

CHARACTER & LEADERSHIP DEVELOPMENT THROUGH SPORT FRAMEWORK

IMPACT ANALYSIS REPORT

JULY 2013

EXECUTIVE SUMMARY

1. To determine whether the character and leadership development through sport framework is effective in integrating values inculcation into existing sports curriculum, Singapore Sports Council (SSC) undertook an impact analysis study in conjunction with five local education institutions as part of its pilot implementation.
2. The impact analysis study was grounded on Kirkpatrick's well-established four levels of training evaluation model (Kirkpatrick & Kirkpatrick, 2006), which describes training effectiveness in terms of how individuals reacted, learnt, applied and demonstrated results as a result of receiving training.
3. The impact analysis study employed a combination of a treatment-control and pre-post research design over a period of approximately ten weeks. Two scales were developed to measure sports educators' application of character and leadership development through sport principles and students' demonstration of values-based behaviours during sports.
4. Overall, the results provide positive evidence that the framework is effective in supporting sports educators to integrate and apply various values inculcation principles and practices into their existing sports curriculum and lessons, and in turn, increase the behavioural frequency of students

demonstrating values such as respect, responsibility, resilience, integrity, care and harmony during lessons.

5. Finally, the integration of the framework to facilitate values inculcation in sports did not reduce students' enjoyment and actual skill development aspects of the sports programme.

INTRODUCTION

To determine whether the character and leadership development through sport framework is effective in integrating values inculcation into existing curriculum, SSC undertook an impact analysis study in conjunction with five local education institutions as part of its pilot implementation.

The impact analysis study was grounded on Kirkpatrick's well-established four levels of training evaluation model (Kirkpatrick & Kirkpatrick, 2006), which describes training effectiveness in terms of how individuals reacted, learnt, applied and demonstrated results as a result of receiving training. Figure 1 illustrates how the Kirkpatrick training evaluation model is applied in the context of this study.

RESEARCH DESIGN

The impact analysis study employed a combination of a treatment-control and pre-post research design (see Figure 2). Five local education

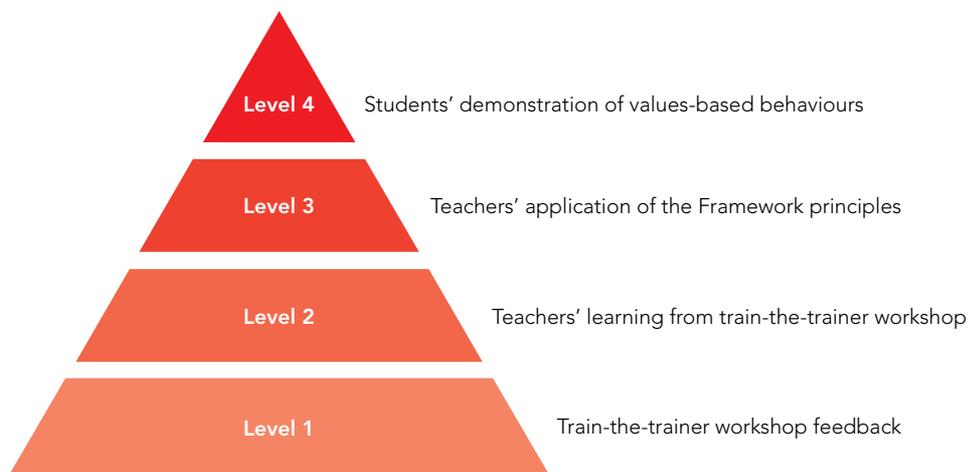


Figure 1. Application of Kirkpatrick's training evaluation model in this study

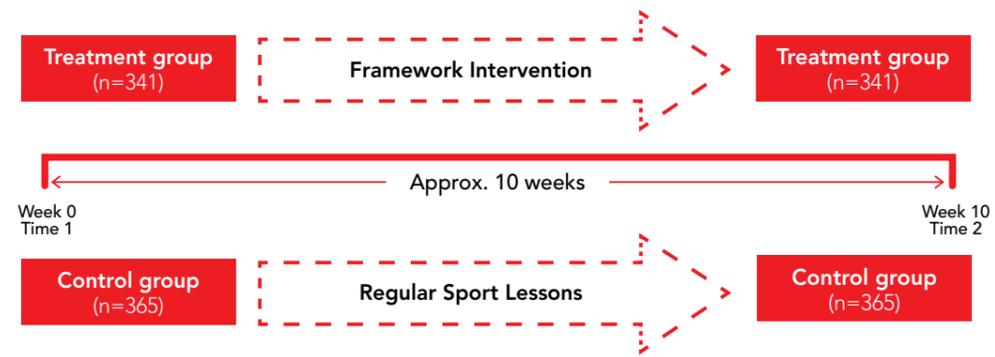


Figure 2. Research design for the impact analysis study

institutions participated in this study¹. The study followed the timeframe of a standard school term of approximately ten weeks, with participants in the treatment group (n = 341) receiving ‘the framework intervention’ as part of their sports curriculum and those in the control group (n = 365) receiving their usual sports curriculum across the period of ten weeks. Measures were collected at time 1 (T1) prior to the start of the first lesson of the school term and at time 2 (T2) which is after the last lesson of the school term.

