INSIGNIA:
Crowdsourcing an Open Badge System for Research Training and Supervision

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EXTENDED ABSTRACT

The Australian government recognises the critical need for research skills and quality research training in order to meet workforce needs and drive growth and innovation for the future. A number of recent commissioned reports inform the rationale and design of this proposal including, The Australian Government’s Research Workforce Strategy (RWS), Research Skills for an Innovative Future (2011).

What is clear from increased level of scrutiny on research training is that supervision of higher degree research (HDR) students and the quality of that training must be a priority across Australian higher education. To meet this need, The Australian National University (ANU) has leveraged expertise in research and innovative technologies to deploy a tracking and development platform for HDR students and supervisors: INSIGNIA. HDR student completion is not only central to the mission of ANU as Australia’s top research institution, but also a compelling interest to the University’s financial viability and the preparation of graduates.

INSIGNIA brings together evidence-based practices in research supervision in a University-wide virtual learning environment (VLE) to facilitate: connected knowledge network, multimedia supervisor training, educational research resources for students, a community of practice for peer review, and the opportunity for analytics of research training and supervision. In doing so, this project addresses the following priority areas of the Office of Teaching and Learning:

- Assessment and promotion of student learning: innovative models of assessment and reporting student achievement;
- Curriculum design: use of information and communication technologies;
- Improving tertiary pathways: pathways to professional qualifications, to doctoral qualifications, or to other postgraduate study, or research pathways;
- Innovative use of technology in teaching and learning: creative use of existing innovations in learning and teaching in higher education.

Digital “open badges” were developed by the Mozilla Foundation (creators of one of the major web browsers, Firefox) in association with the MacArthur Foundation and can serve to motivate student learning (Glover, 2013). Specifically, digital open badges allow for a way to quantify, assess and acknowledge a student’s research training progress; a critical need given concerns about research degree retention, completion, and student satisfaction (Maxwell & Smith, 2011). They are derived from traditional “scout” badges and serve as an acknowledgement of accomplishing or displaying a certain skill or set of skills to a threshold of qualification.
INSIGNIA was created by using ANU’s learning management system (LMS), Wattle, as the credentialing and educational platform. Because Wattle is built on the open source LMS, Moodle, we are now able to integrate Mozilla Open Badges to recognise student progression in their HDR milestones. This means that at-a-glance supervisor’s will be able to assess a student’s progress while students will be able to see a visual representation of their own progress, access resources in their areas of need, and work with peers who can offer support in addition to their supervisor (Goligoski, 2013).

This paper will explore the design, implementation and evaluation of an open badging system to support research candidates in the development of the following essential transferable skills identified by the Department of Industry, Innovation, Science, Research and Tertiary Education (DIISRTE): digital literacy, critical thinking, decision-making, data literacy, disciplined inquiry, constructing an argument and evaluation all explicated as important areas of need by the Research Workforce Strategy (Research Skills for an Innovative Future, 2011). Developing an open badging system such as INSIGNIA will afford the opportunity to explore the issues of using open badge schemes and e-Portfolios to explore an effective means of research training and supervision. Indeed, such a solution was promoted by the DDOGS (2012): “Completion of skills course and workshops should be registered on a central database and made available in portfolio format or as certificates to research students and graduates” (p. 8).

![Prototype INSIGNIA Badges (for HDR students)](image)

**Figure 1. Prototype INSIGNIA Badges (for HDR students)**

**Conclusion**

The explicit research training curriculum of INSIGNIA (see Table 1) is meant to allow students to acquire transferable and core research competencies so that their individual meetings with supervisors can focus more acutely on discipline-specific needs and the student’s own area of research (Leder, 1995).
Table 1. INSIGNIA Learning Outcomes, Training Content, and ePortfolio outcomes

<table>
<thead>
<tr>
<th>INSIGNIA</th>
<th>Supervisor Skill Training</th>
<th>Student Skill Training</th>
<th>ePortfolio outcomes</th>
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<tbody>
<tr>
<td>For assessing following learning outcomes:</td>
<td>In addition to INSIGNIA system training, supervisor skill training will include:</td>
<td>The content of the skills program may include:</td>
<td>The challenges involved in creating and maintaining an eportfolio may also help the student to develop transferable skills. These include:</td>
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<tr>
<td>1. the degree to which the student engages with learning;</td>
<td>- Excellence in supervision</td>
<td>- Oral and written communication skills</td>
<td>- Autonomy and responsibility</td>
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<td>2. capability to display specified actions in the context in which learning takes place (the combination of students, teachers, content);</td>
<td>- Clear and consistent communication and feedback</td>
<td>- Critical thinking</td>
<td>- Selectivity and prioritisation</td>
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<tr>
<td>3. ability to apply their capabilities in a context outside of that in which they learn;</td>
<td>- Ethics in HDR supervision</td>
<td>- Research ethics and responsible research conduct</td>
<td>- Writing reflectively</td>
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<tr>
<td>4. meta-capability for developing their capabilities further;</td>
<td>- Providing support by establishing trust, respect and communication</td>
<td>- Research tools: IT skills, database, data analysis (statistics + qualitative, data storage and presentation, document management), citation optimization, eResearch</td>
<td>- Writing for specific audiences</td>
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</table>

With an intensified focus this should allow not only for more meaningful use of time for both student and supervisor but greater autonomy on the part of the student. As a system, INSIGNIA requires a high level of feedback from the educational community and with the development of appropriate transferable materials, could be scalable across different universities working toward improvement of HDR training and supervision.

References