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Student-Led Quality Teams In the Classroom

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The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase involvement in learning.
—Study Group on the Conditions of Excellence in American Higher Education

INTRODUCTION

The central aim of all honors programs is to produce the highest quality of learning experiences possible to students with high motivation and exceptional academic ability (Brown, 2001). The assumption has been for many years that a high quality learning experience is ensured in the traditional (honors) college classroom by small class size and a seminar format.

However, some of these classes are inevitably higher quality than others. Recent teaching innovations open additional instructional options to honors and other courses as well. Process evaluation or assessment can help course instructors learn how to make course adjustments while the course is still underway. Repeated data points can also help to ensure course improvements. This kind of input can be particularly useful when: a course is new and in the development phase, an instructor tries new teaching techniques, an instructor changes, or more simply, an instructor is looking for fresh insights into a course taught many times before. The Innovation Quality (or IQ) program was developed and implemented at Penn State for the past four years to meet these assessment needs. IQ student teams help faculty appraise the quality of teaching and learning experiences in one course across the entire semester. The purpose of this paper is to explain how the program was developed, what its key elements are, and the potential applications it has for honors and other classes on any college campus.

BACKGROUND

Spence (2001) challenged the assumptions of traditional teaching that equate teaching with telling, learning with absorbing, and knowledge with subject-matter content. He points out that professors should be in the business of creating environments where learning occurs rather than professing words in front of an audience. Considerable research backs up this notion as well (see, for example, Donovan et al, 1999; Bruer, 1993; Bransford, et al, 1999). In addition, Angelo and Cross (1994) stress the role of authentic assessment, which is critical in the "new" classroom. More specifically, (1) students need

the opportunity to give and get feedback on their learning before they are evaluated for grades; (2) assessment should involve active student participation in the process; (3) learning can be enhanced through improved teaching; and (4) active collaboration between teachers and students enhances student satisfaction with the course as well as the teacher's satisfaction with teaching. These ideas coupled together demand a form of process evaluation while the course is in session rather than relying solely on summative or outcome evaluation reserved for the end (Angelo, 1999).

Penn State did not have any process in place whereby process evaluations could be implemented on a routine basis, especially if the course instructor desired input on new teaching innovations. This gap was first recognized by Elizabeth Kinland, an honors student, who took it upon herself to develop a student-led evaluation process (Kinland, 2000). The first class assessed was an honors class of 12 students. Later, the student initiative was institutionalized in the Schreyer Institute for Innovation in Learning (or SIIL), still relying almost exclusively on student volunteers. The ultimate goals were to create a low-cost course assessment model that could be transferred to a wide variety of courses or subject matter, scaled up to large enrollment courses as well as honors courses, and which would be generalizable to other campuses. Student engagement was a core concept in this program from the outset.

METHODS

IQ Teams have been implemented in a wide range of classes at Penn State. The impact of the program has been felt in calculus classes with enrollments of over 250 students, math, statistics, political science, and forestry classes with enrollments of approximately 50 students, and honors seminars of approximately eight to ten students. Although the overall IQ Team process at Penn State has a mission to serve the entire university, many honors classes have worked within the IQ Team program. The honors core business curriculum, honors core political science curriculum, as well as honors seminars in sociology and information science and technology have benefited from the Innovation and Quality Team Process.

At our institution, honors classes are often experimental and test new teaching innovations before they are integrated into the larger university curriculum. This model of testing innovation is common across many four-year honors programs. On their honors college informational web-site, for example, the University of North Carolina Chapel Hill states, "we regard the Honors curriculum as a learning laboratory, where new course ideas and new ways of teaching constantly stimulate teachers and students." Innovation and Quality Teams can provide constructive feedback to honors classes as well as other seminar-style classes that are newly developed, especially those that include active and problem-based learning methods of instruction. The central idea of student Innovation and Quality (IQ) Teams was: a small team of 4-6 students enrolled in each participating class would collect data from all the students enrolled in the class at least 5 or 6 different times during the semester, tabulate the results, and report them to a team leader who, in turn, would share the results with the instructor. The team leader is trained and supervised by the IQ Team Coordinator located at SIIL. It should be noted that SIIL is analogous on many other campuses to Centers for Excellence in Learning and Teaching or

other university offices with a mission to support teaching or faculty development. The IQ Team Leader works as a consultant to the IQ course quality team, advising them on survey questions and data interpretation. He or she also meets with the professor, ensuring "grade safety" to any students participating. The IQ teams present their results to the class on a regular basis as well. Presentations generally last only 5-10 minutes every other week.

