Does Online-Teaching have an Effect on the Outcomes of Ethics Courses?[1]

Georg Lind
University of Konstanz[2]

Summary

The *Instituto Tecnologico y de Estudios Superiores de Monterrey* (ITESM) requires all its students regardless of their career to take ethics courses. Some of these courses are taught traditionally in classrooms, others are taught online. Online courses are more convenient and cheaper for the students to take (they can be taken at home or at least in one's home town). However, many students are reluctant to take courses online because they miss the direct contact with their teacher. From a didactic point of view, online-teaching indeed narrows the communication channel available in classroom teaching, especially in regard to the communication of emotions and feelings, which are the very base of the inter-personal relationship needed in subject fields like moral competence.

To find out, whether ethics courses can be taught online rather than in classroom without losing out on their impact on the moral development of students, the ITESM Ethics Values Center (Monterrey Campus) submitted four courses for scientific evaluation of their effect on moral judgment competence. The only effect criterion for this evaluation is "procedural ethical knowledge"" i.e., moral judgment competence as defined by Lawrence Kohlberg (1964): "The capacity to make decisions and judgments which are moral (i.e., based on internal principles) and to act in accordance with such judgments" (p. 425). This competence was measured by the C-score of the Moral Judgment Test (MJT) by Lind (2004). In addition, moral attitudes were assessed with the same test. No indices of declarative knowledge (i.e., knowledge of ethical concepts and theories) were assessed. Their assessment is already done through regular achievement tests.

Two of the courses were taught online and two in classroom, both by the same two teachers and the same material. All participating students were tested at the beginning of the course (middle of January 2005) and also on completion of the course mid May 2005). 120 students participated in these courses, some participated only in the first and some only in the second survey. Slightly more then half (N=56) of the students participated in both surveys and responded to all questions. Only their data are used in this analysis. The high attrition rate does not invalidate the analysis but should be kept in mind when drawing conclusions. In general, high attrition rates bias the findings

[1] Konstanz, 2005. Minor revisions: Ja. 15, 2007.

[2] Contact: Prof. Dr. Georg Lind, Department of Psychology, University of Konstanz, 78457 Konstanz, Germany. Email: georg.lind@uni-konstanz.de Web: http://www.uni-konstanz.de/ag-moral/

toward the higher scores on competence tests, and thus lead to an overestimation of base rates. However, there is no clear evidence linking attrition rates to gain scores, that is, biasing the success of a course in either direction.

Because the ethics courses in this study had only a moderate impact students' development of moral judgment competence, the findings should be interpreted with great caution, considering not only the summative finding but also the findings from the supplementary analysis given in the text below. The summative finding is that neither mode of teaching (classroom or online) showed to have any advantage. The (moderate) gains in moral judgment competence were almost identical in both groups, namely about 3 out of 100 points (on the C-scale). This gain compares favorable in regard to other college level ethics courses evaluated in Mexico, in which no gains were found. But this moderate gain falls short of the gains of ten and more C-points, that are typically found in courses using the Konstanz Method of Dilemma Discussion (Lind, 2007).

Considering this and all other findings from this evaluation study, I believe it is premature to recommend either mode of teaching as superior to the other. Rather I would recommend to invest more efforts in improving the outcomes of the ethics courses regarding their impact on students' moral competencies and then check again which mode provides the best frame for effective teaching. It may turn out that more effective moral teaching methods are bound to classroom teaching because they require the participants in the course (students and teachers alike) to communicate some degree of moral emotions and feelings which cannot be easily communicated through an electronic medium.

However, this may not be a question of "either-or" but a question of the most effective combination of both teaching modes. We have designed such an effective training program which is extensive but also affordable. This training program, called "Moral and Democratic Learning" (MODEL) encompasses 100 hours, split into three parts: a) a five-day intensive *training and reflection* workshop (six hours plus homework), b) half a year hands-on-training on the job, i.e., during regular class teaching, with support by fifteen developmental learning tasks, learning-tandems and peer-supervision, and c) a five-day *reflection and certification* workshop in which the participants present their portfolios and best-practice-videos. To assure quality and effectiveness, the whole program is always evaluated by pretest-posttest tests both of the teachers/professor and of their students.

The MODEL training program has been used in several instances in Germany and in Colombia. Presently, the State of Baden-Wuerttemberg offers this training to thirty secondary school teachers with an option to extend the program to all secondary teachers in the state. The ITESM has offered the first part system-wide to 110 professors at the Guadalajara campus in the spring of 2004, and supported the translation of the KMDD teaching handbook (Lind, 2007). If ITESM professor would be offered a complete program, some of them will certainly attain enough instructional proficiency to be able to direct KMDD-courses themselves so that ITESM could become an educational resource for Mexico or even Latin-America.

Acknowledgments

This study has been supported by a grant of the *Instituto Tecnologico y de Estudios Superiores de Monterrey* (ITESM) to the author and to Magr. Marlene Schroeder. The ITESM has not interfered with the analysis and the interpretation of data in any way.
The author takes up the sole responsibility for the correctness of the data analysis and the conclusions drawn from it. He has no other commitment to the ITESM.
I wish to thank Mrs. Schroeder for organizing the field work and giving support to the design and analysis of this study, and Juan Gerardo Garza, Susana Patiño, and Belinda Jiménez, all of ITESM, for this fine collaboration.

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1. *Moral judgment competence* as a criterion for the effectiveness of ethics teaching and its measurement: Definition and measurement

Kohlberg (1964; 1984) integrated various previous attempts to measure moral judgment competence and, eventually, founded a new, promising paradigm of moral psychological research. He picked up Piaget's assessment technique of using moral dilemmas as a starting point, and Pittel and Mendelsohn's (1966) criteria for measuring internal dispositions, and, most importantly, provided a clear conceptualization of the relationship between moral ideals and moral behavior through his definition of moral judgment competence, which he defined as "the capacity to make decisions and judgments which are moral (i.e., based on internal principles) and to act in accordance with such judgments (Kohlberg, 1964, p. 425; see also Kohlberg, 1984, p. 523).

