name game was constructed, filming with a digital video camera. Nineteen female and six male students were filmed while they stated their full
name and some information about themselves so that the final video could simulate the elaborate name game. The individuals used either their real name or a plausible alternative assigned by the experimenters.

Two video films were prepared, one representing the forward and the other the reverse name game. Group members held a number, from 1 to 25, that represented their position in the name game. After each new group member had introduced himself or herself, giving their name and some information about themselves, they said ‘the other people are’. Then, each of the other members of the group was shown for 3 s in the order in which they had been introduced, or the reverse order as appropriate. For two of these 3 s the person was shown, enabling the participants to engage in covert retrieval practice. For the last second the name appeared along with the person to simulate recall by the new member. A separate tape for the final, criterion, test sequence was produced for the forward and reverse conditions, in which each of the group members was shown, in the appropriate order, holding their number for 5 s. Unlike our other studies of the elaborate name game, after the additional information was introduced by the individual it was not tested at any stage.

For the readable name list condition a sheet was prepared listing the full names and the further information supplied by each of the group members. During the final test recall attempts were written on test sheets against the numbers from 1 to 25.

**Design**

A $2 \times 2$ between participants design was employed with the version of the name game (forward or reverse) as one factor and the ability to read from the list of names (retrieve or readable name list) as the second factor.

**Procedure**

Participants were tested in small groups of up to six in one condition at a time with participants being allocated to the conditions in roughly equal numbers until each condition was full. The name game was explained to the participants who were told that the video showed a simulation of a large group of people playing the name game. The participants were asked to imagine that they and all the other individuals were present together. Participants in the readable name list condition were given the list of names and were told that they could consult the list during the video.

To maintain the simulation with a real name game, halfway through the video the participants in the retrieval conditions were reminded that they would have to recall all of the names at the end of the experiment. Participants in the name list condition were reminded that they would be asked to introduce themselves to the other participants who were present.

Following the video presentation all participants watched a comedy video that lasted approximately 25 min while free, non-alcoholic drinks and cookies were provided. Approximately 30 min after the end of the name game presentation the recall test sheets were distributed. The participants were instructed to watch the test video sequence and to write the full name of each person in the space provided. The test video was played twice allowing a total of 10 s per group member for recall.

**Results**

One participant in the reverse name game, readable name list condition failed to recall any names and was excluded from the analysis. For the remaining 79 participants the number
of full names that were correctly recalled was calculated. Descriptive statistics are shown in Figure 2. These data were analysed using $2 \times 2$ between groups ANOVA. The retrieve condition produced significantly higher recall than the readable name list condition, $F(1, 75) = 20.95$, $MSE = 40.37$, $p < 0.001$. However, there was no significant difference between the forward and reverse name game, $F(1, 75) = 0.21$, $MSE = 40.37$ and the interaction between the factors was nonsignificant, $F(1, 75) = 0.83$, $MSE = 40.37$.

**Discussion**

Participants in the name game conditions were able to recall a mean of 67% of the full names of the people in the group after a 30-min delay. Each participant recalled, on average, almost 17 full names from the group. A baseline condition, such as a video simulation of individuals introducing themselves in the way that is common when groups meet for the first time, was not included in this experiment. However, earlier research with much smaller groups, as well as experience in everyday life, suggests that introductions would lead to much poorer performance. This assumption was tested in Experiment 3 and found to be justified. The comparison group that we did run (the readable name list group) matched the experience of its participants with all aspects of the name game with the one exception that they had the list of the group members’ names available when playing the name game. As in earlier research (Morris & Fritz, 2002) enabling participants to avoid retrieval practice while following along has a significantly detrimental influence upon the learning of the names. For these participants, less than 41% of the full names were recalled after 30 min. This difference is powerful evidence for the contribution of retrieval practice in the name game in particular and as a memory improvement technique in general (Bjork, 1988).

In previous research (Morris & Fritz, 2002) the reverse name game has led to better performance than the forward name game but the present findings show no significant difference. We speculate that the reason for the difference lies in the difference in procedures, especially in the particular details of the testing in the video simulation. Morris and Fritz (2002) located the benefit of the reverse name game as arising from the early testing of the newly introduced name. In the present study the participants are not asked to recall the names during the playing of the game and so the difficulty, in the

Figure 2. Recall of full names at criterion test after 30-min delay for forward and reverse name games in the retrieve and readable name conditions. Maximum possible score is 25. Error bars indicate one standard error.
forward name game, of retaining the newly presented name while the earlier names are recalled may be reduced. It is also possible that the presentation of the correct name after 2 s may have lessened the problem of trying to recall the new name in the reverse name game condition.