Through trial and error over several semesters with volunteer professors, SIIL and student volunteers worked out a functional model (see Figure 1). It costs the institution approximately $3,100 to staff and manage seven course quality teams each semester. The costs are covered by small donations from alumni to improve undergraduate education. Suitable preparation is key for team leaders, team participants, and participating faculty. Student leaders need to know general education principles, how to form and guide a team, basic survey construction skills, and data analysis/presentation skills sufficient to guide student volunteers enrolled in a class. This preparation occurs at SIIL the semester before students become team leaders; training is done primarily by peer instruction with oversight by staff at SIIL. Students are awarded one academic credit for their learning and effort. Student team members are recruited on the first or second day of class and are trained by their team leader. Participating faculty also need to be introduced to the concept, assisted in understanding how to utilize the data, and prepared to receive criticism in a positive manner. This preparation generally occurs in tandem with the team participants and team leader in a joint meeting with other team leaders and professors at a single evening meeting within the first two weeks of the semester. Readings are provided in advance to focus the questions and discussion during the meeting. See Kinland, et al. (2001) for further description.

An extensive evaluation of the program was also accomplished as an honors thesis (Kinland, 2000). Currently, the entire initiative is student-run and student-led.

CASE STUDY IN ONE HONORS SEMINAR: GLOBALIZATION AND WORLD TRENDS

A case study of the progression of IQ Teams in an honors course entitled "Globalization and World Trends" illustrates the progression of constructive criticism that students can deliver to an individual professor or team of professors over the course of a semester. IQ Teams have been used in this seminar during two out of the four semesters that it has been offered. The class averages 20-25 students per semester and travels to Washington D.C. to a major think tank, the Center for Strategic International Studies (CSIS), for a four-day immersion and policy-making experience mid-semester. The course is team taught. The coordinating instructor decided to use an IQ team in order to learn how each part of the class was working and to continually build the course over time. The first semester the seminar was offered for one credit (see Table 1). It has now progressed to a three-credit course, based largely on the student feedback from these course evaluations (see Table 2). Each semester that IQ Teams worked with the "Globalization and World Trends" class, at least three surveys were administered. Table 3 provides examples of IQ survey questions as drawn from the first year a team worked in the class and then again in a subsequent year. The first survey in 2000 focused primarily

on process issues in this class. Based on the results of the first IQ team survey, the participating professor changed the mechanisms of the class, clarifying homework assignments and adjusting the pace of class discussion. In contrast, the second survey administered to the fall 2000 class focused on providing feedback on the innovative elements of the honors seminar. Two of the questions focused on a United Nations simulation as well as the weekly *New York Times* discussions held by the class. Based on these survey results, the professor revised the UN simulation and a discussion group was created to focus on *New York Times* discussions outside of class. In other words, the focus of the IQ teams questions shifted from surveys designed to change the class process to a survey that focused on the learning process of the class.

When the first and second surveys were administered in the second year of IQ team involvement, the quality team moved directly into providing suggestions on meaningful learning. Because of the work of the IQ team in the previous semester, several surface learning issues had already been addressed. Therefore, the first survey in 2001 immediately addressed learning issues relating to a "Star Power," a social policy simulation as well as the role of international Humphrey Fellows who visited in the class. The second survey of fall 2001 again focused on learning issues (see Table 3). Altogether, the students wanted more content, more class time, and more activities, hence the revision of the course syllabus in 2001 (see Table 2).

This case of the Honors Seminar "Globalization and World Trends" illustrates that IQ teams address the technical issues of class dynamics as well as provide feedback on innovative teaching techniques, field trips, homework, and ideas for class enhancements. The benefit to both the students and professors in the "Globalization and World Trends" was also probably maximized through implementing an IQ team in two consecutive semesters of the class.