Kohlberg's definition of moral judgment signified a true paradigm shift in a Kuhnian sense (Kuhn, 1962) as it was revolutionary in three ways:

1. For the first time, morality is defined in terms of a competence (or ability or capacity) rather than merely as an attitude or value and, through this the unfortunate separation Measurement of Moral Competence between the cognitive and the affective domain of behavior is overcome.

2. Moral behavior is defined in reference to a subject's internal, accepted moral principles, rather than to external social norms and standards (as in the rule-conformity definition of morality).

3. The enactment of one s judgment is an integral part of the definition, making all three aspects (the affective, cognitive and behavioral aspect) part of a proper definition rather then viewing them as separate components, which can be observed or measured in isolation from one another.

Lind (2004) picked up Kohlberg's definition of moral judgment competence and constructed the Moral Judgment Test (MJT), which is the first method which allows us to assess purely the competence aspect of moral behavior, not confounded with moral attitudes and values, which can be assessed separately with the MJT. The MJT has been constructed in the early Seventies and the present version was released in 1977. Since then the MJT has been translated into 25 languages and each translated version has been submitted to rigorous validation studies (Lind, 2005b).

Its main index is the so-called "C-score" (the C signifying "competence"), which ranges from 0 to 100, zero meaning that the participant reveals no moral judgment competence, and 100 that he or she reveals a perfect moral judgment competence. In international studies, the scores for college students range between 15 and 40. Mexican college students were found to have C-score means between 15 and 35. A direct comparison with other studies is hardly possible, because various factors can contribute to difference which would need to be hold constant or to be

estimated on the basis of systematic comparison studies. When we make such comparisons in this study, we do them only tentatively with the above caveats in mind.

The C-score indexes the participant's behavioral moral competence or procedural moral knowledge in contrast to tests of "declarative knowledge", which measure how well the participant has learned moral concepts and theories, and also in contrast to tests of moral attitudes, which measure the participants' self-perception of moral values and ideals or how he or she wants to be seen by others. While attitude tests can be simulated by participants in any direction (depending on his or her need for social approval, or social desirability), knowledge tests cannot be simulated upward. While tests of conceptual and theoretical knowledge assess only the participants' awareness of moral theories, tests of moral competence measure the participants ability to apply his or her moral principles to actual decision-making.

Particularly, the MJT measures the degree to which a participant is able to engage in a moral discourse, that is, to listen to and evaluate rationally arguments pro and contra a decision on a moral dilemma even if he or she is emotionally aroused and inclined to defend his or her opinion on irrational grounds. It has been shown in many studies that most people tend either to avoid any discourse at all on controversial moral issues or to evaluate arguments only in regard to their opinion-agreement, but not in regard to their moral quality. In a democratic society, however, citizens need to engage in a peaceful moral discourse in order to reach an agreement without resorting to violence and oppression (see, e.g., Habermas, 1995).

In experimental and correlational studies, moral judgment competence – as indexed through Kohlberg's interview method and the MJT's C-score – has shown to be systematically related to many important areas of every-day decision making and life behavior (cf. Lind, 2004, 2007, 2005b):
- Keeping rules and avoiding transgression of legal norms
- Offering help to people in distress
- Engagement for basic human rights
- Efficient decision making
- Memorizing facts
- Accepting supervision to improve professional practice (e.g., teaching), and
- Using new, unaccustomed methods in ones profession (e.g., teaching).

The MJT has been used in several studies on Mexican high school and college students, and also in evaluation studies in which the effect sizes of ethics teaching, of moral dilemmas discussion and of learning environments were analyzed (Hernandez & Moreno, 2001; Morfin, 2002; Patino, 1999; Werner, 2000).

2. Check on the validity of the assessment of moral judgment competence

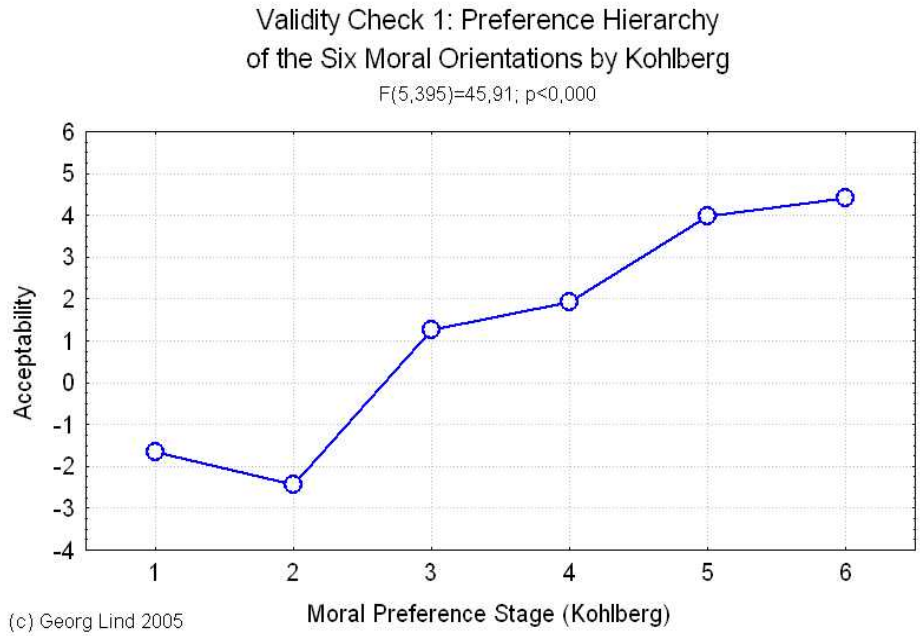
The Moral Judgment Test (MJT) used in this study to assess moral judgment competence has been thoroughly checked for theoretical and cross-cultural validity, using three very rigorous criteria (Lind, 2004):
a) *Preference hierarchy*, that is the ordering of participants' acceptance (or rejection) of certain moral orientations as defined through the moral stages by Lawrence Kohlberg (see, e.g., Kohlberg, 1984).
b) Affective-cognitive parallelism, that is, that there is a systematic correlation pattern between affective aspects of moral judgment behavior (i.e., moral attitudes) and cognitive aspects (i.e., moral judgment competence) in such a way that the higher their moral judgment competence is the more pronouncedly do participants also accept principle moral reasoning and reject pre-conventional moral reasoning.
c) *Quasi-simplex structure*, that is, that participants' attitudes towards the Kohlberg's developmental typology of moral orientations are similar for "adjacent" orientations and very dissimilar for "distant" orientations.

