

## Training eGovernment actors: Experience and future needs

As Europe evolves more online and interoperable governmental processes and services, the traditional civil servant must develop as the organiser and manager of processes and services that increasingly propagate towards business, education, health and other domains critical to citizens. A consortium of universities and trainers addressing training needs in government have developed a shared approach (TRIAS) based around a masterclass exploiting existing training content together with new approaches to utilising Wiki-Based Learning plus Problem Based Learning for student support.

The masterclass was delivered to 18 persons who were experienced trainers from government organisations representing 10 countries where they already deliver eGovernment education to government officers. The masterclass aimed to expose these experienced trainers currently involved in national-level planning and delivery of eGovernment training, to modules, methods and tools indicative of the latest trends and topics of relevance to future eGovernment training plans (train the trainers – support planning through experience). The masterclass was delivered in 2007 by a training group of 12 experts from three countries. The training combined learning modules, presentations, eGovernment service-site visits, practical service design exercises, and the use of wiki-based content for study and problem solving.

The experience illustrated selected topics in eGovernment training, and a variety of methods for training. A structured evaluation method was deployed throughout the masterclass period and the results suggest participants view TRIAS core materials, cases, design methods, learning methods, and general approach as a solid basis for building a community sharing knowledge and experience in eGovernment and its teaching. Based on interest and demand, an annual masterclass will now be offered to help organise the teaching community around a collaboration of eGovernment trainers at European level.



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“ The experience of the masterclass allowed teachers in eGovernment to identify numerous ways to improve teaching and to import new content, methods and tools for learner benefit. ”

## 1 Introduction – Needs for training in eGovernment

The creation of one administrative Europe is realised primarily by the national eGovernment programmes. National, regional and municipal government agencies struggle with interoperability, standardisation, collaboration, service integration and ICT. In 2005 the eEurope subgroup on eGovernment held a meeting of the 25 European leaders of National eGovernment, where it was acknowledged that teaching ICT courses to future policy-makers and practitioners is not necessarily the best approach to eGovernment in Europe (Zenc, 2005). It was felt that the agreements made on new services in areas such as tax interoperability, spatial planning standards, and best practices in urban management should lead to new vocational training programmes in eGovernment. That group acknowledged that eEurope (ePractice in Europe) cannot simply be a digitalized version of the existing local procedures. The traditional civil servant must develop into the organiser and manager of new and evolving electronic processes which will propagate towards business, education, health and other domains critical to all citizens. eGovernment is more than ICT, and so eGovernment training must reflect the breadth of issues of relevance. It is proposed (Junge, Kelleher and Hadjivassiliou, 2006) that such organisational change requires “training of organisational members to change their understandings, orientations and behaviours”.

The universities of Amsterdam, Bologna and The Hague each had training programmes aimed primarily at changing understanding of government officers so as to facilitate new orientations and behaviours. However, they also recognised that the drive towards a more pan-European understanding and agreement on eGovernment naturally implied a parallel drive towards harmony in education of future eGovernment officers. For these reasons they collaborated to investigate harmonisation of eGovernment training.

While an initial objective of the group (TRIAS 2006) was to investigate common approaches to Masters level education in eGovernment, the experience has also identified needs for specific Diploma courses, specific training interventions based on needs at a given time, and ongoing lifelong learning driven by the *individual needs* of eGovernment officers, emerging as work evolves and knowledge and skills require updating.

The TRIAS masterclass brought together a team of twelve experienced educators in eGovernment who played the role of course organisers and teachers in a masterclass. A group of 18 participants who were also experienced teachers in eGovernment joined the masterclass in the role of learners. The task of the learners was twofold: to experience and assess the masterclass content, methods and tools so as to help the developers refine TRIAS for future usage (valorisation); to determine through experience whether the TRIAS approach could be employed in their own countries, and own organisations, to assist teaching in eGovernment. The course design for the first masterclass included materials that would be expected to be of interest since they addressed example issues for eGovernment education at the present time.

The remainder of this paper focuses on the masterclass experience and the emerging view of future needs in eGovernment training. A fuller account of the project and its wider activities is available online (TRIAS 2006).

## 2 The delivered TRIAS course

The masterclass was delivered over a one week summer school situated at the University of The Hague in The Netherlands. A team of 12 educators from 3 partner organisations had assembled a syllabus to cover examples of a Masters level course, with emphasis on flexibility and adaptation of content for other applications (and changes over time).