Although the type of sports played differed between schools, sports educators, who received train-the-trainer training from SSC, administering the treatment group in their respective schools integrated the framework into their respective sports curriculum by ensuring key principles and practices of the framework were deliberately designed into the structure of the lesson plans.

HYPOTHESIS

If the framework is effective, it is expected that:

- Hypothesis 1 sports educators in the treatment group apply the framework principles more frequently than sports educators in the control group;
- Hypothesis 2 sports educators in the treatment group apply the framework principles more frequently at time 2 than at time 1;
- Hypothesis 3 students in the treatment group demonstrate values-based behaviours more frequently than those in the control group;

Hypothesis 4 students in treatment group demonstrate values-based behaviours more frequently at time 2 than at time 1.

INSTRUMENT DEVELOPMENT

Measures for (Kirkpatrick training evaluation) level 1 workshop feedback and level 2 sports educators’ learning were designed and collected during the train-the-trainer workshop conducted by SSC for the sports educators prior to the start of the study. The intent of these measures is to collect feedback about the conduct of the workshop and to ensure the sports educators took away the essential learning of applying the framework in their sports curriculum. These results will not be discussed here.

Two scales were developed to measure level 3 sports educators’ application of the framework principles and students’ demonstration of values-based behaviours, forming the impact analysis instrument. The first measure is a 15-item values inculcation practices scale that measures the frequency to which sports educators applied the various principles and practices in their sports lesson (e.g., “During the PE lessons, my PE teacher explains how certain values can be demonstrated”). The second measure is a 30-item student values scale that measures the frequency to which students demonstrated values-based behaviours during their sports lessons (e.g., “I follow the rules of the game even when others do not”). This scale was adapted from the Prosocial and Antisocial Behaviour in Sport scale developed by Kavusannu and Boardley (2009) and contextualised to measure core values of respect, responsibility, resilience, integrity, care and harmony. Both measures used a 5-point Likert scale, ranging from 1 = Never to 5 = Very often. Both scales were tested for reliability and validity², and results revealed that both scales demonstrated good reliability and validity.

¹ However, at the time of publication, only data from three schools were available.

² Cronbach’s Alpha and Exploratory Factor Analysis (EFA) were conducted to test for scale reliability and factor structure.

DATA COLLECTION AND ETHICS CONSIDERATIONS

This study was conducted with the approval of Ministry Of Education and the individual schools. Students were briefed on issues of confidentiality and informed consent. Specifically, students were briefed that although they were required to indicate their names and class registration numbers in order to match time 1 and time 2 data, they were assured that their responses would not be revealed to their school for any assessment purposes. Regarding informed consent, students were explicitly explained that the research was entirely voluntary and they were welcome to withdraw from the study at any point.

All measures were administered via a paper-and-pencil survey. Data were collected within each class in a large group setting, where students were told that the data were collected as part of a research project to gather feedback about their sports curriculum. Through the survey, students rated the extent to which their sports educators applied values inculcation principles identified by the framework during their sports lessons and the extent to which they demonstrated values-based behaviours during their sports lessons.

RESULTS

Hypothesis one and two predicted that sports educators in the treatment group applied the framework principles more frequently than those in the control group and at time 2 as compared to time 1. See Figure 3 for a graphical representation of the results. Results revealed that sports educators in the treatment group applied the framework principles significantly³ more frequently than those in the control group⁴. Results also revealed that sports educators in the treatment group significantly applied the framework principles more frequently at time 2 than at time 1⁵. Overall, these results suggest that students who participated in sports lessons that were integrated with the framework observed that their sports educators applied the framework principles and practices more frequently than those in the control group and at week 10 of their sports curriculum as compared to the start of the sports curriculum.

Hypothesis three and four predicted that students in the treatment group demonstrated values-based behaviours more frequently than those in the control group and at time 2 as compared to time 1. See Figure 4 for a graphical representation of the results. Results revealed that students in the treatment

³ When 2 means are significantly different from each other, it is interpreted that there is 95% confidence that the difference between the 2 means are not due to chance.

⁴ A between-groups t-test was performed to determine whether sports educators in the treatment group (mean = 4.0) significantly applied the framework principles more frequently than those in the control group (mean = 3.6; t = 7.70, p < .001).

⁵ A repeated measures t-test was performed to determine whether sports educators in the treatment group (mean = 4.0) significantly applied the framework principles more frequently at time 2 than at time 1 (mean = 3.6; t = -9.90, p < .001).