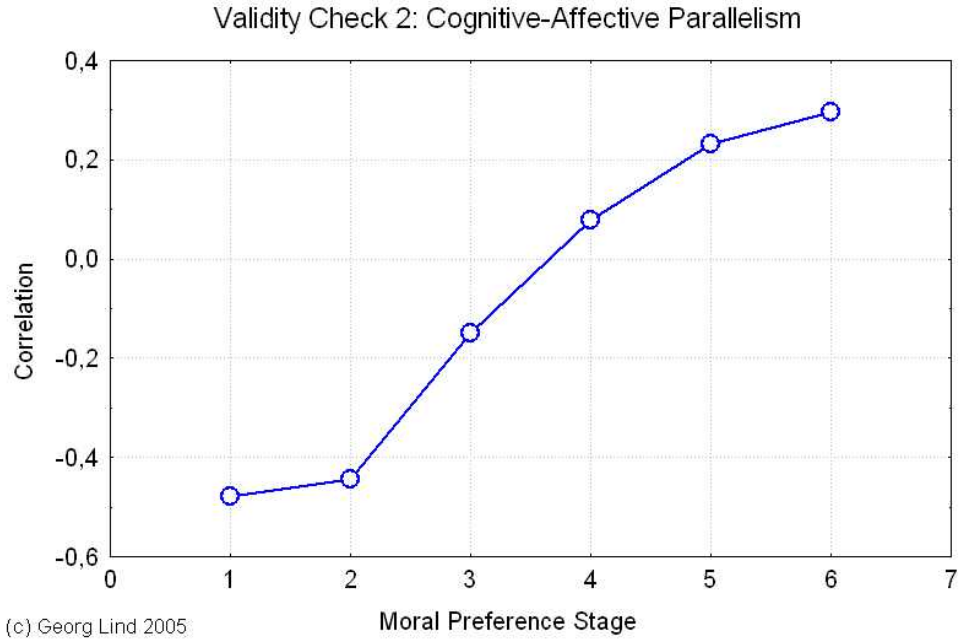
The MJT has been translated into Spanish and validated according to the three criteria (preference hierarchy, affective-cognitive parallelism and quasi-simplex structure) by Dr. José Luis Trechero from the University of Córdoba, Spain, and revised by MA Cristina Moreno from the University of Monterrey, Mexico.

Apart from the validation of the test, Lind (2004) recommends to use the same criteria to check on the validity of each application in order to make sure that the data collection process is free of technical problems. Because these criteria are very rigorous and reveal even slight problems, not all checks need to be performed although it is recommended to do all of them.[3]

First, the raw data have been submitted to an visual inspection. Minor problems (e.g., two omissions of values and one out-of-range value) were detected and corrected through consultation of the original data sheets (questionnaire). Second the data were submitted an integrity test by applying two of the validity criteria proposed by Lind (2004). As shown below, both criteria were very well met by the data, so that we can be sure that the data are technically sound.

[3] In this study we ran only two checks for technical reasons. The statistical program used in most of theses studies, Statistica 5 turned out not to be fully compatible with Windows XP, anymore, and would not depict factor loadings.





The above graph shows that the different moral orientations as defined in Kohlberg's typology of Moral Orientations are preferred by the participants almost exactly as Kohlberg had predicted, and as nearly all studies of moral preference hierarchies have shown (Lind, 2004). Only the preferences for Stage 1 and Stage 2 moral reasoning has been slightly inverted, which is also found in most other studies.

In the above graph, the students' preferences for each moral orientation type has been correlated with the C-index for moral judgment competence also given by the Moral Judgment Test (MJT). This finding is also fully in line with theory and empirical findings from many studies, which unanimously show this pattern: the preference for lower moral orientations is negatively correlated with moral judgment competence, and the preference for higher moral orientations is

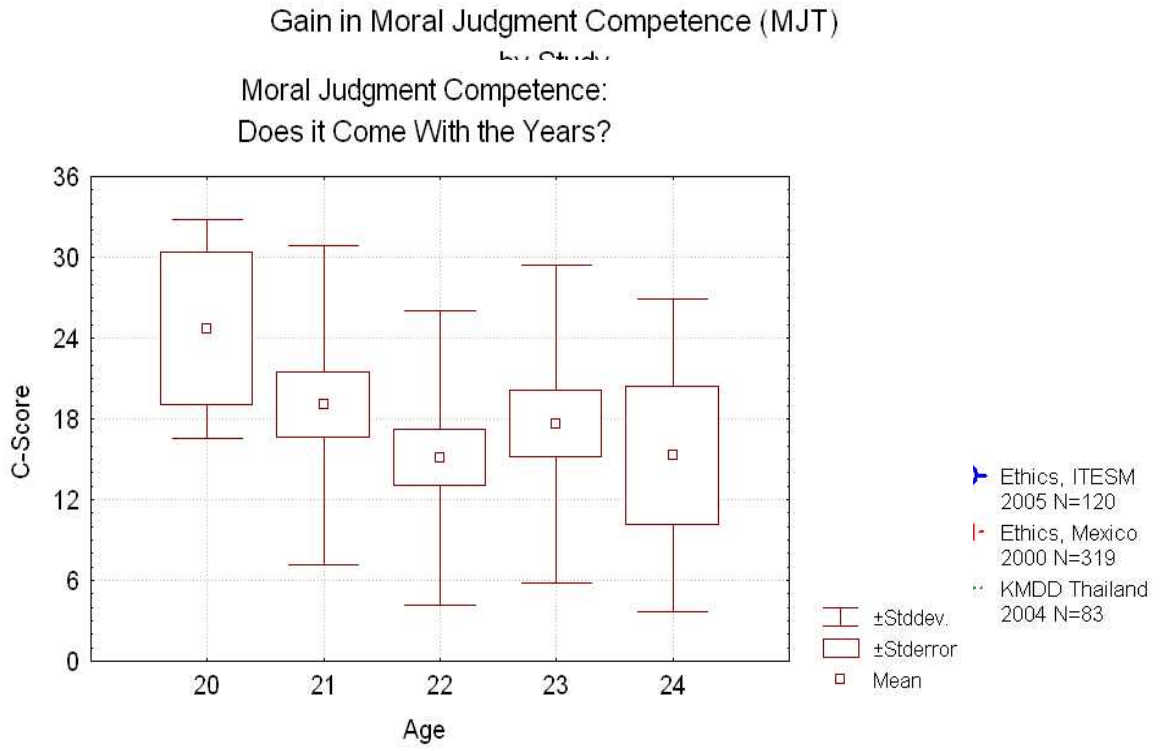
positively correlated, whereby the correlations show a regular pattern as seen in the graph above. In other words, the more morally competent students are the more do they prefer highest stages of moral reasoning as adequate for solving moral dilemmas, and the more do they reject lower stage reasoning as inadequate.

