



A Collaborative Multi-Language Website and Database for Alternatives in Education and Training

Nick Jukes¹ and Vadim Danko²

¹InterNICHE, Leicester, UK; ²InterNICHE Partner, Moscow, Russia

Summary

The new InterNICHE website at <http://www.interniche.org> is a content-rich resource designed to facilitate the implementation of humane education and alternatives. Using the open-source Drupal software, the Content Management System (CMS) and framework allow for a development process that is module-based and customizable so as to meet the needs of both developers and end-users. Information and other resources from InterNICHE and from teachers, students, campaigners, and others from across the world can be effectively shared through such a collaborative international project and user-friendly system. The site is extensible, so further functionality to support such sharing, and to meet needs as they arise, can be added module by module. The translation functionality facilitates the localization of information and news resources and encourages participation and sharing from the diverse community that is involved in curricular transformation. Introductory information is available in more than 100 languages, and translations of existing and new text can be uploaded with ease. The role-based access defines which users can view, edit, and publish data, thereby better serving all users, including InterNICHE as a network and organization. The many roles available encourage participation according to chosen degree of input. An Alternatives Database and Studies Database provide rich seams of collated information, with updating and translation opportunities provided through registered access. Management of other InterNICHE resources such as the network of Alternatives Loan Systems also is supported. Version control supports management of the evolving information resource base. The site itself is hosted by an ethical communications collective.

Keywords: InterNICHE, website, alternatives, animal experiments, education

1 Introduction

InterNICHE – the International Network for Humane Education – works to promote and implement humane education and training in medicine, veterinary medicine, and the biological sciences. Replacing harmful animal use and supporting the development of best practice in these fields involve provision of appropriate resources and the building of an active network of facilitators. The new InterNICHE website at <http://www.interniche.org> is a collaborative, content-rich, multi-language resource developed to help achieve these objectives. Its content and functionality have been chosen to meet the needs of teachers and trainers, students, ethics committees, alternatives producers and campaigners internationally and to encourage contribution of their experience and resources. This paper describes the new website and details its current and forthcoming content and functionality.

2 Content and functionality

The limitations of the former InterNICHE website provided lessons that have been integrated into the new website. Formerly, the content and updating tasks relied upon a small number of

individuals and often required specific technical skills. Being centralized and non-participatory, the site was not resilient and did not fully reflect the international nature of InterNICHE. Active sharing of news and experience from across the network and the academic community was not possible. There were major obstacles to translation as well.

The new website reflects a process of considered planning and design to enhance its impact and sustainability. It comprises an evolving range of news, information, databases, and downloads. Selected functionality has been introduced, including functions that facilitate the process of translation and enables user-friendly upload and sharing of multi-language content from all parties. The main features of the site are:

1. Content Management System (CMS) and framework
2. Module-based, allowing step-by-step extension
3. Customizable for appropriate content and functionality
4. Dynamic, for live retrieval and frequent content changes
5. Concurrent, allowing multiple editors
6. Content-rich, with databases
7. Functionality developed for diverse users and roles
8. Collaborative and international, with decentralized open access
9. Multi-language, with translation functionality
10. Ease of posting and translation



3 Structure and role-based rights

Using the open-source Drupal software, the Content Management System (CMS) and framework has allowed for a development process that is module-based, enabling step-by-step extension of functionality as needs and opportunities arise. Each module is customizable to match the content and functionality required to best serve both developers and users. The website is dynamic, allowing live retrieval. It reflects frequent content changes and is concurrent, allowing multiple editors to work at the same time. All editing and translation changes can be tracked, and version control supports the management of the evolving information resource base.

The website is designed with role-based access rights. These define how each user can view, edit, and publish content and access different functionality. The various roles include InterNICHE National Contacts, Partners, database managers, Alternatives Loan System managers, translators, administrators, and other users. The rights associated with each role facilitate participation according to the needs of the role and reflect the individual's chosen degree of input. Such an approach best serves the diversity of users and contributors, including InterNICHE as a network and organization.