OVERALL IMPACT OF THE IQ TEAM PROGRAM AT PENN STATE

At the end of calendar year 2002, over 334 students had worked in IQ Teams to improve the educational experience of over 4,000 students enrolled across the university in a wide variety of courses. The program worked to improve the basic or mechanical aspects of the classroom, but also addressed the learning outcomes for the students in the classroom. In addition, the program heightened the students' own self-awareness of their role in the learning process. Honors students also learned how to lead and manage change as team members whether they worked in honors or non-honors course sections. It should be noted, however, that these IQ Team evaluations supplemented but did not replace required end-of-course evaluations. It is also important to point out that this program is not positioned as a program for honors students. Rather, student volunteers are solicited. However, virtually all volunteers are honors students, but, because the program is open, honors students do not suffer any isolation or criticism for their roles or initiative.

We found, however, that faculty tend to be reluctant to volunteer their courses for IQ Teams, in part because the experience is different, it demands change, it is voluntary and "unrewarded" in terms of promotion and tenure consideration, and it can be threatening to

receive continued criticism for 15 weeks. However, most of the professors who participate one semester do so again because they place a premium on the value of what they receive from the experience. In addition, as the case study above illustrates, IQ teams are a continuous quality process. Through detailed records and innovation logs, professors and new team leaders can refer to past survey results to shape the direction of the subsequent IQ team involvement in any given class. Because students and faculty benefit from continuous quality improvement, initial reservation has turned into warm enthusiasm as both students and faculty learn together how to make the classroom a more effective learning environment. Although the benefits of IQ teams are by no means exclusive to honors classes, they are amplified in honors classes due to the innovative, challenging, and often experimental nature of honors curricula and the immediate feedback provided by the IQ Team on innovative class elements. Table 4 provides a sample of reactions to the IQ team experience.

The paragraphs below provide more detail about participation in IQ teams from student, team leader, and faculty perspectives.

THE STUDENT PERSPECTIVE (EMILY WHITBECK):

Overall, my experiences have improved my understanding of my own learning process and given me the confidence to be a leader in my own education. When I first participated in an IQ Team during my freshman year, I was skeptical of the program. I couldn't understand how I would make an impact on a class led by a full professor. It was their class, so why would they listen to my input on how to teach? I slowly realized that I had a stake in the class and my team and the professor could work together to make the class our "ideal class." Because my professor was enthusiastic about student suggestions, my IQ team was able to implement changes to my class that improved the learning environment for everyone in my class. I began to feel ownership for my education and others in the class were open to give me their suggestions to bring to the IQ team. Over the course of the semester, I became much more aware of how I was learning material in all of my classes. I continue to apply what I learned in my IQ team to other classes and to critique and contemplate how I am learning, and to adjust my own work and approach to maximize the potential of the course for me. In addition, it fostered a close relationship with my professor that has led to several opportunities for me to become more involved in projects and leadership roles.

The next semester my interest in the program led me to become a student team leader. Through my role as a team leader I continued to learn about the learning process and developed my organizational leadership skills. I was trained by the team coordinators to facilitate quality team meetings and to communicate effectively with the participating professor. I observed how many different approaches students on my team brought to the learning process. As a team leader, I facilitated weekly team meetings and acted as a liaison between the team and the professor. I had to keep the students on task and ask questions that would stimulate their thinking about their learning in the course. I was also confronted with the fact that many students learn material in different ways and that each should have a stake in how the learning takes place in the class. I was nervous to begin with because my particular team was made up of freshmen that were participating in a

relatively innovative course and I wasn't sure what to expect in terms of maturity and self-awareness. Luckily, I was surprised by their thoughtfulness and willingness to discuss the tougher "learning" issues such as the advantages of group work versus a lecture style classroom, as opposed to surface issues such as "too much work." Through negotiating between the team and the professor I learned to compromise so that the suggestions of the team could be implemented positively both during that semester and in the following semester.

THE STUDENT DIRECTOR AND ASSISTANT DIRECTOR PERSPECTIVE (AMANDA WETZEL):

As an IQ team coordinator, I was initially involved in the program as a team member and team leader and share a similar learning experience to that described above. As the Student Director, my role is unique because I oversee the progress of all the Innovation and Quality Project Teams (n=7) throughout the semester (two student directors can handle up to 10 teams). The Director and the Assistant Director provide leadership training for the student team members and team leaders. The directors are the "watch-dogs" over all of the teams to make sure they are discussing the learning process, and to mediate any misunderstandings that may occur between professors and teams throughout the semester. All parties including student team members, leaders and professors have a unique stake in the IQ team process. As a Student Director, I ensure that the benefits that the team members, team leader, and professor have described take place through each Innovation and Quality Team.