The third criterion (quasi-simplex) could not be tested for technical reasons. After changing to windows XP, it turned out that the statistical program was not fully compatible anymore and could not produce certain types of graphs anymore. Because the two other criteria have been fulfilled so clearly, it seems not likely that the third criterion would change this picture in any fundamental way. We can safely conclude that the MJT had been administered in an appropriate way and that the data are meaningful.

3. How much moral judgment competence gain students in one semester (from pretest to posttest)?

Overall, the four ethics courses included in this study, produced an increase in moral judgment competence. This is more than can be expected on the basis of several intervention studies of Mexican students which produced no effect at all. However, this increase is rather modest, as can be seen from a comparison with the effects of courses using the Konstanz Method of Dilemma Discussion (KMDD). For example, Lerkiatbundit et al. (2004) found a gain of 14 C-points in moral judgment competence after a six-week seminar. We found similarly high gains in university students who attended KMDDs during regular seminars.

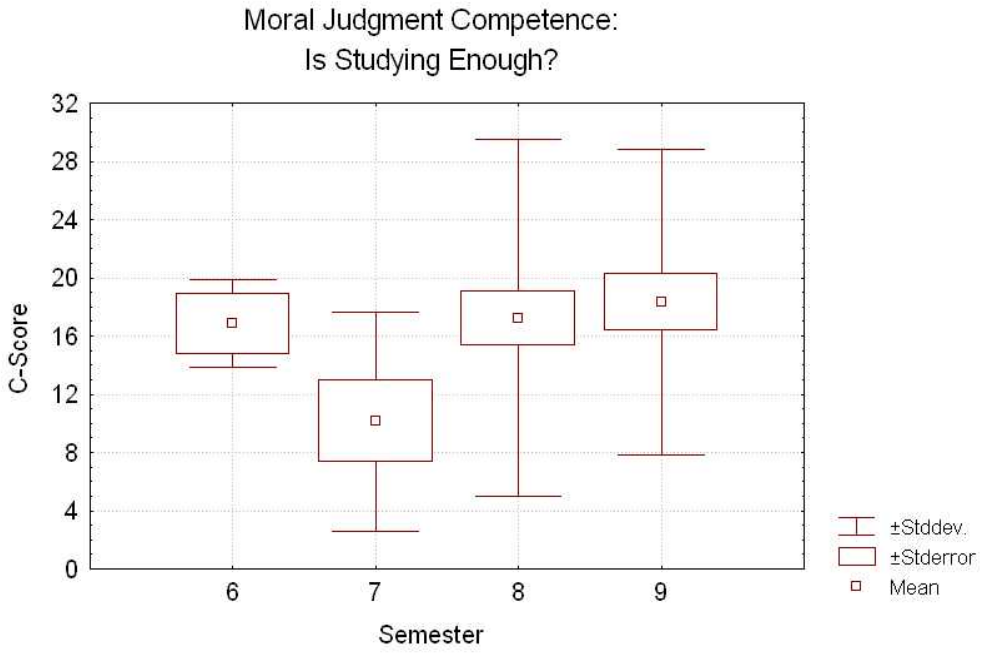
4. Other ways to acquire moral judgment competence:



a. Does it come with age?

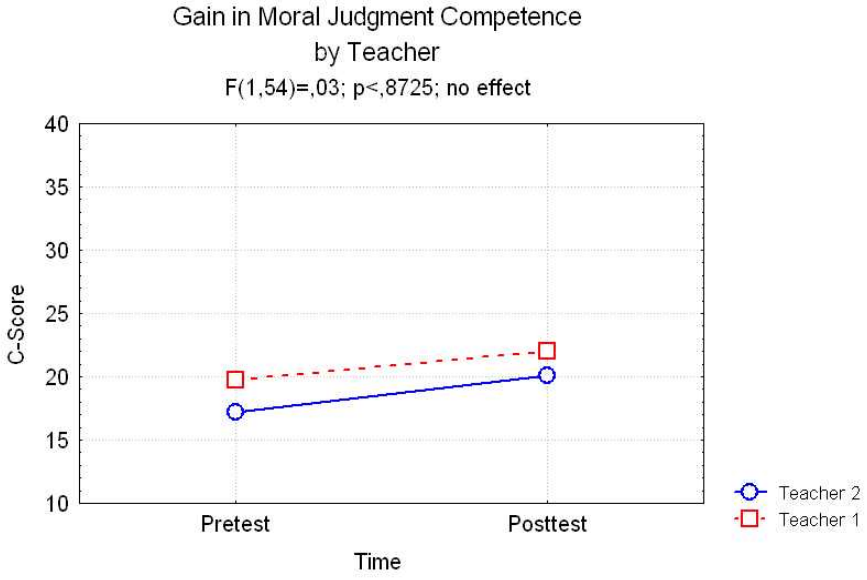
In the above graphs, the C-score for moral judgment competence at the beginning of the ethics courses is depicted for different age levels. It can be clearly seen that moral judgment competence is not promoted merely by biological age. On the contrary, it seems that it goes down with age. However, we must remember that this is not a longitudinal but a cross-sectional study and several explanations may hold valid, which cannot be clearly judged by these data. Considering the often found positive relationship between moral judgment competence and learning ability, it could be that this finding indicates that students with high moral judgment competency have a faster pace of studying. Hence, education and learning is important for moral development and not just aging.

b. I studying enough?