4 Open access and translation functionality

Users are invited to post news and contribute other content to the website; functionality to allow this is being phased in. This decentralized, participatory approach, coupled with the translation functionality, reflects the InterNICHE commitment to acces-

sibility and inclusivity. It encourages participation and sharing from the diverse global community that is involved in curricular transformation and allows the provision of content in multiple languages. Through the posting and translation functionalities, therefore, the localization of news and information resources is facilitated. And with all non-English content requiring the associated upload of full text or a summary in English, the resultant parallel processes of localization and internationalization ensure both multi-local relevance and international networking of content. This optimizes the site's impact.

Translations of content can be published with ease. The site identifies and informs translators of new content and changes that require translation, and, unless moderated, the translated content is published immediately. The Alternatives Database and the news already have undergone a significant degree of translation into major languages, and introductory information is available in more than 100 languages.

Moderation of the content posted, an important element of the participatory process, also helps provide quality control. It is being phased in to a limited degree according to specific functionality and the associated roles, including public posting of news, reviews, database content, and translation. Where it is applied, it is kept to a minimum, and responsibility for moderation of national news and translations is decentralized to National Contacts, where possible.

5 Alternatives Database

The InterNICHE Alternatives Database provides a rich seam of information for more than 1000 alternatives, with descrip-

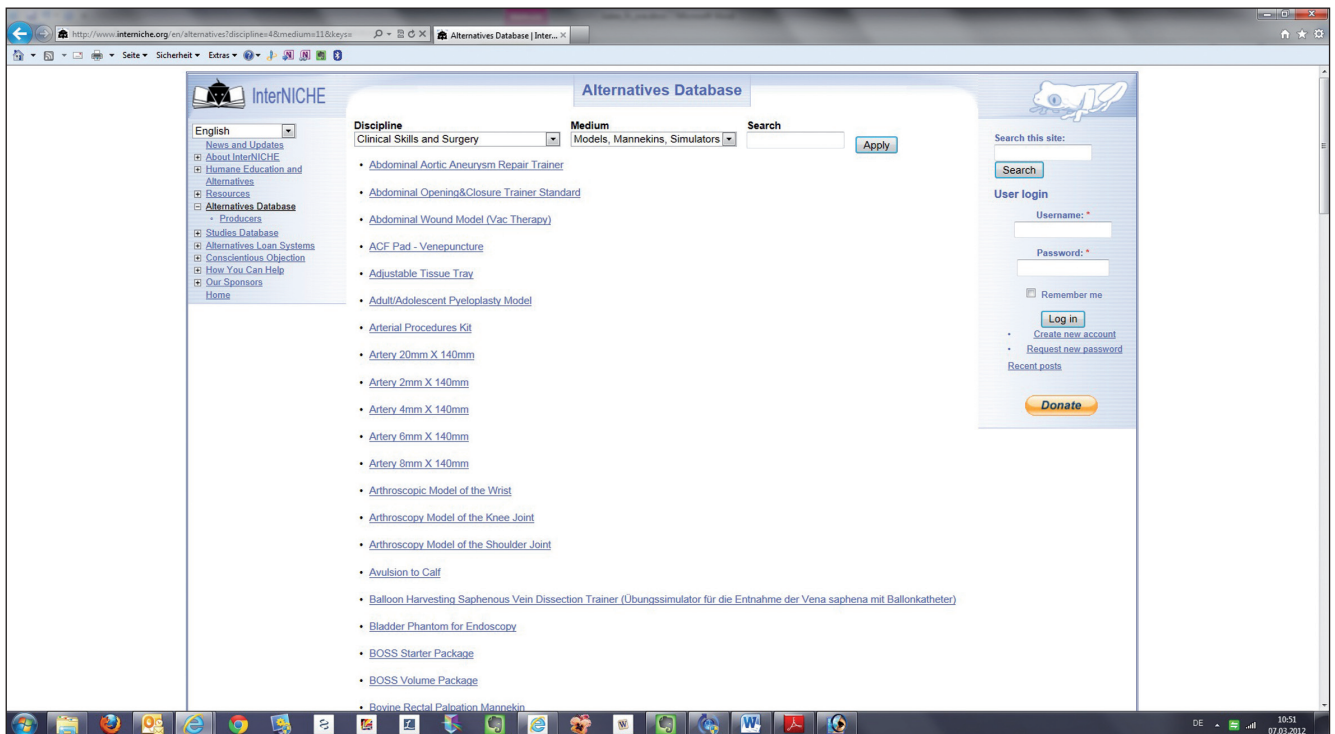


Fig 1: Screenshot of Alternatives Database, filtered for Clinical Skills & Surgery