Each day consisted of lectures, practical analysis and design work, use of the wiki (eGovernment knowledge base), and group discussion sessions. Evenings were arranged as get-togethers, but with added presentations, themes and discussions covering topics related to the course. The course was very intensive and encouraged a very strong social dynamic to maximise meeting, discussion and sharing of ideas, issues, and ambitions.

The main elements of the masterclass were:

- Presentation on Dutch eGovernment history, status and plans
- Tutorial on eGovernment learning platform (wiki) and related issues
- Presentation on masters level eGovernment education in Italy
- Presentation on eGovernment status in Europe
- Presentation of 3 Dutch case studies in eGovernment
- Training session based on Crossroads Bank case study
- Training session on principles for pan-European Information Management
- Case study presentation and workshop – Migrant Integration Services
- Working with wiki technology in education – case presentation and workshop
- eGovernment simulation sessions (2)
- Participant case study presentations (worst / best cases by country)
- Methods for designing and testing eGovernment services (3 sessions)
- Site visits (Disaster management service integration – 3 sites)
- Workshop on methods and tools used in teaching eGovernment

These elements were chosen to cover eGovernment at all levels (European perspectives, National perspectives, National cases, Regional cases, Design methods, and Operational services), plus coverage of teaching methods. All sessions were interactive, and so even standard lectures were followed by an open workshop discussion facilitated in two stages: firstly about the lecture (normal student discussion); secondly about the development, role and usage of such lectures (trainer perspective).

There were site visits to different emergency services installations, all integrated in a unified *disaster management* strategy and service. Participants were set tasks whereby they interviewed personnel, conducted analyses and discussed findings (separate group work). Then groups presented to each other to compare results and identify service design issues for attention.

Training sessions on methodology were organised as *action learning* and *problem based learning* experiences, both to demonstrate these approaches to teaching, and to allow the participants to fully experience all facilities and tools. They used a range of support tools for service design exercises, and relied on the knowledge-base (eGovernment wiki) as a single source of research information and related cases during these parts of the course.

Case study presentations were followed by open workshop discussions to expose different national perspectives on the issues presented. This approach maximised sharing of knowledge and experience, and encouraged development of a Europe-wide perspective.

The simulation sessions used a full-fledged *municipal government* simulator whereby participants played the roles of actual government officers in an operational simulation where they conducted realistic tasks and observed problems concerning data integration (lack), process integration (lack), and organisational integration (lack) – resulting in performance problems. The first session ended in a workshop aimed to

re-design process and workflow, and the second session allowed participants to implement changes and observe benefits.

Each masterclass day concluded with an evaluation session to capture data and participant impressions and ideas while they were still fresh (see section 4). The evaluation session itself was also an educational opportunity as it was a time for reflection by the trainers on what they had experienced each day.

(See Peters (2007) and Wilson (2007) for more detail on the course structure, content and operation.)

### 3 Participants and their expectations

The participants were experts involved in definition of training needs, design of training, and delivery of eGovernment training at different levels in national contexts. They were 18 in number and represented 10 countries: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Hungary, Lithuania, Romania and Russia.

The evaluation approach (section 4) began by interviewing users about their expectations on arrival at the course. User statements were analysed by the evaluation team and reduced to a core set of issues and expectations.

Core issues for eGovernment trainers teaching in national contexts:

- Rapid changes in technology and government culture lead to unpredictable demands for knowledge and training.
- In some countries, uncertainty about the reality of eGovernment practice induces reluctance to take risks until convincing evidence is available from reliable sources elsewhere.
- Social changes demand new interventions from government and sometimes there are no existing models.

Discussion of these issues with the group exposed the overarching concern that changes in society (National) or in agreements (European) will cause demand for innovative services or changes to existing services. Current education does not address innovation very well, and changes to services are often advised by external experts when eGovernment champions are struggling to keep pace with the latest technologies. The group identified that the focus on the technology (what is delivered) needs to shift towards the processes of eGovernment in three areas: Government-Government; Government-Citizen; Government-Business.

Common expectations declared by the group were:

- Finding out how to organise knowledge resources for teaching in a way that will help rapid development of courses to meet new needs with minimal human resources (cost and efficiency concerns).
- Finding reliable and convincing case studies, methodologies, and eService development approaches that will inspire confidence in eGovernment officials, especially decision makers.
- Identifying ways to teach innovative eService developments, including how to investigate citizen / business needs, how to model best service solutions, and how to develop or commission such new services.

## 4 Evaluation approach

The main activities in the evaluation approach followed an action learning paradigm (Boud and Feletti 1997) incorporating dynamic focus group activities (Morgan, 1997).