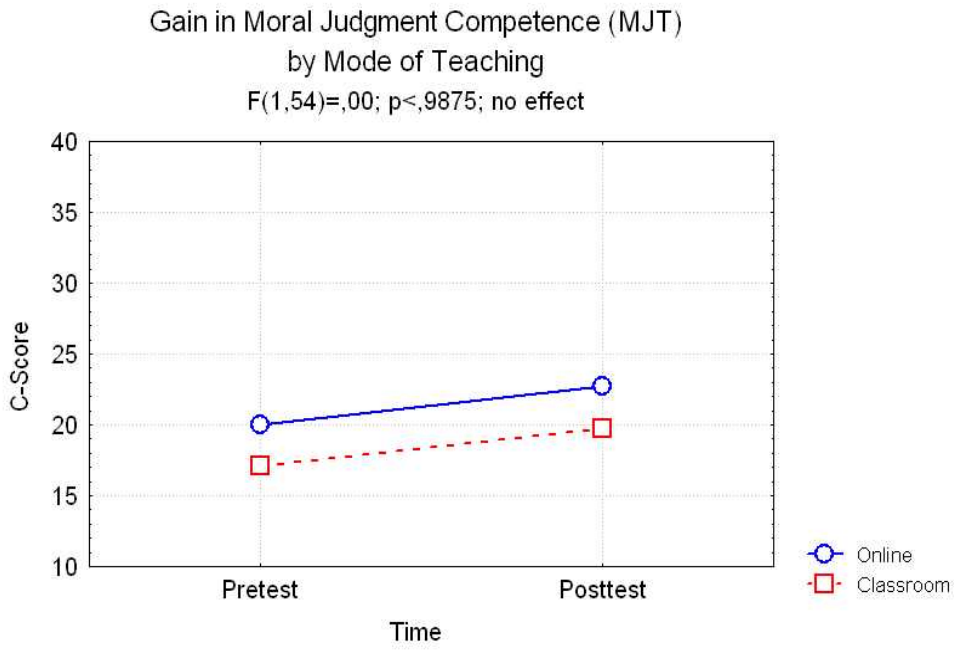
Time of study does not help to foster moral judgment competence neither, unless the learning environment is specifically designed for that end. Students in the ninth semester started their ethics course on the same level of moral judgment competence as the students who were in their sixth semester.

c.



d. Is it the teacher?

The teacher's training surely plays an important role in effective moral learning programs (Lind, 2007) but if there is not specific training, we should not expect much differences in outcomes by teacher. The courses in this program were taught by two different teachers whose students showed very similar gains in moral judgment competence.

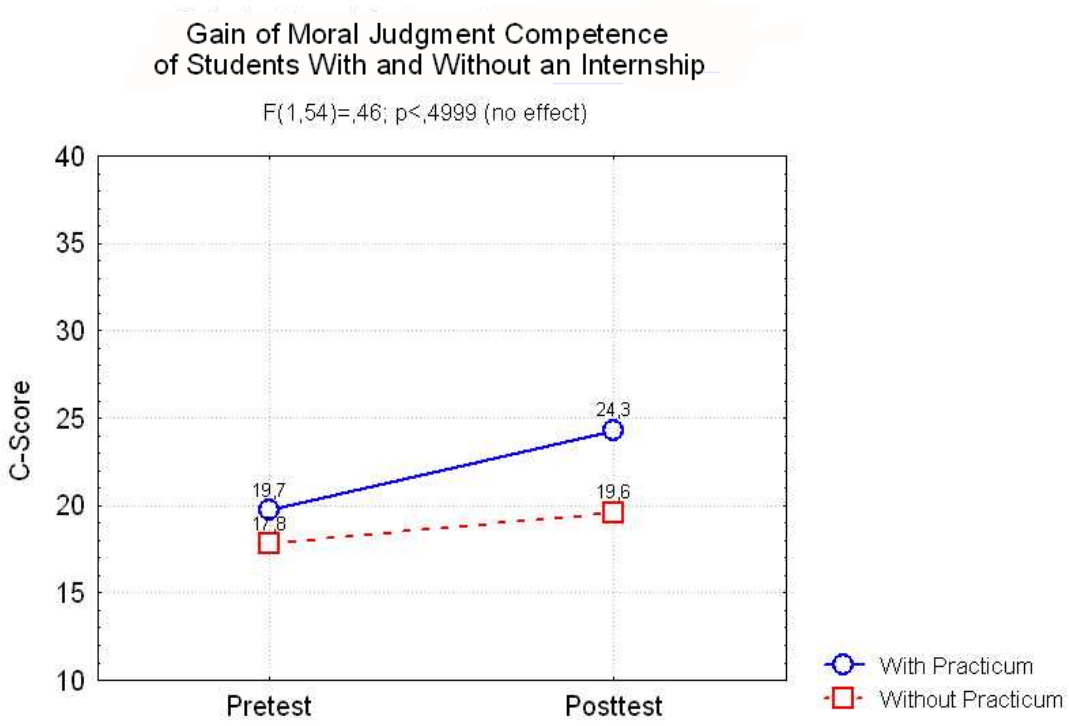


5. Does the gain depend on the mode of teaching (classroom versus online)?

As can be taken from the graph above, the mode of teaching (classroom versus online) does not make any difference. In both cases, the gains in moral judgment competence are visible but modest. Interestingly, the students who were assigned to the online courses had a slightly higher moral judgment competence to begin with. If these students were self-assigned, we could interpret the choice of modern modes of learning in the light of our *Educational Theory of Moral Development* (Lind, 2002) as a positive outcome moral-cognitive development, that is, as a consequence rather than as a condition of moral learning.