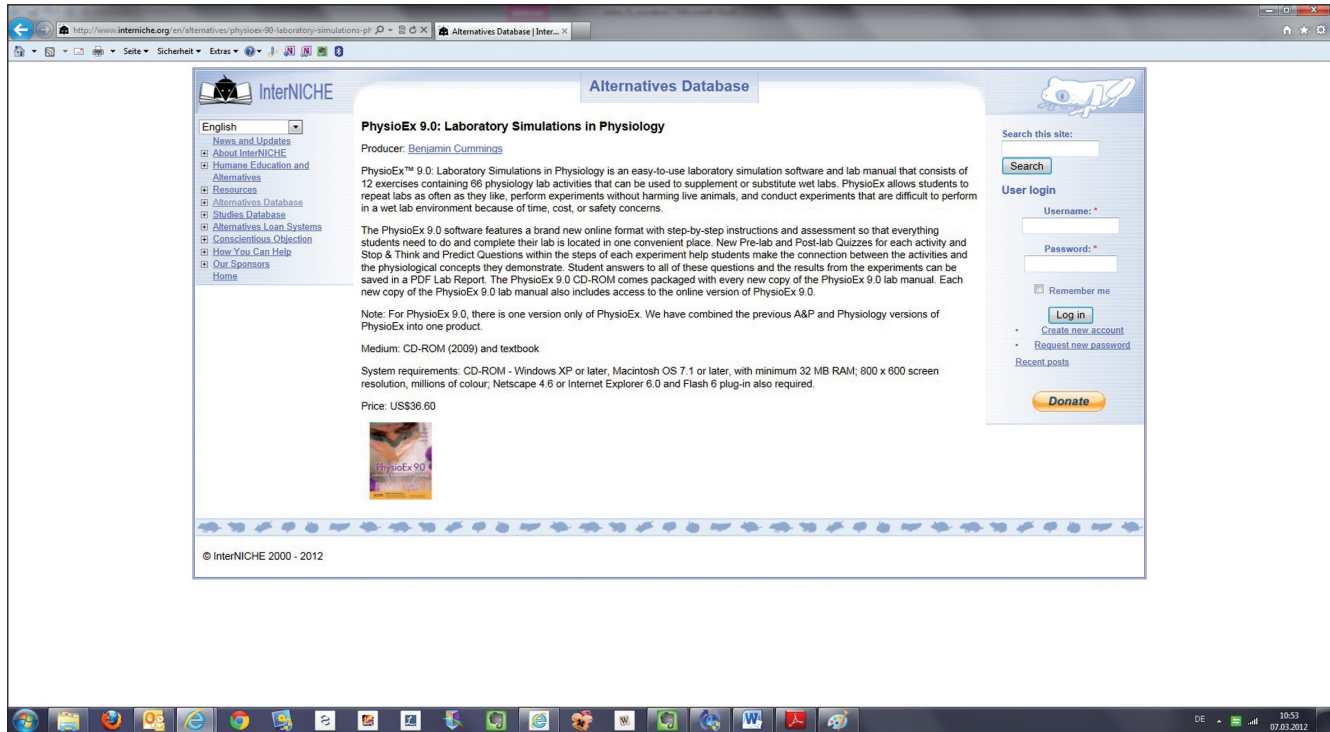


Fig 2: Screenshot of Alternatives Database entry for PhysioEx 9.0 software

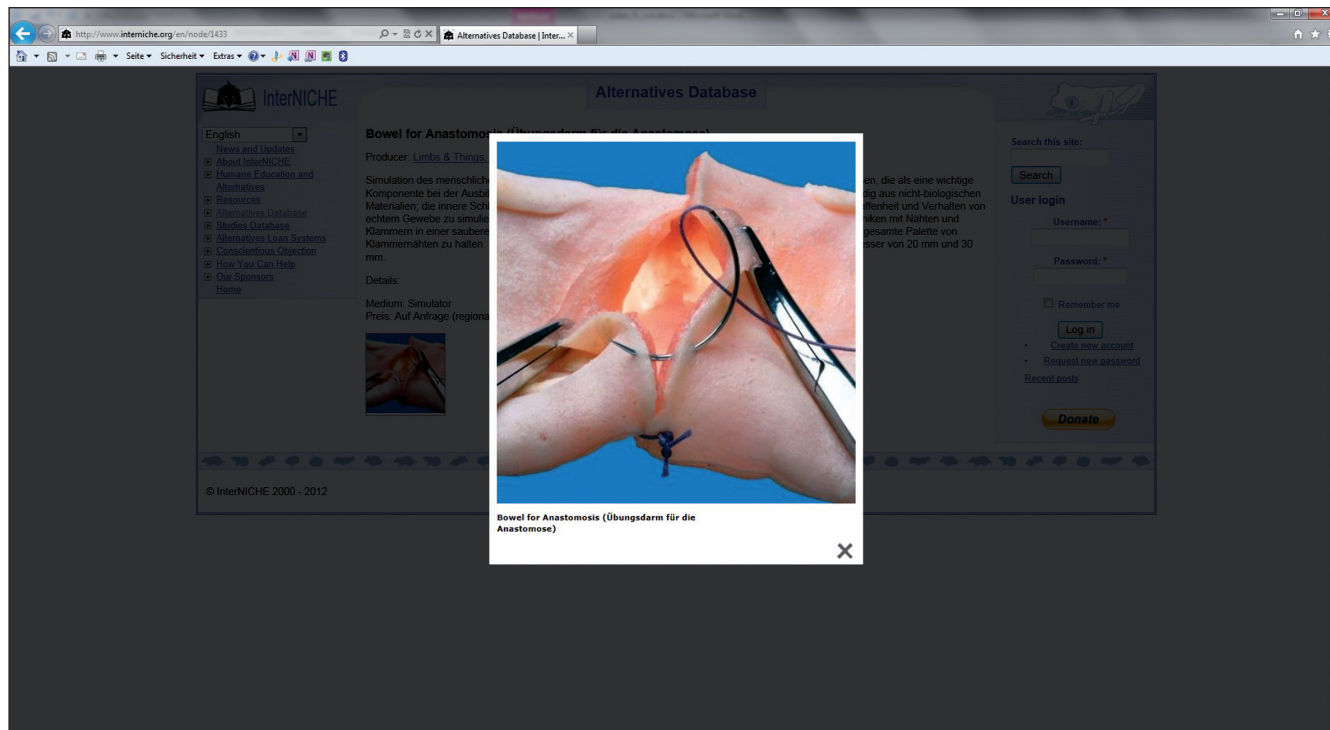


Fig 3: Screenshot of photograph of Alternatives Database entry for Bowel for Anastomosis simulator

tions, specifications, photographs, and links to producers. The content can be filtered by discipline and medium, and it is searchable. The database can help identify specific alternative tools and approaches to enhance practical classes and to replace harmful animal use. Available in several major lan-

guages, and with further translation planned, this valuable resource comprises alternatives first collated and detailed in the InterNICHE book *From Guinea Pig to Computer Mouse* (2nd ed.) (Jukes and Chiuiia, 2003). With further original research, the number of entries has now doubled, and former entries are



being updated and illustrated with photographs. Figures 1, 2, and 3 show screenshot examples of the Alternatives Database.

In addition to the continuing updates and additions, further content and functionality will be introduced. Downloadable alternatives and on-line demonstrations and training events will be provided. Reviews and assessment of the items featured will be invited from website users and borrowers of items from the InterNICHE Alternatives Loan Systems. InterNICHE will apply its Ethical Scoring System (Martinsen and Jukes, 2011) to selected items to strengthen the assessment process. The reviews and assessment will help teachers, trainers, and others to make more informed choices about which learning tools are most appropriate for specific practical classes. In conjunction with the Studies Database, the Alternatives Database can be linked into alternative search strategies for universities and training centers.