Through my experiences as an Assistant Director and now a Director, I have learned a great deal about team dynamics and peer mediation. Some IQ teams progress very quickly through the stages of student criticism. Other teams, typically teams with freshman and sophomore level students, tend to need more coaching to discuss meaningful learning issues in their class. IQ team directors learn to identify problems with individual team dynamics and to coach team leaders to facilitate discussion effective to maximize the potential of the group. As the program director, I have learned that even when professors and students have the best intentions, sometimes misunderstandings occur. An undergraduate student director is needed to mediate these misunderstandings and to insure that the partnership between students and professors is successful.

Overall, through working as the Director of the Innovation and Quality Team program, I have continued to expand my understanding of the learning process as I coach each team leader to guide their team through the stages of student criticism. I clearly observe that the learning environment improves for all students in participating classes, professors are satisfied with the feedback of the IQ teams and the learning gains their students experience, team members critically think about how they learn, and team leaders improve their facilitation and mediation skills. From my perspective, learning truly takes place on every level of the IQ team program.

THE INSTRUCTOR PERSPECTIVE (CHERYL ACHTERBERG):

The point of IQ teams is to help me to improve as an instructor. Sometimes I merely need to clarify directions on a class assignment, other times I need to provide better

support to out-of-class teams or provide better orientation to guest speakers, but I always learn how to make mid-course adjustments that improve the course, increase student satisfaction, and maintain motivation. A typical survey question, for example, might ask students to react to the statement, "Better connections should be made between class lecture and group projects for a better understanding of course material." If 82% of the class respond "agree" or "strongly agree," then I know I have to do some work to build stronger connections between in-class and out-of-class work. If, on the other hand, 82% of the students "disagree" or "strongly disagree," then I know what I'm doing in that realm is working and should continue.

On a qualitative level, there are other results worth noting. I have noted at least four in my teaching experience. First, students gain some ownership of the course through the IQ teams and become invested in its improvement not only for themselves, but as a legacy for the students who follow. They tend to engage more deeply in an innovative course because they feel they can (and do!) help direct its development. Second, whether the course is taught on a first-time basis or not, students who participate in IQ teams also learn a lot about teaching. Many have visited with me afterwards to talk more seriously about pursuing a career in teaching, particularly in higher education. Third, whether or not they decide to pursue a career path in teaching, they become better "consumers" of the education they receive. That is, they are more critical of the teaching they receive in other settings, but also more appreciative of the difficulty of the task and the quality they observe. Fourth, and this may be the most important point, they become more vocal about teaching with other students as well as with faculty. They tend to come to office hours more often, ask substantive questions in class (particularly on the first day when the syllabus is handed out!), and encourage other students to become more involved in classes by taking more responsibility for what happens in class. In other words, the students' meta-learning about learning may be as important an outcome as the instructors' learning about teaching.

The Innovation and Quality team model provides the above-mentioned gains to students and professors due to its nature as a student initiative. The success of the IQ Team Program was showcased last year at the National Consortium on Continuous Improvement Annual Conference (NCCI) in New York City. The presentation was the result of research conducted by the director and assistant director on learning gains to IQ team members. Team members were surveyed at the end of the semester regarding the impact of IQ team participation on their learning. The results of the surveys (n=25 team members) indicated means above 4 on a 5-point scale agreeing with the statements that, because of their IQ team involvement, they are now better critics of the class, can make meaningful changes in the classroom, and value good criticism to improve their own weaknesses. A more qualitative evaluation of student quality teams was also carried out last fall. Several participating professors, team leaders, and team members were interviewed regarding their IQ experience.

CONCLUSION

Synergy can be defined as the cooperative interaction among two or more agents that creates an enhanced effect. Synergistic decision-making is a process that blends people of

differing skills and knowledge together to work as a team with a common goal. It depends on interpersonal skills and a rational approach to problem solving. The IQ team is a model of synergistic energy, one that directly supports Gardiner's (1998) advice: "One of the most valuable actions we could take to improve learning—and thus the productivity of both our students and our institutions—would be to teach our students how to learn."