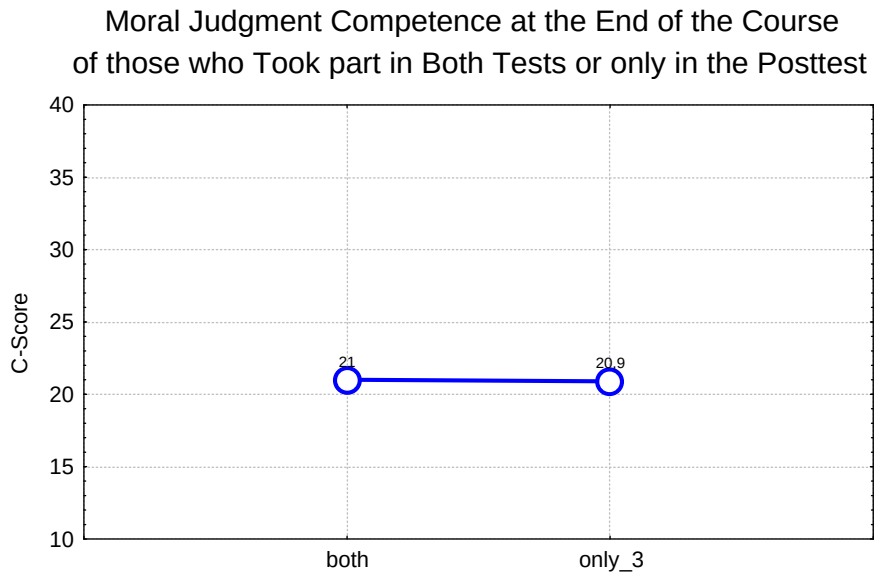
The graph below shows that the mean C-score at the end of the course is not distorted by selection effects. Those who have participated in both surveys show the same mean C-score as those who participated only in the posttest but not in the pretest (because they came late).

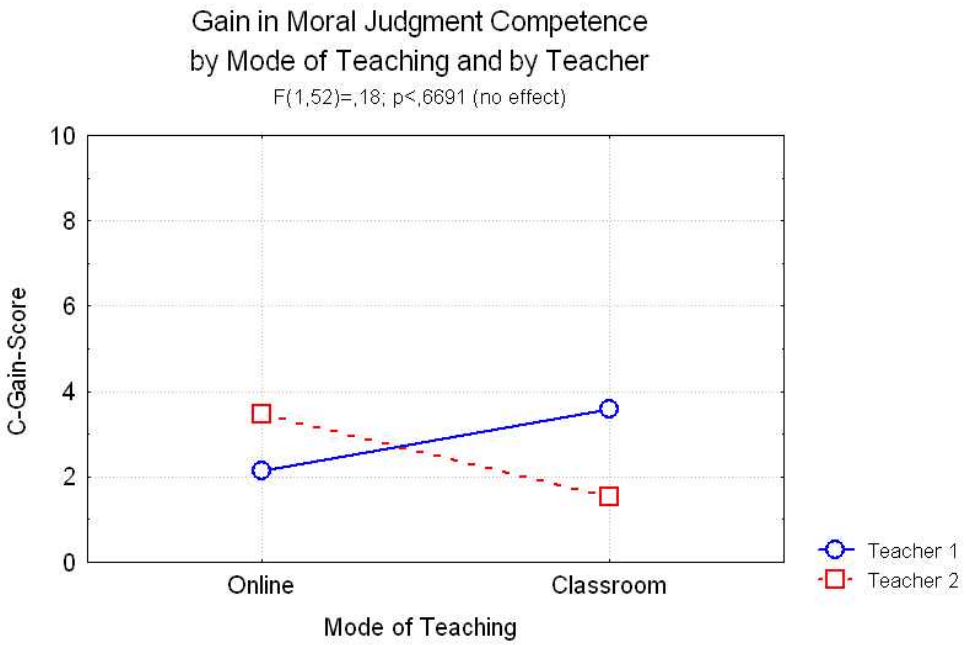
a. Does a internship make a difference?



The effect of an accompanying internship are small but visible. As we do not have any detailed information on the kind of internship assessed here, we cannot draw any conclusions from this finding anyway. Yet, it should be noted that a internship may supply the student with those kinds of opportunity for *responsibility-taking* which have shown to be decisive for moral learning (Lind, 2002; Patiño, 1999). The effects of the internship could possibly be enhanced by emphasizing these opportunities.

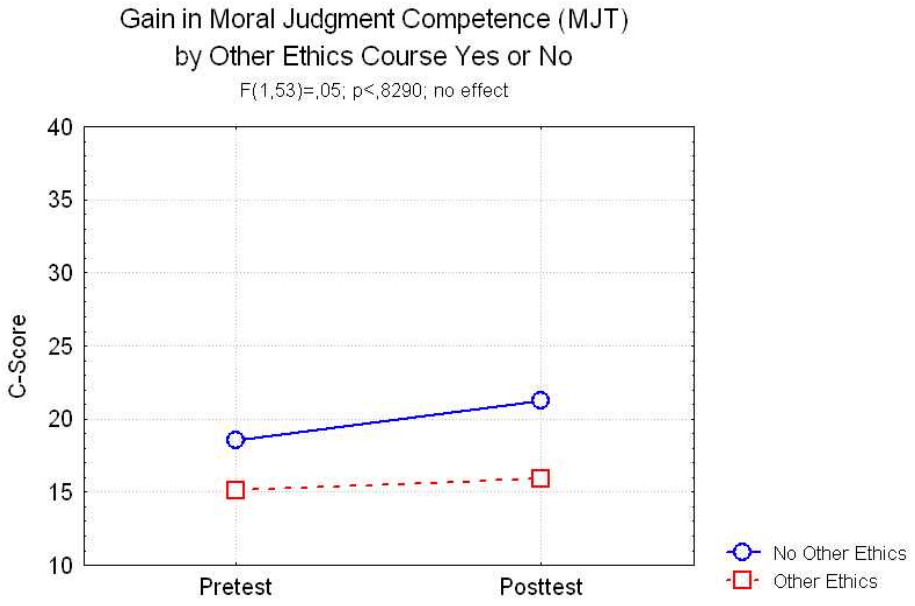
b. Do prior ethics courses cause greater gains?





