

SUMMARY OF Ph.D. DISSERTATION

School	Student Identification Number	SURNAME, First name Ichikawa Teruhisa
<p>Title</p> <p style="text-align: center;">Construction of “intellectual space” to improve cooperative goal achievement (CGA)</p>		
<p>Abstract</p> <p>Recently, there are an increasing number of people who, despite having high individual ability, cannot work effectively in group situations. The research recorded in this thesis designs and tests an intellectual space for improving cooperative goal achievement (CGA), going beyond previous research in this area, which has tended to attribute CGA improvement only to the beneficial effect of group learning.</p> <p>In this research, it is posited that the root cause of this problem is lack of individual autonomy within cooperative relationships and lack of continuity in the group relationships. To ameliorate this situation, I propose to construct a set “intellectual space” for self-defined cooperative activity and feedback thereof. I used four environments to evaluate my proposal: an elementary school; a technical college; a university; and a corporate laboratory. In each case, improvements were observed in group intellectual activity as well as overall cooperativeness.</p> <p>In educational environments, increase in learning desire was observed, and this observation led to the expansion of the conception to other group activity venues. In a research environment, improvement in intellectual productivity and an increase in research grant awards were observed.</p> <p>Elementary school experimental observations: In a mathematics class, group learning was combined with extramural learning. As a result, a competing spirit was nurtured, the conception extended, and CGA improved.</p> <p>Technical college observations: Group learning with project management was introduced into a class on knowledge engineering and the space of the result announcement and questions and answers on a web-base were provided. As a result, an active discussion session occurred, learning desire rose, and CGA improved.</p> <p>University observations: Group learning was introduced at the beginning and end of a lecture given in a large classroom. Students were told that the objective of the project was a group presentation on study results. As a result, an active question and answer session occurred, learning desire rose, and CGA improved.</p> <p>Corporate laboratory observations: Goals as determined by the section research manager were given to group members, with the hope of observing individual improvement in quality of day-to-day research activity. As a result, CGA improvement was observed, as was an increase in patents and research funding received.</p> <p>The problem in the future will be to keep the goals fresh, and to continue moving towards them, to reduce stress load on teachers in educational environments, and to increase application area in research environments.</p>		