Prior to the start of the teaching week, participants were asked to write down the main expectations they had of the course, and also any issues/problems in eGovernment teaching that they faced at the present time. Responses were collected, collated, and a core set displayed for discussion (see section 2). The session was run as a focus-group to help build a group identity, to initiate sharing of ideas and concerns, and to allow initial observation of participants (this latter aspect was used to help decide on sub-groups to work together on practical tasks).

During learning sessions, observers were assigned to mix with the group, conduct observations of learners and learning activities, and take notes of events of interest, and key discussion items. These observations and notes were additional contributions to the formal evaluation activities and were used to develop further insights and explanations of events and results.

At the end of each day, participants were asked to separately write down educational issues they identified from their experience of the course that day, along with any solutions they could offer concerning the session of the day (e.g. case studies usage, wiki usage, etc.). Participants were then asked to pair up with someone they did not yet know, introduce themselves and their role, present their own issues and solutions, and discuss them together. They were then asked to select between them the main issues and solutions, and then to join with another pair to present and further discuss the collective issues and solutions (in quads).

Then the whole group re-convened for an open discussion whereby:

- 1 Quads offered up key issues and solutions for addition to a flip chart.
- 2 The flip chart sheets were used to cluster issues and solutions.
- 3 An open group discussion was held to ensure common understanding.
- 4 The group was asked to determine prioritisation of key issues.
- 5 The group consensus was presented as a summary for the day.

All sheets were collected for collation so that in addition to the priority list, the evaluation had a complete written record of the issues, problems, and proposed solutions from all quads and pairs.

At the end of the week an overall evaluation session was held. It began with a questionnaire addressing six (6) questions that had emerged as overarching issues during the course of the week. Individual answers were collected and used to develop a collated list for discussion in an open session, (see Wilson 2007 for detailed questionnaires, responses, etc.).

## 5 Main results from training sessions

Selected results are presented here from key masterclass elements and their subsequent evaluation sessions.

### 5.1 Overviews of eGovernment teaching approach

Sessions providing overviews of eGovernment teaching included:

- Overview of eGovernment Practices (domain and problems).
- eLearning Platform (extended wiki) and related issues.

- Integrating wiki, Problem Based Learning (PBL) and Cases.
- Presentations / Overviews of Masters level eGovernment courses.

Focus group discussions of the various teaching approaches demonstrated a keen interest in applied or practical work to help learners acquire real experience in probable tasks related to delivery of eGovernment. These discussions also exposed significant interest in the process of *engaging with the politicians* (decision makers) who develop high level policy and orientation, and who give strategic direction to service design and implementation within government. This aspect of real eGovernment life is not generally well addressed by courses and yet is critical to operational success.

There was also strong interest on the *boundary of government* as a governance and service apparatus, and the *relationship with external service organisations* participating in service delivery. Seemingly, much of eGovernment education focuses on internal or departmental perspectives (silo approaches).

Approaches to investigating and developing *conceptions of eGovernment* (vision) attracted strong interest, as did the issue of *reducing administrative burden* through good eGovernment practice.

The group uniformly agreed (18/18) that eGovernment education must deliver and support *multiple perspectives*, and should allow educators to *rapidly combine learning resources to meet specific educational needs* in different contexts.

## 5.2 Integration of wiki and case studies with Problem Based Learning (PBL)

After experiencing PBL assignments of different kinds, the group strongly agreed there would be significant educational benefit from the integration of PBL with the wiki knowledge-base and related case studies (17 out of 18). They identified the great potential benefit of *self determined learning* utilising these means, and the advantage of learning how to solve emergent problems in service design and delivery using these tools. There was general consensus that while standard lectures assisted understanding and awareness, the *group action learning* approach really allowed group exchange of ideas and participants' previous experience, combined with new knowledge assimilated during the course.

## 5.3 Case studies as learning aids

The focus group agreed that case studies are of enormous value (18/18), and specific themes were prioritised as:

- Case studies are a great way to *exchange knowledge* about eGovernment.
- Cases must show the *value proposition* and the *specific lesson learned*.
- Strong and clear *conclusions* are necessary.
- Readers want to know *how technology is used to change* organisations / processes.
- Cases should present *multiple perspectives* so that all stakeholders can identify with them easily – if there is someone like me / my role in the case, then I can identify more easily.
- Methodology in cases must be *clear enough for planners to follow* and replicate.
- *Reusability* of experience, methods and learning are key aspects of cases.

The group agreed that without cases, learning can be too theoretical.

