

Supplemental Material

CBE—Life Sciences Education

Corwin *et al.*

Supplementary Table 1. Support for outcomes of internship-based undergraduate research experiences based on a review of relevant literature. Green shading indicates *Probable* outcomes, yellow shading indicates *Possible* outcomes, and grey shading indicates *Proposed* outcomes.

Outcome	Internship-based Undergraduate Research Experience References
Persistence in science	Foertsch <i>et al.</i> , 1997; Nagda 1998; Alexander 2000; Maton <i>et al.</i> , 2000; Nolan <i>et al.</i> , 2000; Estrada <i>et al.</i> , 2011; Hathaway <i>et al.</i> , 2002; Bauer & Bennett 2003; Barlow & Villaejo 2004; Lopatto 2004; Seymour <i>et al.</i> , 2004; Clewell <i>et al.</i> , 2006; Lopatto 2007; Pandya <i>et al.</i> , 2007; Russell <i>et al.</i> , 2007; Carter <i>et al.</i> , 2009; Myatt 2009; Laursen <i>et al.</i> , 2010; Craney <i>et al.</i> , 2011; Thiry & Laursen 2011; Adedokun <i>et al.</i> , 2012; Eagan <i>et al.</i> , 2013
Career clarification	Sabatini 1997; Alexander 2000; Maton <i>et al.</i> , 2000; Nolan <i>et al.</i> , 2000; Ward 2002; Bauer & Bennett 2003; Ishiyama 2007; Lopatto 2004; Seymour <i>et al.</i> , 2004; Lopatto 2007; Russell <i>et al.</i> , 2007; Myatt 2009; Laursen <i>et al.</i> , 2010; Craney <i>et al.</i> , 2011; Thiry & Laursen 2011; Adedokun <i>et al.</i> , 2012
Increased analytical skills	Sabatini 1997; Kardash 2000; Maton <i>et al.</i> , 2000; Ward 2002; Zydney <i>et al.</i> , 2002; Bauer & Bennett 2003; Lopatto 2004; Seymour <i>et al.</i> , 2004; Lopatto 2007; Laursen <i>et al.</i> , 2010; Craney <i>et al.</i> , 2011; Thiry & Laursen 2011; Thiry <i>et al.</i> , 2012
Increased self-efficacy	Foertsch <i>et al.</i> , 1997; Alexander 2000; Nolan <i>et al.</i> , 2000; Ward 2002; Barlow & Villarejo 2004; Lopatto 2004; Lopatto 2007; Russell <i>et al.</i> , 2007; Carter <i>et al.</i> , 2009; Myatt 2009; Laursen <i>et al.</i> , 2010; Thiry & Laursen 2011; Thiry <i>et al.</i> , 2012
Increased communication skills	Sabatini 1997; Kardash 2000; Ward 2002; Zydney <i>et al.</i> , 2002; Bauer & Bennett 2003; Lopatto 2004; Seymour <i>et al.</i> , 2004; Lopatto 2007; Myatt 2009; Laursen <i>et al.</i> , 2010; Craney <i>et al.</i> , 2011
Expanded professional network	Foertsch <i>et al.</i> , 1997; Sabatini 1997; Maton <i>et al.</i> , 2000; Nolan <i>et al.</i> , 2000; Hathaway <i>et al.</i> , 2002; Ishiyama 2007; Seymour <i>et al.</i> , 2004; Clewell <i>et al.</i> , 2006; Laursen <i>et al.</i> , 2010; Thiry & Laursen 2011; Adedokun <i>et al.</i> , 2012
External validation from a science community	Maton <i>et al.</i> , 2000; Nolan <i>et al.</i> , 2000; Hathaway <i>et al.</i> , 2002; Ward 2002; Ishiyama 2007; Laursen <i>et al.</i> , 2010; Craney <i>et al.</i> , 2011; Adedokun <i>et al.</i> , 2012; Thiry <i>et al.</i> , 2012
Increased access to faculty interaction	Sabatini 1997; Ryder <i>et al.</i> , 1999; Alexander 2000; Maton <i>et al.</i> , 2000; Barlow & Villarejo 2004; Ishiyama 2007; Seymour <i>et al.</i> , 2004; Estrada <i>et al.</i> , 2011; Thiry & Laursen 2011; Eagan <i>et al.</i> , 2013
Increased content knowledge	Sabatini 1997; Nagda 1998; Kardash 2000; Seymour <i>et al.</i> , 2004; Myatt 2009; Laursen <i>et al.</i> , 2010; Craney <i>et al.</i> , 2011; Thiry & Laursen 2011

	Outcome	Internship-based Undergraduate Research Experience References
Probable	Increased tolerance for obstacles	Alexander 2000; Ward 2002; Lopatto 2004; Seymour <i>et al.</i> , 2004; Laursen <i>et al.</i> , 2010; Thiry & Laursen 2011; Thiry <i>et al.</i> , 2012
	Increased access to mentoring functions	Alexander 2000; Maton <i>et al.</i> , 2000; Barlow & Villarejo 2004; Seymour <i>et al.</i> , 2004; Laursen <i>et al.</i> , 2010; Thiry & Laursen 2011
	Enhanced science identity	Seymour <i>et al.</i> , 2004; Laursen <i>et al.</i> , 2010; Estrada <i>et al.</i> , 2011; Thiry & Laursen 2011; Adedokun <i>et al.</i> , 2012; Thiry <i>et al.</i> , 2012
	Increased technical skills	Sabatini 1997; Kardash 2000; Seymour <i>et al.</i> , 2004; Craney <i>et al.</i> , 2011; Thiry & Laursen 2011
	Increased socio-emotional support	Alexander 2000; Seymour <i>et al.</i> , 2004; Clewell <i>et al.</i> , 2006; Craney <i>et al.</i> , 2011; Thiry & Laursen 2011
	Increased sense of belonging to a larger community	Alexander 2000; Maton <i>et al.</i> , 2000; Barlow & Villarejo 2004; Lopatto 2004; Lopatto 2007
	Increased motivation in science	Estrada <i>et al.</i> , 2011; Ward 2002; Seymour <i>et al.</i> , 2004; Lopatto 2007; Thiry and Laursen 2011
	Enhanced understanding of the nature of science	Ward 2002; Seymour <i>et al.</i> , 2004; Russell <i>et al.</i> , 2007
Possible	Increased positive interaction with peers	Alexander 2000; Seymour <i>et al.</i> , 2004
Proposed	Increased collaboration skills	Seymour <i>et al.</i> , 2004
	Increased student ownership	Thiry <i>et al.</i> , 2012

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