6 Studies Database

The InterNICHE Studies Database is a newly developed academic database on innovative and humane education and training. It provides free access to references, abstracts, and other details for more than 750 published studies and books on humane education, alternatives, and related themes. Each study has been researched and included for its relevance to the pedagogical, ethical, and economic issues presented by the use of animals, alternatives, and technology. Full versions of selected studies are being made available for download. The database is searchable by discipline, author, and keyword, with more filtering options to be added. Functionality that allows comments on each study

has been integrated into the resource to encourage critique and debate. Links from individual studies to the PubMed database allow users to identify related citations, and links to the journals encourage further reading.

The contents of the database reflect major themes such as technological innovation, experience with implementation, assessment, and comparative studies. The studies can provide valuable information on topics ranging from teaching objectives, the hidden curriculum and conscientious objection, to alternative physiology classes, microsurgical training, and haptic technology. Studies about cutting edge technology and techniques in medical training, often developed to ensure effective training and to help guarantee patient safety, are included for their impact in replacing animal experiments and consolidating the implementation of non-animal training techniques. As an example of its potential, the Studies Database provides an opportunity to research the evolution and assessment of virtual and augmented reality for laparoscopic surgical skills training.

Access to the studies can help lift the level of debate concerning curricular transformation. By including some studies in favor of harmful animal use, the database allows for dissection of their claims and encourages further refinement of the arguments for full replacement. Studies with valid arguments in support of the use of animal cadavers, organs, and tissue – but which do not question the killing of animals for this purpose – are joined by those that explore ethical sourcing, thereby encouraging critical engagement. And discussions about the inclusion or exclusion of cadaver dissection in human medicine curricula can offer lessons in the potential relevance of dissection within veterinary medicine and zoology studies. Figures 4 and 5 show screenshot examples of the Studies Database.