## 5.4 Problem Based Learning

Problem Based Learning (PBL) assignments were given to small groups of learners (3-4 in each group). An observer was assigned to each group to note process, events, problems and useful learning. It was noted that a key cultural issue affecting usage relates to organisational style. Organisations with open

and flexible approaches to learning and development seem to take up PBL more easily, while more strictly hierarchical organisations need more time to adapt to the freedom of new roles and self-determined research strategies.

The participants agreed (18/18) that PBL is strongly student-centred and encourages self development and self reliance. One participant notes “PBL is a well defined and organised *method for both teaching and learning*”.

The focus group selected specific issues as having priority:

- PBL allows learners to experience cooperative problem solving that should *transfer into the workplace*.
- PBL can be easily linked to cases and wiki core material, but should *also have links to the theoretical basis* of main topics of relevance.
- The *means of control* are not clear so *student assessment* may not be easy. Quality assessment methods need to be carefully considered.
- Course assignments tend to emphasise the content – finding right answers – but the *learning process* needs to be emphasised.

### 5.5 Wiki-based knowledge repository

In support of PBL assignments, learners had access to a wiki which had been developed and populated for the course. The wiki included extra facilities to make it an “educational media wiki” and included student registration and assignment tracking. The content covered the eGovernment topics necessary for the modules and assignments of the week, plus the linked cases, exercises, system development methods and guides.

Participants uniformly agreed that the wiki is a highly valuable learning resource, but the *effort in wiki development is quite substantial*. The focus group discussions highlighted the need to share efforts in wiki development (a common resource, and a value multiplier).

### 5.6 Simulation in eGovernment education

Simulation is used in many kinds of education, especially where control processes (flight, factory, machine tools, etc.) are involved. Simulation of more complex “people centred” processes is less common. TRIAS engaged the use of a “municipal government” simulation suite whereby a large group could adopt the roles and actual work tasks of various government officers.

The purpose of the simulation is to allow people to recognise that efficiency and effectiveness are dependent on collaboration of different roles and workers. They also have the opportunity to see how their collaboration allows them to jointly define more efficient processes by, for example, shifting responsibility for, and ownership of, certain information objects, or merging of tasks related to the same information objects (process improvements).

The activity lasts for one full day and is conducted in two halves. In the first half people are supported in using the systems only. Then, during the midday break, they take part in a workshop to expose why things do or do not work (learning stage 1). This workshop is the first instance of being supported in developing their perspective on how things could change for the better. In the second stage, the simulation is started from the same point as in stage 1, and so there is an opportunity to really measure performance gains and how they link to new collaborations and changes in roles / tasks as agreed in the focus group discussions.

The focus group discussion at the end of the day showed agreement that:

- Simulation usage can *emphasise process thinking*, especially ‘border problems’ where departments / units are failing to collaborate on process transformation..
- Trainers need to be highly competent, so *investment is needed*.
- Sitting in the role of others can help *understanding of how things work* (process and power issues).
- Simulations help to expose processes in a way that lets people see how they are in control and where they can be *assisted by technologies*.

## 5.7 Service system design methods and site visits

Participants learned about service system design by combining learning about design methods with learning about real world services and their operational realities.

The “design methods” sessions were used to gain knowledge of different tools and methods supporting design of electronic services. The groups were given a case study of a citizen problem in which citizens, government actors and their actions were well described. Participants had to use different modelling tools to generate models of the information flows, processes, etc. and compare the outcomes between the four groups. This insight into system development was then elaborated by the tutors who showed how these initial actions and models are taken further towards real service design and implementation (presentations).

The “site visits” which followed, involved participants engaging with service delivery actors in organisations dealing with accident and emergency (police, ambulance, fire). The observation of active service systems was followed by opportunities to interview experts inside the system in support of specific learning tasks. The learner group was split in four and each visited and interviewed a different part of the overall service network. Comparison of results between learner groups allowed them to identify new issues in service design, potential problems and likely solutions.

In a questionnaire evaluation of the experience, followed by a focus group discussion to elaborate findings, it was noted that:

- The approach is judged to be extremely useful (17/18) since it sets up *bridges between disciplines*, establishes *realistic expectations* about the system development process, and *exposes the real life cycle* of eService design and deployment.
- A total of 16 out of 18 participants decided they could and would teach this kind of material to their students, using a similar approach. The main hurdle would be *engaging service operational staff as participants*.
- Improvements identified by the group included *peer review* of models prior to the open discussion phase so that each model would receive close scrutiny and critical appraisal to deepen learning opportunities.
- The operational visit allowed learners to see that it is the service and the *underlying processes* that are most important, while ICT is just the tool to make it happen.