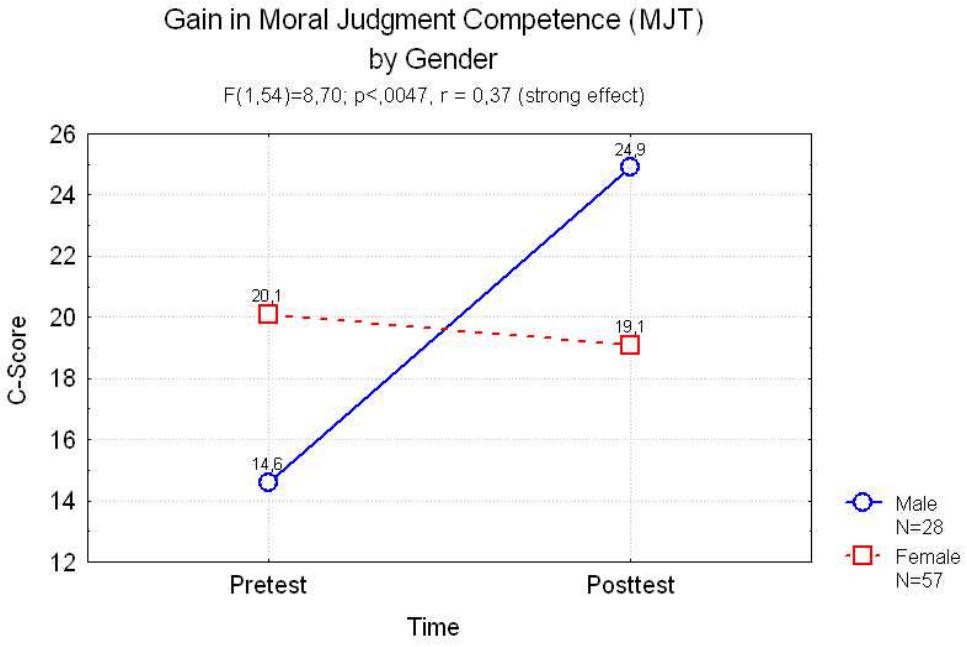
Although it seems as there is an effect, this effect is much too small to be noteworthy here. Having had no prior ethics training seems to be of advantage in regard to developing moral competencies in the present courses. Yet the differences in scores are very small und may be due to chance only.

c. Do teachers differ in effectiveness?



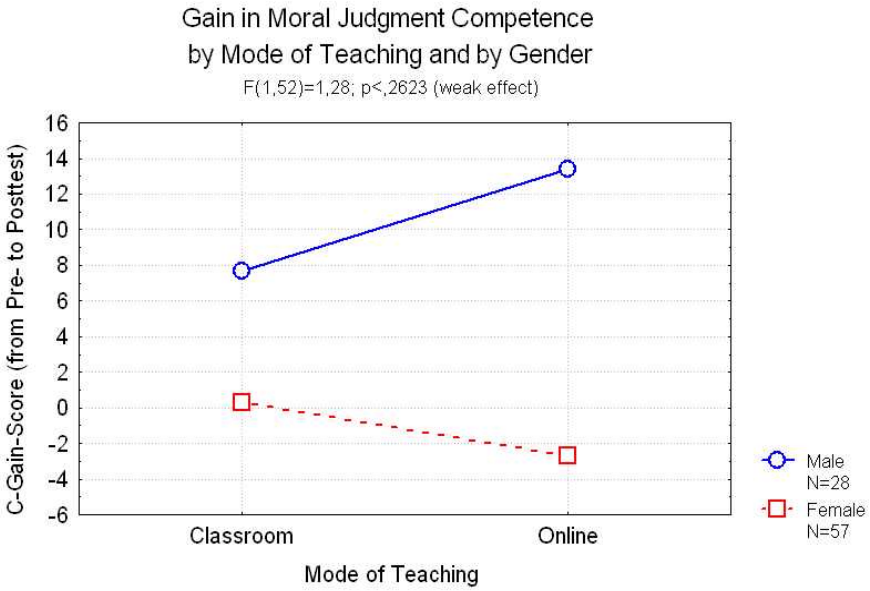
Here again, the difference look spectacular but are much too small to support or refute any presumption. One of the two teachers appears as to be slightly more effective in the classroom, the other to be slightly more effective in online courses. But note that each teacher taught only one course in each mode and the small differences could well be caused by many other factors including self-assignment and student-teacher match.

d. Is there a gender gap?

