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What Levels of Institutions in a National Population are Reforming Undergraduate Science Courses?

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Data collected during the first year of a national survey studying NASA/NOVA-funded higher education institutions (n = 103) are described in this Research Brief. This survey data characterizes a national study population and the sustained impact of reforms conducted in undergraduate science courses over the past 12 years.

These institutions, and one or more of their courses, were involved in the NASA/NOVA Program. The NASA/NOVA courses were developed and offered at various times beginning in 1996. Faculty members were surveyed at the 103 higher education institutions who participated in this large professional development effort to create reforms in higher education undergraduate, and mostly entry-level, science courses. The institutions’ courses and faculty involved in the reforms are the population for an intensive national study funded by the National Science Foundation, National Study of Education in Undergraduate Science (NSEUS). Data were collected from the population beginning in late, 2006 through the end of 2007. The survey attempted to describe the population as a first step, with a sample of these undergraduate science courses studied in depth for an extended period (see Figure 1).

The population is represented by a diverse set of institutions (see Figure 1). The 103 institutions surveyed ranged from tribal colleges to Doctoral/research universities-extensive (R-I) using the Carnegie (1994) classification. Most institutions (52%) participating in the survey were Master’s degree granting, with 47% MA-I and 5% MA-II institutions. The representation of Bachelor’s degree granting institutions (21%) included BA-GEN (14%), BA-LA (6%) and BA-SPECI (1%) classifications. Doctoral granting
universities (26%) were represented by DR-EXT (16%) and DR-INT (10%). Community colleges in the AA classification represented 1% of the population.

Figure 1: Carnegie classification of the population of higher education institutions in the survey.

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