The evaluation and three years of Quality Team experience at Penn State clearly indicate that participating students and professors have worked in a partnership based on trust and confidentiality at all levels in the Innovation and Quality Team program. Students in the program do not feel threatened that any feedback they provide will affect their grades, and professors are confident that the result of IQ surveys will have no negative impact on the tenure process. The undergraduate student leadership of the program has been vital in maintaining this sense of partnership between students and professors. The take-home message, simply stated, is that the results of the IQ program improve meaningful learning for all students in participating classes, improve team members' understanding of how they learn, and create a sense of dual responsibility between professors and students in the IQ program. The only cost incurred by participating professors is the time they spend meeting with the team leader. The benefits accrued to the time invested by all parties in the IQ Team program are tremendous. As students are empowered and led by other undergraduate students to participate in dialogue about their learning, students become leaders at all levels in the classroom through partnering with professors to improve the learning process.

The IQ team model should be readily transferable to other institutions. If honors programs initiate the IQ model, it can provide feedback on innovative honors class elements and attract institution-wide attention. Honors students who participate as team leaders can import it into non-honors as well as honors courses they enroll in. Their involvement in non-honors course sections increases their commitment to, and engagement in, those courses while simultaneously providing a benefit to all students in the course. The course instructor can use the lessons learned to improve that course, but also all other courses he or she teaches. In this grass-roots, bottom-up fashion, university teaching and learning can be improved over the span of several years at a low cost and with relatively little resistance. We encourage you to try the model and let us know how well it works in your institution.

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Table 1. Initial Class Schedule for Globalization and World Trends, Fall 1999

Schedule of Class Meetings
Week 1: Introductions; Trends Activity; Distribute Books and Syllabus: Course expectations Kosovo Activity by TAs 5-minute reflection
Week 2: *Global Trends* discussion and activities based on reading. Team building activities with IQ 5-minute reflection
Week 3: *Clash of Civilizations* discussion (Ch 1-6)and activities. CSIS Interns Presentation: Mohit Bhende, Tom Bonsaint, Jason Weiss 5-minute reflection
Week 4: Finish discussion on *Clash of Civililizations* Guest Speaker: Syedur Rahman, Director of Humphrey Fellows Program 5-minute reflection.
Week 5: Discussion of *China 2020.* Guest Speaker: Dr. Richard Stoller on Latin America 5-minute reflection.
Week 6: Discussion of *China 2020* and *Getting to Yes.* 5-minute reflection.
Week 7: Guest Speaker: Dr. Terrell Jones, Vice-Provost for Educational Equity: "The Star Power Game" about distribution of resources in three-level society. 5-minute reflection.
Week 8: **Sunday to Wednesday** **Seminar in Washington, DC at Center for Strategic and International Studies**
Week 9: Each student must schedule an appointment with one of the TA s to discuss their intended research project. No class meeting.
Week 10: Independent research and writing. No class meetings. You may make an appointment (optional) with the instructor(s), or with a TA for consultation on your paper.
Week 11: Independent research and writing. No class meetings. . You may make an appointment (optional) with the instructor(s), or with a TA for consultation on your paper.
Week 12: Complete draft of your term paper is due. We will be working on the drafts in class. Please turn in all of your reflection journals.
Week 13: No class. Pick up paper drafts.
Week 14: Thanksgiving: no class.
Week 15: Final Papers Due in class on Wednesday, December X, 7:00 –9:00 p.m.