EXPERIMENT 3

Experiment 2 suggested that the name game is applicable to groups of up to 25 participants. However, the use of the video simulation is not an ideal basis for generalizing to real groups. Following the completion of Experiment 2 changes in courses at the Psychology Department at Hull University introduced large seminar groups at the beginning of the first year thereby allowing us to explore the name game with large groups of people meeting for the first time. In Experiment 3 we were able to test the name game in a real life setting with four groups of approximately 25 people.

A different approach to learning the names of the group members was adopted for each of the four groups. One group was a baseline condition in which the participants briefly introduced themselves one by one to the rest of the group. The other three conditions were variations of the name game. All involved the reverse name game because in previous real group studies it has been shown to be more effective than the traditional name game (Morris & Fritz, 2002). We adopted the reverse name game despite the nonsignificant results of Experiment 2 for a number of reasons. In previous studies, participants appeared to be less stressed by the retrieval demands of the reverse version of the name game and their performance was improved. The delay between the introduction of a new member of the group and the test of that new name is particularly long for large groups in the forward name game so we expected the reverse name game to be more appropriate for a large group.

Within the framework of the name game, three conditions were tested. These were the simple reverse name game, the elaborate reverse name game (with bonus information provided by the participants) and a version of the simple reverse name game in which the list of names was available to read throughout the learning of the names, thereby reducing the demand for retrieval practice. The fourth condition of a $2 \times 2$ factorial testing, elaborate reverse name game with name list provided, was not tested for two reasons. First, only four groups were available for testing and the inclusion of a non-name game baseline condition was essential to the main purpose of the experiment. Second, the presence of name lists has always led to poorer performance so we predict poorer performance here. The simple name game generally leads to slightly better performance, and so provides the slightly stronger scenario for evaluating the effect of name lists.

Because no significant differences between the simple and the elaborate name game have been found in the past we did not expect a difference in the present study. However, memory for the bonus information was examined in order to extend the findings of Experiment 1. We predicted that participants in the two name game conditions that induce retrieval practice would recall the names better than those in the readable name list version. The demand to practice retrieving during the game confers considerable benefit in learning, even when all of the other conditions of the name game remain the same (Experiment 2 above and Morris & Fritz, 2002). Finally, we expected that the self-introduction condition would lead to the poorest performance, as in previous studies (Morris & Fritz, 2000).
Method

Participants
The participants were 102 first year psychology undergraduates enrolled in an Effective Learning module at the University of Hull. Most of the students were not known to one another at the beginning of the semester. Their programme dictated that they would be enrolled in most of the same modules during the year, which may have increased their motivation to become acquainted with one another. The experiment was conducted during the first week of classes. Students participated as part of a class exercise to introduce students to the other members of their group. The numbers of students in each group were 26 (introductions), 25 (reverse name game), 27 (elaborate reverse name game) and 24 (readable reverse name game); students were randomly assigned to the groups. Students were advised that participation was not required, but would be to their benefit.

Design
In each of four groups, students were asked to learn one another’s full names (first and last name). Four learning strategies were used, one assigned to each group. For the introduction group, students briefly introduced themselves, stating their full name and either why they chose to study psychology or why they came to the University of Hull. As part of the introduction the tutor printed each student’s name on the white board, repeated the name aloud, and asked the other students to repeat the name before erasing it. For the reverse name game group, students played the reverse name game as described in Experiment 2; this procedure included the tutor writing the new name on the white board, repeating the name aloud, and erasing it. The procedure for the elaborate reverse name game group was the same except that each student provided an additional self-relevant word and students were asked to recall both the full names and the associated self-relevant words during practice and on the final test as in Experiment 1. The readable reverse name game was the same as the reverse name game except that the names were not erased from the white board but were accumulated in order as the game progressed. This difference enabled students to read a name from the board if they were unable to easily recall or preferred to do so. However, students were discouraged from simply reading the list. They were reminded that their goal was to learn the names associated with each of their classmates, that they would have to know the correct name for every person, and that the names would not be available to read during the test.