## 5.8 Overall course evaluation

Because the participants were all teachers or decision makers with influence on future teaching provision, a final focus group session at the end of the week afforded participants the opportunity to openly discuss:

- their experience of the week.
- whether/how the TRIAS approach met their expectations as teachers.

- whether/how the content, methods, tools and overall approach could contribute to meeting their own learners' needs in their home countries and organisations.

The group agreed (18/18) that TRIAS had met all of their personal expectations as expressed at the beginning of the week. The approach delivers clear conceptions of eGovernment, along with the operational aspects from analysis and design through to delivery and monitoring. It was felt, however, that the extent of theoretical knowledge could be increased for better balance (underpinnings of practice).

More than half of the group declared concern that while a European approach was of high value, there should also be significant focus on the national context within a specific course at national level. The primary customer is the learner and her/his government department.

National level focus requires engagement of decision makers, case study owners, and service design / deployment practitioners.

The very practical approach of TRIAS, especially PBL and simulation usage, was judged to be a distinguishing feature and promised advantages in conferring 'usable' knowledge and skills.

Other specific results from the overall questionnaire that attracted discussion and elaboration from the focus group included:

- The approach is attractive and suitable to these organisations (17/18)
- A common approach (community) could use the masterclass as a focus for exchange and updating of national level activities.
- Teachers are the main customer for the masterclass, but the TRIAS approach could be imported by them to develop national level courses.
- The approach supports flexible course design at different levels – masters, diploma, specific skills, customised learning, etc.
- Participants (16/18) felt *organisational needs* were met during the masterclass. Their increase in competence is clearly identified, as is the challenge of implementing what has been learned.
- Their needs as a teacher had been met (17/18). They also identify the benefit of continued contact with other teachers and the opportunity to see how others work.
- The TRIAS materials would meet the needs of their students (13/18). Key problems are the need for good English language, and good Internet access. A key benefit of the approach would be usage of content in an ad-hoc way to help solve design problems in action. Localisation of content might be necessary (language).
- The main weaknesses concerned the intensity of the course and the feeling that the content could have been covered in a longer period / more leisurely pace.
- 16 of the 18 participants declared that they wished to join the next masterclass and hope it can become an annual refresher.

## 6 Summary

The structure of the masterclass had been determined as a kind of *forum for learning*. Using experienced eGovernment teachers as both the delivery team (12 persons) and the audience (18 persons) meant that they were able together to explore both the content (current issues and themes) and the delivery methods (style, approach, tools, etc.). This was quite a challenging approach for both sets of people, but proved attractive for different reasons. Although the primary benefit was the opportunity to examine content and methods together for harmonising future eGovernment teaching, the participants each had a truly unique opportunity to see how other teachers work, how they deal with novelty, and what methods and technologies are used to assist teaching in eGovernment.

Responses to the TRIAS masterclass are very positive and include observations from teachers that will improve and refine the approach and content.

The results include declarations that indicate different needs within a common domain of interest and common framework.

From the specific results collected in the evaluation, the TRIAS team have learned how to improve TRIAS and its delivery in future. The approach is clearly very attractive, and each of the key elements (content, methods, tools) is judged to be of high value. The flexibility of the TRIAS approach will allow courses to be designed and deployed at many levels. The approach will be particularly supportive of lifelong learning as a means of self-development by professionals.

The experience of the masterclass allowed teachers in eGovernment to identify numerous ways to improve teaching and to import new content, methods and tools for learner benefit. Adoption of the TRIAS approach is very attractive and requires some localisation and refinement (develop globally, implement locally).

## 7 Future plans

There is a firm intention by this group of 30 eGovernment training experts (12 in delivery role and 18 in recipient role) to see a common approach in future. They declare a need to develop and tailor the approach and content at national level. This will be developed as a *core activity* around which a community of interest can share knowledge and learning resources. The task of community participants then is dual: on the one hand to bring knowledge experience and needs, to share with others; while on the other hand to learn from the group about emerging issues in eGovernment, about how to support learners who want to deal with those issues, and about how to adapt these advances to local needs and contexts.

In pursuit of this aim an annual masterclass is now planned and the second will be delivered again as a summer school activity.

In parallel to the planning for the next masterclass, the results and ideas of the initial participants will be further analysed to help refine TRIAS as a collective effort in sharing knowledge, tools and methods for teaching eGovernment.

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