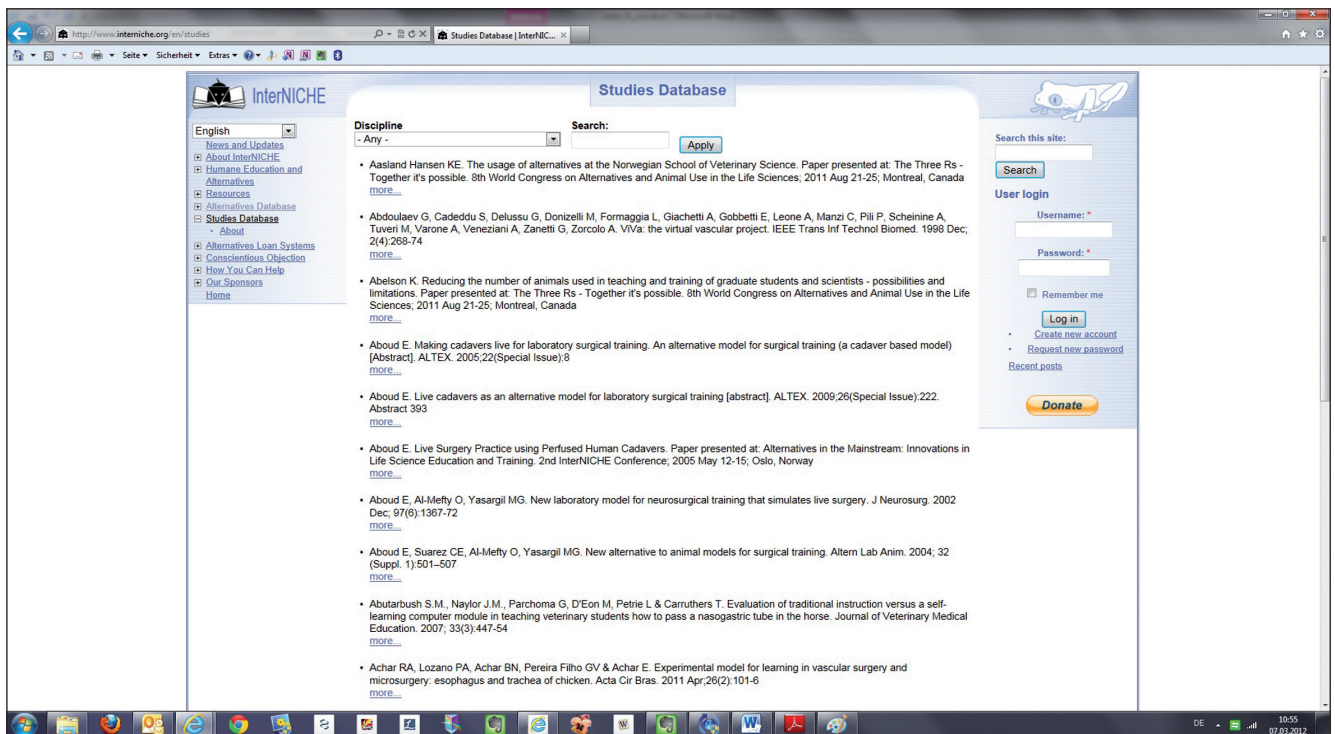


Fig 4: Screenshot of Studies Database, no filtering

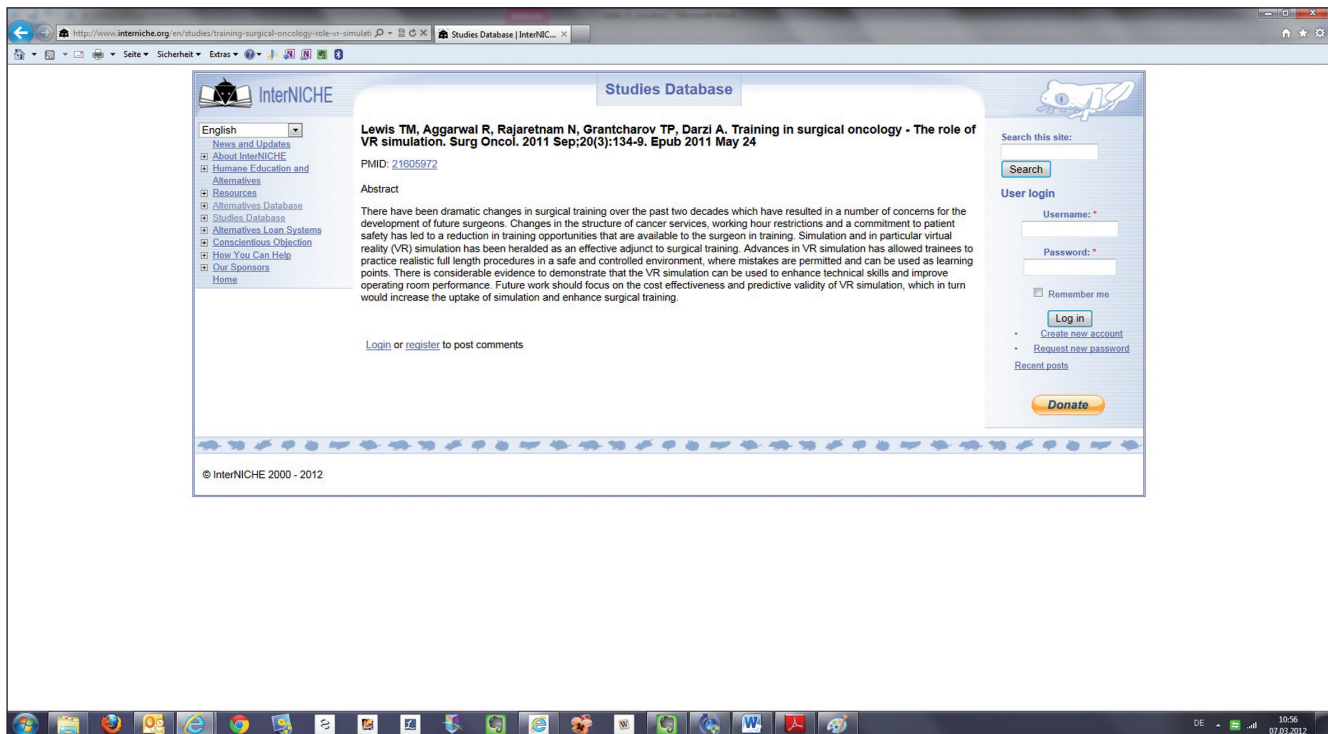


Fig 5: Screenshot of a Studies Database entry

The database is scheduled to at least double in size. Further content and functionality will include linking studies to related products in the Alternatives Database, providing access to an increasing number of full versions of the studies, links to journals, and inclusion of more non-English studies.