Table 2. Current Class Schedule for Globalization and World Trends, Fall 2001

Schedule of Class Meetings
Week 1: Introductions Distribute Books and Syllabus: Course expectations Class pictures for Web site "Future Horizons" – Dean A "Future of Leadership" – Dean B Class Discussion on World Issues (handout)
Week 2: Discussion of *Global Trends 2005* (with team presentations) *NY Times* discussion and activities based on newspaper reading CSIS Interns Presentation
Week 3: Discuss: *The Clash of Civilizations: The Debate* Discuss *New York Times* articles Identify interest areas; formulate briefing teams
Week 4: Discussion of *Blown to Bits* Discuss *New York Times* articles Identify interest areas; formulate briefing teams
Week 5: Guest Speaker: Dr. T., Professor, IST, "The Digital Divide" – information economics, gender issues and the digital divide Guest Speaker: Dr. Terrell Jones, Vice Provost for Educational Equity, "The Star Power Game" + Humphrey Fellows
Week 6: NY Times Discussion Guest Speaker: Erik Peterson, Sr. Vice President and Director of Studies, CSIS Name of presentation: "The Information Revolution: Personal, National and International Security." Primer on Public Policy:
Week 7: Panel Discussion with Humphrey Fellows
Week 8: **Sunday to Wednesday** **Seminar in Washington, DC at Center for Strategic and International Studies**
Week 9: No Class Meeting
Week 10: No Class Meeting
Week 11: Journal Due Paper Outline and Annotated Bibliography Due
Week 12: Bio-Simulation: Turmoil in Titi
Week 13: Team Presentations – Policy Briefings 2nd draft of paper due
Week 14: Thanksgiving: no class.
Week 15: Team Presentations – Policy Briefings
Week 16: Final Paper Due Course Evaluation Debriefing Discussions

Table 3. Sample IQ Team Survey Questions

A. **Survey 1 sample questions, Fall 2000**

"A written, in-class summary of homework assignments/expectations for the upcoming week would help me to be more prepared for class?"

Strongly Agree Agree Disagree Strongly Disagree

"The pace of class discussion is:"

Too Quick Just Right Too Long

B. **Survey 2 sample questions, Fall 2000**

"Background information about the scenario and my role would have allowed me to participate in a more realistic "UN" manner."

Strongly Agree Agree Disagree Strongly Disagree

"An upgraded small-group meeting outside of class to discuss current global trends on NY Times articles with designated group topics would make class more efficient and be a more educational way of using *New York Times* articles."

Strongly Agree Agree Disagree Strongly Disagree

C. **Survey 1 sample questions, Fall 2001**

"A better understanding of the Humphrey Fellows' role in the course and how to engage them would make them a more valuable resource."

Strongly Agree Agree Disagree Strongly Disagree

"If the "Star Power" simulation had a more direct connection to international affairs, then the game would be more connected to the focus of the class."

Strongly Agree Agree Disagree Strongly Disagree

D. **Survey 2 sample questions, Fall 2001**

"The presentation of Blown to Bits would have been more effective if it focused on how the new economy is shaping world issues as opposed to focusing on how to make a business net-ready."

Strongly Agree Agree Disagree Strongly Disagree

Reading, discussing and analyzing Blown to Bits along with differing perspectives on the "new economy" would enhance our understanding of technology's role in globalization."

Strongly Agree Agree Disagree Strongly Disagree

"The interviews with the Humphrey Fellows would have been more helpful if we had interviewed them as policy groups."

Strongly Agree Agree Disagree Strongly Disagree

"The interviews with the Humphrey Fellows would have been more helpful if we had interviewed them outside of class."

Strongly Agree Agree Disagree Strongly Disagree

Table 4. Sample reactions or "snapshots" to the IQ team experience.

"Through my first experience in quality teams, my conception of learning changed by moving myself from memorizing facts and figures to realizing what it actually took to learn something and make it a part of me."

— Mike Fazio,
Innovation and Quality Team Leader

"Students can become very creative about how they deal with problems. Once they get off the point of simply looking at it as if they are passive recipients of something, they become proactive."

— Larry Spence
Schreyer Institute for Innovation in Learning
Associate Professor, College of the Liberal Arts

"Throughout the course of the semester, there was a greater and greater acknowledgment of what the team and the professor could do to make everyone's understanding of application and of appreciation of the material better."

— Mary Beth Oliver
Associate Professor, College of Communications

The IQ teams allowed me to "go behind the 'set' of the classroom experiences and find out what is going on in the minds of my fellow classmates and also in the mind of my teacher."

— Dayna Weinhold
IQ Team Member

Through the IQ Team, students "gained some ownership over this innovative, experimental course." They "felt in fact, that they could direct its development."

— Cheryl Achterberg
Dean, Schreyer Honors College
Professor, College of Health and Human Development

Figure 1. Flow chart depicting student innovation and quality (IQ) team operations (adapted from Kinland et al., 2001).