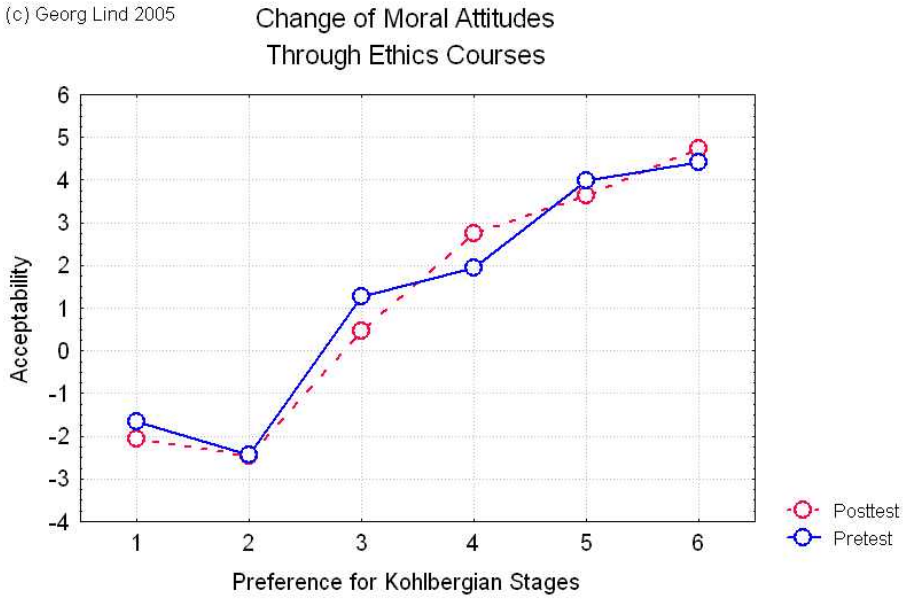


Yes , there is a big gender gap, but one contrary to some popular theories. Initially, the male participants revealed a much lower moral judgment competence than the female participants. Because the sample size is to small to partition it by age, semester and career, we can only speculate about the reasons for this. But we can safely say that the MJT is not biased against females (nor are Kohlberg's interview method or other method of measurement biased in that respect) as has often been alleged. Secondly, the data suggest that male students profit ore from these ethics courses in spite of the fact that the majority of participants is female (male dominance is often said to cause females' lack of learning) and that the two teachers are female. The reader may have access to additional information which allow him or her to explain this phenomenon in more depth than is possible here.

The finding depicted below fits more readily into classic feminist research. It suggests that female students are disadvantaged by courses taught online in comparison to male students, who profit more from online courses. In the online courses the sexes are about 16 gain-points apart, which is much more than the 8 gain-points in the classroom taught courses. In other words, modern information technologies may mean a hurdle to women rather than a help.



6. Do the moral attitudes change through ethics courses?



The above graph suggests that overall the ethics courses caused hardly any changes to the moral attitudes of the participants – a finding which is fully in line with many other studies that found

hardly any attitude changes in courses which were designed to foster knowledge and competencies rather than to indoctrinate. However, there is a slight change that might be noteworthy, namely the slight decrease of preference for Stage 3 reasoning (orientation toward the moral values of the immediate social group like family, peers) and the simultaneous increase of Stage 4 reasoning (orientation toward the moral values of the larger community, the laws).

Conclusions

Should ethics be taught online or in classroom? I think this studies shows that the question should be better posed this way: How can we increase the effects of moral teaching altogether?

The ethics courses evaluated in this study had a visible but small impact on their participants moral judgment competence regardless of the mode of teaching (classroom versus online). Many of the findings support of the *Educational Theory of Moral Development*, that is, they support the notion that moral competencies do not come by aging or merely by attending any kind of classes but by deliberate efforts to design an optimal learning environment. In that design, both modes – classroom teaching and online teaching – may be combined to maximize learning outcomes and minimizing costs for the students.

The present finding about the effects of mode of teaching, of course, cannot be generalized to courses in which more effective methods of moral teaching like the Konstanz Method of Dilemma Discussion are used. In that case, the question about the effect of mode of teaching would have to be answered through a new evaluation study.

One particular finding needs to be emphasized here because it may necessitate immediate action, namely the finding that female students are at disadvantage by online courses as compared to their male fellow students. It would be helpful to hear what the participants would have to say about this finding.

The limitations of this study are also obvious. The focus was solely on the effectiveness of ethics courses regarding the development of moral judgment competence. This is what traditional ethics course are about.

However, there is lot of accumulated evidence indicating that only knowledge of ethical concepts and theories does not help students, that is, future social and economic leaders to develop a good moral judgment and to act morally in everyday life (Blasi, 1980; Lind, 2002). Moral judgment competence as measured with Kohlberg's interview or with the MJT is a much better predictor of real-life behavior (Kohlberg, 1984; Lind, 2007; Sprinthall et al., 1995). Therefore, an unanticipated findings in this study is that traditional ethics courses might need to be enriched by more effective forms of moral and character education such as the Konstanz Method of Moral

Dilemma Discussion (Lind, 2007; Lerkiatbundit et al., 2004). This is not an easy undertaking because it necessitates the effective training of teachers and professors.

We have designed such an effective training program which is extensive but also affordable. This training program, called “Moral and Democratic Learning” (MODEL) encompasses 100 hours, split into three parts: a) a five-day intensive *training and reflection* workshop (six hours plus homework), b) half a year hands-on-training on the job, i.e., during regular class teaching, with support by fifteen developmental learning tasks, learning-tandems and peer-supervision, and c) a five-day *reflection and certification* workshop in which the participants present their portfolios and best-practice-videos. To assure quality and effectiveness, the whole program is always evaluated by pretest-posttest tests both of the teachers/professor and of their students.

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Appendix

On the Methods Used

The “acceptability” of the six moral stages as defined by Kohlberg has been measured by summing up the answers to each of the four arguments per stage. The six resulting scales ranged from -16 to +16, that is, four points are equivalent to one point on the response scale in the questionnaire.

Coefficients of correlations express the strength of association between two variables. This coefficient can range from -1.0 to +1.0, whereby “0" means that there is no correlation between the two variables. However, this does NOT necessarily mean that there is no causal relationship, just as a high correlation (+1 or -1) necessarily means that there is a perfect causal relationship. There may be spurious correlations as well as disguised relationships. The assumption of causal relationships must be tested in a more comprehensive way through the study of more empirical analyses and theoretical reasoning.

No tests of statistical significance have been calculated because whole classes were included in the study and no random sampling was needed. Rather coefficients or practical significance or effect size were calculated like the coefficient of correlation. Coefficients above $r = 0.30$ are commonly considered as reflecting strong effects (Lipsey & Wilson, 1993). To allow a good judgment on the practical significance of effects, the boundaries of all scales were reported as well as other findings for comparison.

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