Performance was assessed by a test at the end of the class meeting. Students were given cards with a number (1, 2, . . . , 27) to place in front of them and were allowed about 10 min to write down the card number and corresponding name for as many students as they could recall. The number of correct names (first and last name), allowing for minor spelling errors but requiring phonetic correctness, was the measure of memory analysed.

Procedure
Students were seated in an incomplete circular arrangement around the perimeter of a seminar room. There was a gap in the circle at one end of the room where the tutor and the white board were located. All students were seated so that they could see the white board and were easily visible to all other students. No students with documented vision or hearing disabilities were enrolled in the module.

At the beginning of each meeting the tutor explained that the goal of the meeting was to learn one another’s names. They were advised that knowing classmates’ names would be useful as students would continue to meet in those groups and would later engage in group
activities with subsets of those groups. They were also told that the last activity that day would be a test in which they would be asked to write the full names matched to the correct individuals for all of the students at that meeting.

Following these explanations the students engaged in the name learning exercise which took roughly 30 min, but rather longer for the elaborate name game condition because of the need to provide and recall both names and the self-relevant words. Because each turn in playing the elaborate name game took longer, it was necessary to stop the game when six of the students were still to take part. As time ran out the game was stopped and the remaining students merely gave their names and words but did not attempt to recall the names and words of the other students. The final test did not include recall of these students’ names, but these students did participate in the test. Their anticipation of participating was likely to have engaged them in repeated, covert retrieval practice, the key to the effectiveness of the game, thereby preparing them for the final test.

The name learning exercise began with haphazardly selecting one student to start and then working in order around the room. After about half of the group had taken part the tutor warned the first member of the group that they would be asked to recall all of the names. The specific activity varied according to the condition assigned to that group, as described above. After the game some general announcements about the module were made. During the last 10 min of the class every student (except the last six students in the elaborate reverse name game group) was given a card with a sequence number written on it (1 to n). All students were asked to write their own name and number on a sheet of paper and to write the sequence number and full name (and self-referent word for the elaborate group) of every student they could identify. They were asked to try to recall the full name and to guess a bit if necessary. Even if they could not produce the full name they were to write whatever they could recall about each student, even if it was only part of their name. Afterwards they were thanked for their participation and the class was dismissed.

In a later session the participants were fully debriefed. The results of the study along with a full description of each condition were reported to each group. Students were encouraged to consider the potential benefits of expanding retrieval practice for learning names and other types of information.

Results

The recall of full names on the final test was scored for each participant as a percentage of the maximum number of names that could be recalled. For the elaborate reverse name game condition the names of the students who had not had time to play the game were not counted. Students’ recall varied from successfully recalling none of their classmates’ names \((n = 2)\) to recalling every full name for every student correctly \((n = 7)\). The means for the different learning conditions also varied considerably, from 34 to 82% depending upon their learning condition, as shown in Figure 3. The main effect of learning condition was statistically significant, \(F(3, 98) = 19.16, \text{MSE} = 11615.55, p < 0.001\). Because differences between the groups had been predicted and the overall analysis was significant, Fisher’s LSD (Least Significant Difference) was used for pairwise comparisons. The two retrieval-based name games produced the best performance; the small observed difference (means differed by 7.1%) was nonsignificant, \(p = 0.298\). Performance was significantly poorer in the readable version of the name game than in the other name game conditions, \(p < 0.01\) for both comparisons. Students relying upon self-introductions performed the poorest and were significantly poorer than the readable name game, \(p < 0.01\).
Within the elaborate reverse name game group, the six students who did not actually participate in the game performed ($M = 74.6\%$) at roughly the same level as the 21 students who did ($M = 74.2\%$). The difference was not statistically significant, $t(25) = 0.031, p = 0.98$.

For the elaborate reverse name game group the recall of the bonus information was scored. Recall of this information was high, with a mean of $88.6\%$ ($SD = 9.2$) for the participants who had been asked to recall during the game and a mean of $93.7\%$ ($SD = 7.2$) for the last six group members who had not had time to recall. The difference between the recall of these two subgroups was not significant, $t(25) = 1.24$. In almost every case where the full name was reported correctly the word was also correctly recalled. The correlation between recall of the full name and the bonus word was significant, $r(27) = 0.64, p < 0.001$.