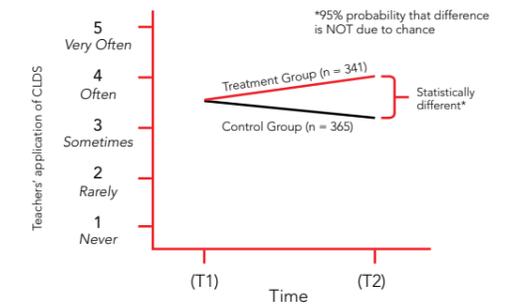


Figure 3. Results for sports educators’ application of the framework principles

group demonstrated values-based behaviours significantly more frequently than those in the control group⁶. Results also revealed that students in the treatment group significantly demonstrated values-based behaviours more frequently at time 2 than at time 1⁷. Taken together, these results suggest that students who participated in sports lessons that were integrated with the framework reported demonstrating the values-based behaviours more frequently than those students in the control group and at week 10 of their sports curriculum as compared to the start of the sports curriculum.

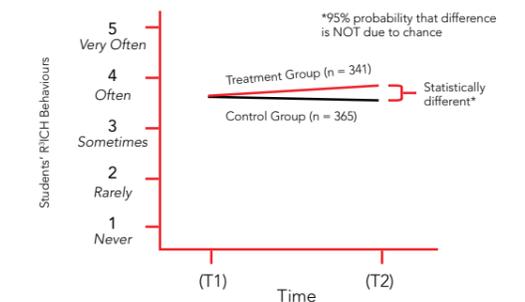


Figure 4. Results for students demonstration of values-based behaviours

Additional analyses were performed to explore the possibility of decreasing levels of actual skill development and enjoyment of the sport during sports lessons that were integrated with the framework. To address this concern, students were asked “How much did you enjoy learning that sport/activity?” and “How confident are you now in playing that sport/activity?” using a 5-point Likert scale (1 = Not at all to 5 = Very much) during data collection at time 2. Results revealed a positive relationship between skill development, enjoyment and sports educators’ application of the framework principles⁸. In other words, the more frequent sports educators’ facilitated values inculcation through the framework

during sports lessons, students perceived greater levels of enjoyment and actual skill development of the sport.

Finally, qualitative data were also collected to gather sports educators and students feedback regarding their experiences of integrating the framework into the sports curriculum and participation in sports lessons that were infused with values inculcation principles and practices respectively. In addition, sports educators and students shared positive stories about some of their lessons learnt regarding the character and leadership development through sport framework. Taken together, both quantitative and qualitative data provided converging evidence for the effectiveness of the framework to facilitate values inculcation through sport.

LIMITATIONS

One limitation of the current study is the self-report nature of the level 4 measure of students' demonstration of values-based behaviours. It is recognised that self-report ratings are often inflated due to human's tendency of presenting oneself in a positive light (i.e., social desirability). However, the effects of self-report bias are reduced in the current study because the absence of significant findings in the control group showed that the positive effects of the 'framework intervention' were isolated in the treatment group. Future research could explore using objective indicators for measuring students' demonstration of values-based behaviours.

CONCLUSION

SSC conducted an impact analysis study to determine the effectiveness of the framework for inculcating values as part of the schools' sports curriculum. The impact analysis study employed a combination of a treatment-control and pre-post research design over a school term of approximately ten weeks. Two scales were developed to measure sports educators' application of the framework principles and students' demonstration of values-based behaviours during sports lessons. Overall, the results provide positive evidence that the framework is effective in supporting sports educators to integrate and apply various values inculcation principles and practices into their existing sports curriculum and lessons, and in turn, increase the behavioural frequency of students demonstrating values-based behaviours during sports lessons. Finally, the integration of the framework to facilitate values inculcation in sports did not reduce students' enjoyment and actual skill development aspects of the sports lesson.

REFERENCES

- Kavussanu, M., & Boardley, I. D. (2009). The prosocial and antisocial behaviour in sport scale. *Journal of Sport & Exercise Psychology*, 31, 97-117.
- Kirkpatrick, D. L. & Kirkpatrick, J. D. (2006). *Evaluating training programs: The four levels (3rd Edition)*. San Francisco, CA: Berrett-Koehler Publishers Inc.

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⁶ A between-groups t-test was performed to determine whether students in the treatment group (mean = 4.0) significantly demonstrated values-based behaviours more frequently than those in the control group (mean = 3.8; $t = 4.50$, $p < .001$).

⁷ A repeated measures t-test was performed to determine whether students in the treatment group (mean = 4.0) significantly demonstrated values-based behaviours more frequently at time 2 than at time 1 (mean = 3.9; $t = -3.70$, $p < .001$).

⁸ Bivariate correlations were performed to determine the relationship between student enjoyment and skill development during sports lesson and sports educators' application of the framework principles. Correlations ranged between .32 and .42 ($p < .001$).