7 Alternatives Loan Systems

The website provides links to the InterNICHE Alternatives Loan Systems, or libraries of alternatives, that InterNICHE and its Partner organizations manage across the world. These include the international Alternatives Loan System and those in Mexico, Peru, Russia, the Ukraine, and India, as well as others jointly established in Kenya and South Africa. The Alternatives Loan Systems provide free access to a range of exemplary learning tools for teachers, students, and others for trial and demonstration (Percic et al., 2008). An increasing degree of functionality will be available to support the global network of libraries, creating another database of alternatives: those available for loan and demonstration.

Each item will be linked to the Alternatives Database and the forthcoming reviews and assessment. The content of the libraries and the availability of items will be presented in catalogue and calendar form, respectively, and a semi-automated borrowing process will be established. A personalized page for each loan will facilitate the process and illustrate its progress from ordering and agreement with the borrowing conditions to ship-

ping, return, and reviews. This will have particular value for borrowers and for the managers of each library who can coordinate more effectively and collect data on each loan.

8 Other resources

The website offers an increasing number of alternatives for download, and it links to online alternatives and other curricular resources, including: published books, papers, posters and presentations from the InterNICHE network; English and translated versions of the InterNICHE Policy on the Use of Animals and Alternatives in Education and Training (Martinsen and Jukes, 2008); case studies of the development and implementation of alternatives; guidance on conscientious objection, with student testimonies; information about hosting InterNICHE seminars, multimedia exhibitions and training (Jukes et al., 2011); and galleries of images and video, with download options.

9 Conclusion

The new website is an exciting collaborative international project whose content and functionality reflect considerable InterNICHE experience. The plans to further extend it will enhance the resource base even further. Users are invited to share news and information, and to contribute their skills to help build a powerful repository of resources and experience. The web-



site offers opportunities for more people to become agents for change, and it supports the effectiveness and resilience of the movement for humane education and training. By demonstrating the viability of full replacement and facilitating the implementation of alternatives, it contributes to the ongoing transformation of the life sciences into a field that is fully humane and based on best practice.

References

- Jukes, N. and Chiuia, M. (2003). *From Guinea Pig to Computer Mouse: Alternative Methods for a Progressive, Humane Education*. 2nd edition. Leicester, UK: InterNICHE.
- Jukes, N., Bhavsar, R., Bhavsar, S., et al. (2011). Alternatives seminars and multimedia exhibitions: Global outreach and support for humane education initiatives (abstract). *ALTEX 28, Spec. Issue*, 235.
- Martinsen, S. and Jukes, N. (2008). From policy to practice: Illustrating the viability of full replacement. *AATEX 14, Spec. Issue*, 249-252.
- Martinsen, S. and Jukes, N. (2011). An ethical scoring system for the production and assessment of alternatives in education and training (abstract). *ALTEX 28, Spec. Issue*, 219.
- Perčić, M., Jukes, N., and Maroueva, E. (2008). Facilitating replacement through access to and training in alternatives. *AATEX 14, Spec. Issue*, 277-279.

Acknowledgements

Website development is by Vadim Danko, InterNICHE Partner and volunteer. Website content is by InterNICHE Coordinator Nick Jukes and contributors. Many volunteers, in Leicester and internationally, have helped build the databases and other elements of the site or are offering their translation skills. Their contribution is gratefully acknowledged. Thanks are also due to all InterNICHE sponsors, in particular the Swiss League Against Vivisection (LSCV), Proefdiervrij, the Anti-Vivisection Union (AVU) (South Australia), and the Royal Society for the Prevention of Cruelty to Animals (RSPCA).

Correspondence to

Nick Jukes
InterNICHE Co-ordinator
98 Clarendon Park Road
Leicester LE2 3AE
UK
Phone: +44 116 210 9652
Mobile: +44 7552 972 770
e-mail: coordinator@interniche.org
www.interniche.org