**Discussion**

The results extend the findings of Experiment 2 to a real world setting. The name game in both its elaborate and simpler form led to very good recall of the full names of the members of the group. The mean recall of participants in the reverse name game exceeded $80\%$. Therefore, it is clear that the name game can be employed successfully for the learning of the names of group members when the group size is in the neighbourhood of 25. The difficulty created by more names in bigger groups is counterbalanced by the additional opportunities for retrieval practice during the game.

The limit on the size of group in which the name game can be played comes not from the effectiveness of the game itself but from the practicality of carrying out a game that, with a group of 25 may take 30 min to play. This practical limitation was encountered in the present experiment when the testing of the elaborate reverse name game group had to be curtailed because of time limitations. It is interesting to note, however, that the students
who had not had the opportunity to contribute to the game nevertheless learned the names as successfully as those who had taken their turn. Presumably, the expectation that they would be taking part had encouraged these students to participate covertly in the earlier stages, anticipating the names as they watched others recall. R. A. Bjork (personal communication, 30 August 2002) suggested that with big groups is may be possible to drop the earlier names from the group recall once they have been well recalled several times. They could then be tested on some, but not all, occasions. This could shorten the time that was required to complete the name game with large groups. Also, breaking the serial ordering of the recall of the names once they had been acquired to a reasonable level of performance could improve the variability of the encoding, avoiding the possible tendency to chant the list of names.

The superiority of the two retrieval inducing name game conditions over the readable version illustrates once again the contribution of retrieval practice to the effectiveness of the name game. The participants in the latter condition were encouraged strongly to try to retrieve the names before consulting the name list and were reminded of the test to come. However, the availability of the name list is likely to have reduced the number of longer and more difficult efforts to retrieve and, in so doing, led to poorer learning. The introductions condition provides a baseline for comparison with the name game conditions. It represents a very common strategy for introducing new members of a group that is much poorer in encouraging the learning of the names than any of the versions of the name game, including the readable condition.

In the elaborate name game condition the recall of the bonus information was, once again, very high without a significant detriment in the recall of the names themselves. This replicates the finding for the bonus information from Experiment 1 and confirms the opportunity that exists for participants to acquire additional information about each other without detriment to the acquisition of the names.

**GENERAL DISCUSSION**

The three experiments reported here conclude the series of studies of the name game that began with Morris and Fritz (2000) and continued with Morris and Fritz (2002). Together these studies give very strong evidence for the effectiveness of the name game as a technique for the learning of the names of members of a group. Morris and Fritz (2000) showed the overall effectiveness of the name game and demonstrated that playing the game rather than hearing the names repeated with a similar frequency was central to the effectiveness of the technique. Morris and Fritz (2002) demonstrated that the reverse name game was more effective than the forward name game and showed that the learning of the names could be boosted further by refresher sessions in later weeks. Those studies also demonstrated that retrieval practice was a major factor in the effectiveness of the game. In the first experiment of the current set participants in the name game reported positive feelings about the experience indicating a substantial willingness to play the game again in the future when names needed to be learned. That experiment also demonstrated that the additional information that was learned during the elaborate name game was very well recalled without significant loss in the recall of the full names of group members, and this finding was replicated in Experiment 3. This bonus learning suggests that the elaborate name game should be seriously considered as a technique where acquiring additional information about the group members would be useful. A further positive feature of the
elaborate name game is that participants rated it more highly than the simple name game in terms of fun. However, the elaborate name game does take somewhat longer to play with large groups. Although we have never found the elaborate name game to be significantly poorer, the means for that condition are consistently slightly lower than for the simpler versions of the name game. Therefore, if the acquisition of additional information is not desired then the simple reverse name game may be very marginally more powerful although slightly less fun for the group members.

Our second and third experiments demonstrated that the name game could be played with groups of at least 25 members with very successful learning of the members’ full names. The only practical limitation on the applicability of the game would seem to be the time required to play it with large groups. Adjustments to the game, requiring non-predictable partial report, might save time and produce similarly high levels of name learning.

To summarize, in our series of studies we have demonstrated the effectiveness and acceptability of the name game technique with groups of from five to 25. Played in the reverse name game version, either with or without the elaboration of extra information, it applies expanding retrieval practice in a relatively fun social activity that effectively leads group members to become acquainted with one another.

REFERENCES


